Corporate Governance in Scandinavia
Comparing Networks and Formal Institutions

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Short running title: Scandinavian Corporate Governance

Abstract

This article addresses the role of formal institutions and informal networks on corporate governance practices. The existing corporate governance literature has mostly examined the formal institutions, such as the effect of legal systems. Our contribution is to consider the effect of informal "small world" characteristics of ownership and board networks. We use the case of Scandinavia (Denmark, Norway and Sweden) to examine these effects. Our empirical results reveal large differences in formal board and ownership structures between the Scandinavian countries, but strong similarities in terms of law enforcement, political stability, government effectiveness, rule of law, control of corruption as well as voice and accountability. We find that all three countries can be characterized as "small worlds" in which trust, information diffusion and reputation mechanisms are active governance mechanisms.

Key words: International corporate governance, small worlds, social networks, law and finance.

Introduction

Corporate networks are part of a comprehensive system of coordination and control, which is composed of major financial institutions, organizations and corporations. Whereas corporate governance research to a large extent focuses on formal institutions (e.g. La Porta et al., 1998), recently, extra-legal institutions and informal mechanisms have been introduced as a possible substitute or complement to formal institutions (e.g. Dyck and Zingales, 2002). In this article, we analyze formal institutions and introduce corporate networks as a possible informal governance mechanism.

Previous research on the network effects on corporate governance has mainly focused on the interlocking of boards of directors. For example, Booth and Deli (1996) and Hallock (1997) reveal the prevalence of interlocking boards in US firms and its importance for the firms' growth opportunities and for CEO reward practices. Recently, a handful of articles have investigated other properties of governance structures, in particular so-called small world properties of corporate governance (Baum et al. 2004; Kogut and Walker, 2001). Here, the importance of network structure for the effective spread of information across networks is highlighted. Such actors usually represent individuals, firms, owners or corporate directors, who are linked to each other in the network by friendship, business relations or collaboration. More specifically, existing empirical research has shown networks to display small world characteristics, namely, a combination of (i) a high degree of clustering, meaning that any two actors in a network have a high probability of being connected to each other by one or more intermediary actors and (ii) a short average path length, meaning the existence of short paths that connect two firms in a network (Watts, 1999; Watts and Strogatz, 1998).

We suggest that small world effects are important for the network relationships affecting corporate governance mechanisms. This importance of small world effects is particularly true if we think of them as networks of firms connected to each other by common

ownership or common directors alternatively as networks of owners or networks of directors. Accordingly, the small world analysis provides a new method in analyzing the properties of corporate governance networks and in understanding the functioning of corporate control. Previous studies find that corporate governance networks, indeed, do display robust small world properties (Baum et al. 2004; Kogut and Walker, 2001).

The small world approach may be contrasted with the dominant stream of research in international corporate governance, which emphasizes the role of formal structure; including legal systems, ownership and board structure (Claessens et al., 2000; Denis and McConnell, 2003; Durnev and Kim, 2002; La Porta et al. 1998; Shleifer and Vishny, 1997). The question is whether the social network approach can add significant elements to our understanding of corporate governance systems.

In this article, we put these two approaches to the test by examining their ability to explain key features of Scandinavian corporate governance. Scandinavian civil law is the smallest among legal families in the legal systems literature. Thus, Scandinavia is a natural test case for the explanatory power of the legal systems approach, according to which we would expect to see strong similarities in corporate governance across the Scandinavian countries (particularly in the importance and functioning of capital markets). However, we fail to observe such similarities. In contrast, using a small world approach we document similarities in governance networks, which are theoretically closely related to key characteristics of Scandinavian corporate governance such as trust, quality of enforcement, absence of corruption, quality of government services and freedom of speech.

Theory and hypotheses

There exists a large literature that stresses the considerable international differences in corporate governance practices (Barca and Becht, 2001; Baums, 1994; Gugler, 2001; La Porta

et al. 1998; Pedersen and Thomsen 1997; Prowse, 1995; Roe, 1994; Vives, 2000). A classical distinction from this literature is between the market-based corporate governance systems, typically found in the US and the UK, and the control or bank-based systems, typically found in continental Europe (Bebchuk and Roe, 1999). *Market-based systems* are characterized by diffused stock ownership by institutional investors, individuals and other minority investors. In comparison, the *control-based systems* are characterized by higher levels of blockholder ownership by founding families, corporate investors (cross holdings) and governments (Barca and Becht, 2001), and consequently less liquid markets. In practice, of course, these differences are less clear-cut than indicated by a stylized picture.

The dominant streams of research have emphasized the role of formal institutions, for example the legal system and investor protection rules, as determinants of these differences (La Porta et al. 1998; Shleifer and Vishny, 1997). The legal systems perspective has led to a growing number of supportive empirical studies (Claessens et al., 2000; Denis and McConnell, 2003; Durnev and Kim, 2002; La Porta et al., 1999). This emphasis on formal institutions is also characteristic of the so-called political theory of corporate governance (Roe 1991; 1994), which emphasizes the regulation of financial institutions as a source of corporate governance differences. The pervasiveness of these differences within systems and the persistence of differences between systems is explained in terms of complementary institutions and rent seeking, which may effectively block changes in corporate governance (Coffee, 1999; North 1991; Roe, 1994). We see a need for research that goes beyond the formal institutions. For example, it is known that Japanese companies have experienced impressive changes in formal institutions, from personal capitalism, via central planning, to US style open stock markets, to the keiretsu (cross ownership) and perhaps now to increasing foreign influence (Morck and Nakamura, 2005). But has the fundamental character of Japanese corporate governance changed accordingly?

Second, is it really true that changes in corporate governance are caused by changes in the legal system? Recent corporate governance research has instead highlighted the role of reputation and trust as important informal governance mechanisms. For example, Franks et al. (2004) found that the British stock market has historically flourished without formal investor protection, but is very much based on trust in smaller, local stock exchanges. Coffee (2001) and Collin (1998) argued that trust can substitute formal law as a governance mechanism to protect minority investors in the Scandinavian countries, which are believed to be small tightly networked societies. Dyck and Zingales (2002) proposed that media exposure may in itself be an important governance mechanism, partly because bad performance may damage the reputation of managers and board members.

Following Kreps, Milgrom, Roberts and Wilson (1982), Kreps and Wilson (1982) and the ensuing literature (e.g. Kandori 1992, Hörner 2002, Bohnet and Huck 2004), it can be shown that under certain circumstances companies can overcome the prisoners' dilemma games with other market participants (buyers, sellers, employees and investors). As argued by Kreps (1990) governance mechanisms such as reputation, culture and social norms may emerge when repeated games that provide incentives for consistently honest and fair behavior. However, intuitively, such cooperative equilibria are fragile and sensitive to informational problems and institutional constraints. For example, trust and reputation are difficult to sustain in large societies with limited room for stable long-term personal relationships. Tadelis (1999) shows that a market for reputation, for example when new owners unknown to the business partners acquire the reputations of other firms by acquisitions, gives rise to adverse selection problems and market failure. Informal mechanisms may, therefore, be particularly strong in small societies with dense social networks such as the Scandinavian countries (Coffee, 2001; Collin, 1998).

The contention that there is more to corporate governance than formal institutions is captured by Kogut and Walker (2003a):

"…governance and control operate through the constitution of relationships that bind economic organizations and individual actors. The ultimate source of governance is *society* rather than the rule of formal law or even boards of directors narrowly defined."

(Kogut and Walker, 2003a: 1)

Transforming such a contention regarding the importance of society into a testable hypothesis is obviously very difficult. It seems to require the availability of quantitative measures of "the social fabric", which have hitherto eluded sociologists. One contribution of this article is the application of a set of such measures to analyze governance networks of the largest Scandinavian companies in 2000.

Furthermore, Scandinavian countries are usually assumed to be members of a relatively homogeneous group when it comes to corporate governance both in terms of formal as well as informal mechanisms (Coffee, 2001; La Porta et al., 1998). There are some exceptions such as in the tales told of the individual countries (Agnblad et al., 2001; Rose and Mejer, 2003), where historical and current characteristics are described and related to each other. However, when it comes to large-scale or even comparative studies, these examples become very few indeed (Demirguc-Kunt and Levine 1999; Oxelheim, 1998). Such a lack of comparisons is somewhat surprising, as traditional industries and owners as well as current markets and corporate governance systems do differ in Scandinavia. Thus, another contribution of this article is to describe both market structures as well as formal and informal governance mechanisms in more detail and, thereby, to make the Scandinavian countries less Scandinavian and instead more Danish, Norwegian and Swedish, respectively.

Scandinavian corporate governance

In this section, we give a formal description of the similarities and differences between the Danish, Norwegian and Swedish corporate governance systems. For comparison, we also present data on corporate governance system characteristics for the UK and the US in Tables 1a and 1b. The data has been collected from a large number of sources, but if not otherwise specified, it comes from World Bank development indicators.

Table 1a approximately here

Economy. As can be seen in Table 1a, Denmark, Norway and Sweden, although small, are wealthy countries even in comparison to other high-income OECD and European countries. Together with a history of social democratic governments, all three countries feature a high level of government expenditure, which are reflected in the world's highest marginal personal tax rates (Gwartney and Lawson, 2006) It may, however, be noted that corporate tax is not that high and even compares to Anglo-American levels. Apart from being affluent, Scandinavian countries are very internationally oriented (e.g. high levels of exports and imports to GDP). Even though the investment flow figures were comparatively low in 1990 (partly due to a recession), this was more than made up for in 2000 after the deregulation of financial markets in the 1980's-90's.

Table 1b approximately here

Bank- or market-based? Despite these similarities, the Scandinavian countries are very different in terms of the classic distinction between bank-based and market-based economies. The Scandinavian countries have traditionally been categorized as bank- or

relationship-based corporate governance systems. However, there have been large changes since the 1990's. Whereas Denmark has greatly increased the total domestic credit provided by the banking sector, as well as its domestic credit to the private sector, Sweden has done the opposite and clearly become more market-oriented. While Denmark and Norway have doubled their stock market capitalization from 1990 to 2000, Sweden's market capitalization tripled. In fact, in 2000, Sweden resembled the traditional market-based economies of the UK and the US in terms of market capitalization as well as stock market turnover to GDP. Furthermore, IPOs approach Anglo-American levels and in the case of Norway greatly exceeds them, whereas M&A activity is comparable with the US, with the exception of Denmark (La Porta et al., 1997; Pagano and Volpin, 2005). With the exception of Norway in 2000, the stock market capitalization was on par with or greater than their European counterparts in relation to GDP. In 2000, one could, therefore, characterize Sweden as a market-based economy, Denmark as bank-based and Norway as somewhere in-between.

Law. According to La Porta et al. (1998), the Scandinavian countries belong to the special legal family of Scandinavian civil law, which is characterized by somewhat higher investor protection than other civil law countries, but lower than common law countries such as the UK and the US. However, according to the LLSV index of investor protection, Norway scores higher than Sweden, which scores higher than Denmark. In contrast, Denmark has slightly higher creditor protection than the other two countries, which reinforces the impression of a primarily bank-based financial system. Finally, it should be noted that the Scandinavian countries receive top marks on almost all variables when it comes to enforcement, such as efficiency of judicial system as well as accounting standards.

The above categorization of La Porta et al. (1998) can be contrasted with both other indicators as well as with other institutions such as extra-legal ones. As to the first, the World Bank rates the Scandinavian countries consistently highly on both society and government

quality as well as on regulations and rule of law. Indeed, both when considering the measures separately as well as together, the Scandinavian countries and especially Sweden are rated among the best governed countries in the world, even in a comparison to the UK and the US with the possible exception of regulatory quality.

Informal institutions. As for extra-legal institutions (Dyck and Zingales 2004), Scandinavian countries receive above-average ratings on newspaper circulation, serious crime and labor protection, but are below average on competition laws and tax compliance. With regard to labor laws, Botero et al. (2004) found that Scandinavian countries were below the international mean on an employment laws index, but above average on an industrial (collective) relations laws index, with the exception of Denmark, and a social security laws index. Still, the Scandinavian countries score consistently higher than the UK and the US with the possible exception of the civil rights index.

Owners. All three countries have a significant degree of family ownership among listed companies (as most other countries across the world including the US) and, in all of them, foreign ownership has increased significantly since the 1990's. Moreover, institutional investors have increased their share of the stock market in all three countries. However, each country combines these elements with unique, country-specific structures. Denmark has some of the world's largest farm cooperatives and is also characterized by a large number of industrial foundations, non-profit entities, which own and operate business companies. Indeed, Denmark is special in a Scandinavian perspective, as about two thirds of listed firms are controlled by a majority shareholder. (Eriksson et al., 2001; Krüger Andersen, 2004; Lausten, 2002; Rose and Mejer, 2003) In Norway, the government continues to own many business companies. Traditional industries like shipping are still controlled mainly by families, but resource intensive business like oil and power as well as banks are now to a large extent owned by the state, cf. Norway's high percentage of government-controlled banks. (La

Porta et al., 1998; 2002a; Oxelheim, 1998; Randøy and Nielsen, 2002) As for Sweden, it has a tradition of large business groups and large industrial firms. This kind of business structure has been favored by the social democratic governments, by strong labor unions and by the industrialists' family conglomerates. The outcome is that close to half of the stock market capitalization in Sweden has long been controlled by the business spheres of Handelsbanken and Wallenberg. Although foreign and institutional ownership has increased recently, the industrial owners have been able to hold on to controlling stakes in the largest publicly traded firms. (Agnblad et al., 2001; Collin, 1998; Högfeldt, 2004)

Thus, Scandinavian countries have a long tradition of strong owners. They achieve this control by dual class shares, pyramids and cross-shareholdings, where Denmark emphasizes dual class shares, Norway pyramids (a few) and dual shares (a few cases) and Sweden uses all three to a much larger extent than the other two and indeed the rest of the world (La Porta et al., 1998). Majority ownership is also more common in Denmark and Norway. Despite this, there is little consistent evidence of owners expropriating from minority shareholders (Dyck and Zingales, 2004; Nenova, 2003). Levels of dividends are, however, low in both Denmark and Sweden, both in an international and European context (La Porta et al., 2000), but not in Norway. Although hostile takeovers are uncommon in Scandinavia (e.g. Agnblad et al., 2001), mergers and acquisitions are on an international level (Pagano and Volpin, 2001).

Boards. Board structure in the three countries is formally very similar. While company law in all three countries prescribes that there must be one or more responsible managers as well as a supervisory board to appoint managers and approve significant decisions, Scandinavian boards have been described as both one-tier and two-tier and even semi-two-tier ones. Sweden endorses a seat for the CEO on the supervisory board, but the Danish corporate governance code advises against it. In Norway, the CEO of public firms is

not permitted to be on the board, but has the right to be present at board meetings. CEO duality is not permitted by law in either country. The tradition of strong owners is reflected in the supervisory boards, which are quite strong (independent) vis-à-vis managers and have long been composed of mainly non-executives. In both Norway and Sweden, nomination committees composed by major shareholders have come to play an important role in determining board composition. Indeed, supervisory board directors are mostly elected by majority shareholders. Thus, the management is in charge of the day-to-day business of the company, while the supervisory board monitors, hire/fires and must approve all major decisions.

The most specific characteristic of Scandinavian boards is, however, the mandatory employee representation. Employees are allowed a one third representation and participate in the board work on equal terms with members appointed by the general meeting with the same duties, rights and responsibilities. As such, they must represent the interest of the company and not (at least not legally) the interests of the employees. This system seems to work although (or perhaps because) employee representatives are commonly known to be rather quiet in the board meetings. Some would argue that employee board representation has helped to foster a sense of solidarity in Scandinavian societies and reduced owner versus employer tension. The Scandinavian experience is different from that of Germany with up to 50% employee representation.

In summary, while researchers in comparative corporate governance tend to regard the Scandinavian countries as a uniform group, this is not supported by the above description. A priori, there is little to unite the Swedish industrial conglomerates with partly state-owned Norwegian energy companies and the foundation or cooperative controlled firms of Denmark. Despite this, as we have seen above, the Scandinavian countries are fairly similar when it comes to macro-economic issues even in a combined comparison with the traditional market

economies of the UK and the US. However, as we also noted, the Scandinavian countries display greater capital market differences, in Denmark being more bank-based, Sweden more market-based and Norway somewhere in-between. These differences are visible in formal governance mechanisms (with the exception of creditor rights) as observed by both La Porta et al. (1998) and the World Bank as well as in the different market characteristics. Where we do find a great degree of similarity, is not in formal structures, but soft issues like enforcement, political stability, government effectiveness, control of corruption, accountability, labor regulation and newspaper circulation, displaying a quite homogeneous picture of the Scandinavian societies and especially so in a comparison with the UK and the US. Apparently, these important variables are only loosely coupled with the differing formal structures. How then should we analyze and explain informal governance? In the next section, we take a step beyond the formal institutions to analyze social networks, particularly those related to corporate governance.

Small world analysis of governance networks

In this section, we turn our attention from formal institutions to informal institutions. The three Scandinavian countries have one thing in common, which we believe to be very important to trust, transparency and accountability: They are all small and ethnically homogeneous. We propose that these characteristics make it easier to establish social control, for example through schooling, reputation, threat of exclusion from social networks and other similar mechanisms. We, therefore, turn to the emerging literature on small worlds for insights.

A social network, in this case a governance network, can be defined as a set of agents such as firms, board members and owners, also known as network vertices or nodes, that are connected by a set of relations such as ownership and board interlocks, also known as

network edges or ties (Baum et al., 2004; Wasserman and Faust 1984). A path is a set of relationships that connects a pair of actors to each other. A social network can be connected, in which case there is a path between any two actors in the network, or it can be disconnected. Disconnected networks consist of two or more connected sub-networks. Such a sub-network is called a component and there cannot be any ties between actors who belong to different components. Depending on the type of network, the largest component in our data includes between 80 and 95 percent of all actors (see Table 2). The density of a network indicates the number of actual connections relative to the number of potential connections. A completely unconnected network has zero density, and a network in which each actor is connected to every other actor has a density score of 1. Furthermore, the neighborhood of an agent is defined as its immediately connected neighbors/agents, while the degree of an agent is the number of other agents in its neighborhood. Following Watts and Strogatz (1998), the degree to which a network depicts a small world is identified from the analysis of two statistical measures of small worlds, namely, the clustering coefficient (CC) and the average path length (APL).

The clustering coefficient for an agent is the proportion of links among the agents within its neighborhood divided by the number of links that could possibly exist among them. The clustering coefficient for the whole system is obtained as the average over all agents in the network. High values of CC indicate that the network is composed of densely interconnected neighborhoods. For example, if the CC equals 1, then every neighbor connected to the focal agent is also connected to every other agent within the neighborhood, whereas if the CC equals 0, no agent that is connected to the focal agent connects to any other agent that is in turn connected to the focal agent. We compute CC only for the largest component in each network. However, this procedure has been recently criticized, as it assumes that social networks are unstructured in relation to the Poisson distribution rather

than, more logically, being structured (Conyon and Muldoon, 2006a; Newman et al., 2000). Therefore, the Watts (1999) transformations tend to overestimate the existence of small worlds. Nevertheless, as part of our analysis, we provide comparative statistics between the small world statistics of Scandinavian networks with those of other countries, which assume a structured distribution. Therefore, we opt for computing the clustering coefficient in line with these previous studies and as stated above, being very cautious of the present criticism.

The APL is the average number of ties along the shortest path between any two agents in a network. A high value of APL means that, on average, for example information has to travel through a large number of intermediaries in order to cross between two actors in the network.

Once we have calculated these two statistics, there is no actual statistical test, such as the t-statistic, to determine whether the network depicts a small world. In order to establish the existence of small worlds in an actual network, the values of the clustering and the path length statistics are compared with the values of the same statistics of a random network with the same number of nodes and ties (Watts and Strogatz, 1998). While small world networks have short path lengths and are highly clustered, networks where actors are linked at random have short path lengths and low clustering. Therefore, small worlds can be detected if the CC and the APL of an actual network are compared with same statistics of a random network with same number of nodes and ties. Accordingly, for the actual network to be a small world, the APL should be close to the value of a random network ($APL_{actual} \sim APL_{random}$), while the CC should be much greater than that of a random network ($CC_{actual} > CC_{random}$). The CC for a random network is calculated as the ratio of the number of network ties (t) to the number of network nodes (n), while the APL is calculated as $\ln(n)/\ln(t)$. Normalizing APL and CC by dividing the statistic for the observed network with the value for the random network gives a summary statistic that should be close to 1 for APL and considerably larger than 1 for CC. As

in Kogut and Walker (2001), we use the following estimate to identify the presence of small worlds:

$$SW = \frac{\dfrac{CC_{actual}}{CC_{random}}}{\dfrac{APL_{actual}}{APL_{random}}}$$

This estimate gives a summary indication of the "small-worldliness" of the network. The larger the estimate, the more obvious is the small-world characteristic of the network, i.e. highly clustered with short average path length.

We analyze affiliation data, i.e. for each firm we know its directors, and for each firm we know its owners. From these affiliation matrices we extract contact matrices, by connecting firms through joint directors (interlocking directorates) or owners through shared ownership of firms. In this study, such contact matrices define the governance network. Alternatively, governance networks can be characterized as a set of owners connected by shares in the same firms or as a set of board members connected by board positions in the same firms. For example, in our case, an ownership network is simply the affiliation matrix, which consists of rows for firms and columns for owners with a value 1 in a cell if the owner i has a significant stake in company j.

Data and results

We examine the small world characteristics of the Danish, Norwegian, and Swedish governance networks analyzing the largest 323 firms in each country for 2000 (Norway and Sweden) and 2001 (Denmark). The size cut-off is determined by Swedish data that consists only of publicly traded firms. Danish and Norwegian data also includes limited liability and

private companies. The data contains financial, ownership and board information and represents most industrial sectors. We use the names of owners and board members to identify connections between firms. Similarly, we use the names of firms to identify connections between owners or board members. This identification strategy is easy and relatively reliable for the majority of owners and firms, as the firms are well known to the researchers and easy to identify.

In the Danish data, we count both members of the management board and the members of the supervisory board as board members, whereas we count only supervisory board members in the Swedish and Norwegian data. In the few cases in which a member of the management board also sits on the supervisory board we count the person only once. In addition, firms can be connected by more than one ownership tie. In such a case, according to the small world methodology, we count multiple owners only once. We analyze the small world statistics using the implemented routines in UCINet 6 program (Borgatti et al., 2002).

In the analysis, we compare four types of networks for each of the three Scandinavian countries:

i) The network of directors connected through board affiliation,

ii) the network of firms connected through director interlocks,

iii) the network of owners connected through shared ownership in firms and

iv) the network of firms connected through common owners.

Table 2 shows key small world statistics for the year 2000 for these four networks in the Scandinavian countries.

Table 2 approximately here

The results reveal that all four networks exhibit small world characteristics with high clustering coefficient and relatively short path length (columns 5 and 7). With the exception of networks of type iv, i.e. firms connected through common owners, the low density scores indicate that the small world characteristics are not simply due to a size effect (column 4). For example, in most cases, the clustering coefficient is larger than 0.70, and significantly differs from the clustering coefficient of a random network with same number of nodes and ties (column 6), while the average path length is close to that of a random network (column 8). These properties are nicely captured by the normalized measures (columns 9 and 10). By definition, a network with a clustering coefficient larger than that of a random network and an average path length similar to that of a random network is a small world (Watts and Strogatz, 1998). Hence, we find support for our argument that the governance networks across the three Scandinavian countries are indeed small worlds.

The results of Table 2 show that the small world estimates for the network of directors are in general larger than those for the network of owners (column 11). These results suggest that board connections between firms are stronger than ownership connections, which probably reflects the fact that, in Scandinavian countries, many companies appoint professional board members from other corporations, even if they are majority-owned by families or foreign parent companies. Nevertheless, differences arise across the three countries. For example, with respect to the network of directors, the connections appear to be stronger for Denmark and Sweden than for Norway. This implies that for these two countries there are clusters of highly connected directors, which in turn are highly interconnected and provide great potential for high information flow between board directors.

In the network of owners, there are also interesting differences between the Scandinavian countries, where the Swedish owner network again has the highest small world estimate. Some Swedish owner spheres, such as the Handelsbanken and Wallenberg are

known to be very powerful and control a large portion of the Swedish stock market (Collin, 1998). Two such powerful owners could serve to increase the clustering coefficient and decrease the path lengths in the Swedish ownership network. However, taking these two spheres out of the analysis does not alter the results in any significant way. Thus, the difference is not driven by a few powerful owners, but is a characteristic of the Swedish corporate governance system. As for the other countries, Denmark and Norway, owner networks also display small world characteristics, although to a lesser extent.

In summary, we find that the Scandinavian countries in general display small world characteristics both in board and owner networks, which is especially pronounced in Swedish networks. Given the novelty of the methodology and differences in data collection and sampling, comparing parameter values should be done with caution at this stage. For example, although we choose the same number of firms across the three countries, there is substantial variation across the number of directors and owners. Importantly, such variations reflect size effects for both the network of boards and owners. Moreover, these size effects also become apparent with the large variations in the main component, which reflects the fragmentation of the networks. Combinations of large networks of directors and owners with the least fragmentations, as in the case of Sweden, are related to the highest small world estimates.

Table 3 shows comparative statistics for board and owner networks, which represent governance systems characterized by common law (the UK and the US), French civil law (Italy) and German civil law (Germany).

Table 3 approximately here

Due to methodological differences, we are reluctant to compare parameter values, although we may note that with the exception of German owners, Scandinavian countries

have consistently greater small world estimates. One exception, though, are the results in the analyses of US director networks (Davis & Yoo, 2003; Davis et al., 2003). These results are more difficult to compare with the Scandinavian networks, as they represent small world estimates of director networks for different points in time as well as different studies (Conyon & Muldoon, 2006a; Davis & Yoo, 2003; Davis et al., 2003).

The implication of these estimates is, however, that firm directors' and owners in many different corporate governance systems appear to be linked by small world networks (see especially the owner networks). But if this is the case, why is it that these countries do not attain the same scores as Scandinavian countries on soft governance characteristics? To answer this question we propose that network ties are multidimensional in a way, which will be strongly self-reinforcing in smaller countries and that we have so far only uncovered a fraction of these connections (the tip of the iceberg so to say).

We have reason to believe that the small worldliness of information has important implications for social behavior, particularly for the above-mentioned soft variables such as enforcement, political stability, regulatory quality, government effectiveness, control of corruption and accountability, which appear to define Scandinavian corporate governance despite formal dissimilarities. Granovetter (2005) emphasizes that social networks affect the economic outcomes because, among other reasons, networks affect the flow of information and trust. The implication is that the more connected a network is, the higher the probability that information and ideas will flow easier through the network actors, internalizing norms (shared ideas) and emphasizing trust. Our results suggest this to be the case for all three Scandinavian countries.

Recent corporate governance research has highlighted reputation and trust as important informal governance mechanisms. For example Franks et al. (2004) find that the British stock market historically flourished without formal investor protection, but was very

much based on trust in smaller, local stock exchanges. Coffee (2001) and Collin (1998) argue that trust can substitute for formal law as a governance mechanism to protect minority investors in the Scandinavian countries, which are small tightly networked societies. Dyck and Zingales (2002) propose that media exposure may in itself be an important governance mechanism, partly because bad performance may damage the reputation of managers and board members.

This view draws on a growing body of research on the economics of status and reputation (for reviews see Akerlof and Kranton, 2005, as well as Weiss and Fershtman, 1998). The basic theme in this literature is that social rewards (like status) may be a valuable substitute for purely economic incentives because they can help address market failures (e.g. externalities). If managers and board members care about their reputation, and if their personal reputation is influenced by the company's reputation (Dyck and Zingales, 2002), the risk of loosing a good reputation may serve as a governance mechanism which induces managers and board members to be efficient. Johnson et al. (1993) found that the personal reputation of CEOs, as rated by financial analyst, was sensitive to both stock returns and changes in accounting. The personal reputation of the CEO is also likely to influence their pay. Milbourn (2003) found that proxies for CEO reputation, including favorable press coverage, positively influenced pay for performance elasticity. Personal reputation may also influence the career prospects of CEOs and board members (Fama, 1980).

Aside from monetary benefits, individual managers and board members may care about their own and the company's reputation for intrinsic reasons. A growing literature has emphasized that individuals are concerned about their status and may identify with the companies that they work for (Akerlof and Kranton, 2005). Bernheim (1994) explicitly models the desire for social esteem as a driving force for individual behavior. When profit

incentives are muted, as in industrial foundations, this force may become particularly important.

Such mechanisms may be particularly strong in small worlds with dense social networks such as the Scandinavian countries (Coffee, 2001; Collin, 1998).

Discussion

In this article, we suggest that informal governance mechanisms may substitute for or complement formal ones. Although most corporate governance research has focused on formal institutions (e.g. La Porta et al., 1998), other researchers have suggested that reputation and trust may play an important role (e.g. Dyck and Zingales, 2002) and especially so in small tightly networked societies (Coffee, 2001; Collin, 1998). We contrast the two approaches by analyzing Scandinavian corporate governance, which is a good test case due to it being the smallest legal family (La Porta et al., 1998). We do so by comparing the formal institutions such as law as well as ownership and board structure as well as by analyzing the ownership and board networks by using the small world methodology. In summary, if actors have short average path lengths between each other and they are highly clustered as well as more so than would be expected to occur randomly (Watts, 1999; Watts and Strogatz, 1998), the network has small world properties. In such a case, for example information can be expected to travel the network fast and social norms and reputation can be expected to have greater effects than they would otherwise.

Summarizing our contribution, we have compared the ability of social networks and legal systems theory to explain salient features of Scandinavian corporate governance. First, we examined the formal and informal institutions, such as legal systems, which are emphasized in extant research on international corporate governance. Second, we examined the informal small world characteristics of social connections analyzing board and ownership

ties. We found that that there are large differences in formal structures, while the unifying theme of Scandinavian corporate governance appears to be related to institutions like law enforcement, political stability, government effectiveness, rule of law, control of corruption as well as voice and accountability. Despite these formal differences, all three countries can be characterized as "small worlds" in which trust, information diffusion and reputation mechanisms are apparently effective governance mechanisms. In most cases, these networks consist of a connected main component comprising at least half of the network and display high small world estimates theoretically and, in general, higher than those of other countries.

Despite its intellectual attraction and novelty, the small world approach is still in its infancy in relation to corporate governance issues. Our preliminary findings among 969 Scandinavian firms provide only a first crude test of the significance of network ties on corporate governance practices. Our present data does not allow us to provide explicit tests of these hypotheses, but it does give a first indication of the existence of such effects. We highlight the fact that Scandinavian countries score highly on soft governance variables like reputation and social responsibility, measured by reputation indices and the social rating indices. We conjecture that these variables will be influenced by board and ownership ties between companies, not in the naïve sense that greater interlocks are "better" or more socially responsible, but in the more complex sense that network ties will tend to reproduce the diffusion of common practices. Such diffusion of practices is due to networks' ability to disseminate information and facilitate trust. Thus, we expect that network-based corporate governance ties will facilitate similarities in company behavior and outcomes.

In Table 4, we provide data for a tentative analysis of the effect of such network ties in the form of board diversity in Denmark, Norway and Sweden.

Table 4 approximately here

We suggest that board composition is one area where we would expect to see small world network effects. In Table 4, we construct a diversity index (% female board members + % foreign board members + age diversity) to analyze the determinants of overall variations in supervisory board diversity in Scandinavia. As in Oxelheim et al. (2006), we find that general board diversity is driven by firm size, industry and country effects. In addition, average board age has a negative effect on diversity, but this is solely attributable to an effect of age diversity. We would also have expected the number of ties of a board chair to have an effect on diversity. However, contrary to our initial expectations, we find no such effect, that is we find no evidence that "the old boys' network" reduces diversity.

Measurement issues aside, our interpretation is that board diversity, and we would surmise other outcomes as well, is transmitted more strongly through strong board ties, but that the direction of this effect will depend on the nature of the signal transmitted: An all male board is likely to transmit a preference for male board representation to other boards, whereas a mixed board will transmit a preference for diversity through board interlocks. In other words, the board system will tend to self-reproduce in the same way that top management teams tend to do (Stafsudd, 2006).

The implication is that we need to characterize networks not just in terms of the strength of "ties", but also in terms of character or identity of the actors in the network. The network structure in and of itself appears to be neutral.

Going back to the issue of Scandinavian corporate governance, we cannot say that strong networks per se lead to high levels of trust and information sharing. In fact, there are many examples of small societies such as Sicily, in which a small world structure (the Mafia) helps preserve suboptimal behavior. However, we can say that strong social networks help maintain existing practices, which in the Scandinavian countries may be tantamount to reinforcing Pareto-optimal social equilibriums. Still, we are left with the puzzle of what

created the Scandinavian equilibrium and what made it qualitatively different to the Sicilian equilibrium, in other words going back to the underlying question of economic development (North, 1991).

We propose that a relatively simple alternative corporate governance mechanism is at work in small worlds: Companies that underperform damage their reputation and this spills over to the personal reputations of the top management team (management and supervisory boards). Bad personal reputation has a negative impact on their future careers (e.g. eligibility for new jobs or board positions), but more importantly it has a strong and direct negative effect on their personal utility. Like academic economists, who are believed to be motivated primarily by the recognition of their peers, experienced business people care strongly about their professional reputation. Following Akerlof and Kranton (2005) the top management team of large companies may come to identify with the companies that they manage. In contrast to altruism, status-seeking is motivated not by feelings for other people, but by how other people feel about the status-seeker (Bernheim, 1994). The implication is that status is a more powerful disciplining device for managers and board members of large, visible companies which attract more public attention. Greater transparency is also likely to make reputation and status concerns a more effective solution to governance problems.

A complete characterization of the reputation function is outside the scope of this article, but it seems realistic to assume that reputation is more sensitive to firm performance, the larger and more visible the firm is. Reputation effects are also likely to be stronger, the more the firm invests in its own reputation and the greater relative emphasis it places on the reputation of the manager. These effects are likely to be stronger in small worlds characterized by quickly shared and, therefore, common knowledge.

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Table 1a Scandinavian Corporate Governance Systems' Characteristics I

	1990					2000				
	DK	NO	SE	UK	US	DK	NO	SE	UK	US
Demographic and macro-economic variables										
Population (million)	5	4	9	58	250	5	5	9	60	282
GDP (constant 2000 billion USD)	126	116	197	1,131	7,055	158	167	240	1,443	9,765
GDP growth (annual %)	1.0	2.0	1.0	0.7	1.9	2.8	2.8	4.3	4.0	3.7
GDP per capita (constant 2000 USD)	24,458	27,301	22,974	19,647	28,263	29,630	37,165	27,012	24,151	34,599
GDP value added by agriculture %	4.4	3.6	3.5	1.9	2.1	2.9	2.2	1.9	1.1	1.2
GDP value added by industry %	26.5	35.7	32.3	35.2	27.9	27.2	43.0	29.4	28.3	24.2
GDP value added by service %	69.0	60.8	64.3	62.9	70.1	69.9	54.9	68.7	70.6	74.6
Government consumption expenditure (% GDP)	25.6	21.2	27.4	82.4	17.0	25.3	19.1	26.6	84.5	14.4
Gross private capital flows (% GDP)	15.1	11.9	33.9	35.3	5.7	67.1	37.3	73.1	116.5	17.2
Household consumption expenditure (% GDP)	49.1	49.1	48.6	62.6	66.7	47.7	42.6	49.1	65.7	69.0
Gross fixed capital formation (% GDP)	19.9	21.5	23.1	20.5	17.4	20.0	18.6	17.7	17.0	19.9
Net foreign direct investment outflows (% GDP)	1.1	1.3	6.1	2.0	0.7	17.9	5.1	16.7	17.0	1.6
Net foreign direct investment inflows (% GDP)	0.8	1.0	0.8	3.4	0.8	22.8	5.8	9.2	8.5	3.3
Products and services export (% GDP)	35.8	40.4	29.7	24.0	9.6	44.0	46.7	46.1	28.0	11.2
Products and services import (% GDP)	30.8	33.9	29.1	26.6	11.0	38.1	29.4	40.3	30.1	15.1

Table 1a contd.	1990					2000				
	DK	NO	SE	UK	US	DK	NO	SE	UK	US
Highest marginal tax rate corporate %						31	28	28	30	35
Highest marginal tax rate individual %[1]						59	48	55	40	43
Bank assets										
Domestic credit provided by banking sector (% GDP)	63.0	89.0	141.4	121.0	150.8	146.6	81.0	50.2	133.3	201.1
Domestic credit to private sector (% GDP)	52.2	81.7	127.4	115.8	118.9	137.0	76.4	43.7	132.4	170.7
Gross domestic savings (% GDP)	25.4	29.7	24.0	17.6	16.3	27.0	38.3	24.3	15.5	16.6
Real interest rate	10.1	10.0	7.3	6.6	5.9	5.0	-5.7	4.5	4.7	6.9
Stock markets										
Listed domestic companies	258	112	258	1,701	6,599	225	19	292	1,904	7,524
Stock market capitalization (current billion USD)	39	26	98	849	3,060	108	65	328	2,577	15,104
Stock market capitalization (% GDP)	29.3	22.5	40.8	85.8	53.2	68.1	39.0	137.1	178.6	154.7
Stock market turnover (current billion USD)	11	14	18	279	1,751	92	60	390	1,835	21,863
Stock market turnover (% GDP)	8.33	12.1	7.3	28.2	30.4	57.9	36.0	162.8	127.2	326.3
Stock market turnover ratio	28.00	54.4	14.9	33.4	53.4	86.0	93.4	111.2	66.6	200.8

Note:[1] Gwartney and Lawson (2006)

Scandinavian corporate governance characteristics are presented in terms of values for demographic and macro-economic variables, including bank assets and stock markets for the years 1990 and 2000 for Denmark, Norway and Sweden as well as the UK and the US for comparison.

Table 1b Scandinavian Corporate Governance Systems' Characteristics II

	DK	NO	SE	UK	US
Investor protection law[1]					
One share - one vote	0	0	0	0	0
Antidirector index	2	4	3	5	5
Proxy by mail allowed	0	1	0	1	1
Shares not blocked before meeting	1	1	1	1	1
Cumulative voting / proportional representation	0	0	0	0	1
Oppressed minority	0	0	0	1	1
Preemptive right to new issues	0	1	1	1	0
% share to call extraordinary shareholder meeting	0.10	0.10	0.10	0.10	0.10
Mandatory dividend as a percentage of net profit	0.00	0.00	0.00	0.00	0.00
Creditor rights index	3	2	2	4	1
No automatic stay on assets	1	0	0	1	0
Secured creditors first paid	1	1	1	1	1
Restrictions for going into reorganization	1	1	1	1	0
Management does not stay in reorganization	0	0	0	1	0
Legal reserve required as a percentage of capital	0.25	0.20	0.20	0.00	0.00
Efficiency of judicial system	10.00	10.00	10.00	10.00	10.00
Rule of law	10.00	10.00	10.00	8.57	10.00
Corruption	10.00	10.00	10.00	9.10	8.63
Risk of expropriation	9.88	9.40	9.40	9.71	9.98
Risk of contract repudiation by government	9.71	9.58	9.58	9.63	9.00
Accounting standards	74	83	83	78	71

Table 1b contd.	DK	NO	SE	UK	US
World Bank indicators					
Voice and accountability, value	1.51	1.50	1.56	1.39	1.18
Voice and accountability, world rank	6	4	1	12	29
Political stability, value	0.18	1.44	1.49	1.17	1.30
Political stability, world rank	9	8	3	23	19
Government effectiveness, value	1.84	1.55	1.72	2.01	1.80
Government effectiveness, world rank	11	8	4	7	12
Regulatory quality, value	1.41	0.95	1.39	1.69	1.53
Regulatory quality, world rank	13	15	5	7	9
Rule of law, value	1.95	1.99	1.96	1.91	1.90
Rule of law, world rank	12	4	4	14	15
Control of corruption, value	2.38	2.13	2.50	2.19	1.79
Control of corruption, world rank	5	6	2	10	15
All, value	1.76	1.59	1.77	1.40	1.23
All, world rank	7	4	5	11	17
Extra-legal institutions[2]					
Competition laws	5.16	5.40	5.08	5.74	5.96
Newspaper circulation / population	3.10	2.20	4.50	3.30	2.12
Serious crime / 100.000 population	46.10	52.30	80.10	96.40	272.50
Labor protection measure		1.00	2.20	0.50	0.20
Tax compliance	3.70	5.00	3.39	4.67	4.47
Acceptability of cheating on taxes	2.48		1.64	2.65	1.95
Law of mandatory purchase of additional shares	At 50%	At 45%	No	No	No
Regulation of labor[3]					
Employment laws index	0.57	0.69	0.74	0.28	0.22
Alternative employment contracts	0.50	0.50	0.72	0.50	0.50
Cost of increasing hours worked	1.00	1.00	1.00	0.00	0.15
Cost of firing workers	0.51	0.53	0.53	0.49	0.07
Dismissal procedures	0.29	0.71	0.71	0.14	0.14

Table 1b contd.	DK	NO	SE	UK	US
Social security laws index	0.87	0.83	0.84	0.69	0.65
Labor union power	0.71	0.71	0.62	0.00	0.14
Collective disputes	0.13	0.58	0.46	0.38	0.38
Collective relations laws index	0.42	0.65	0.54	0.19	0.26
Old age, disability and death benefits	0.85	0.74	0.83	0.63	0.58
Sickness and health benefits	0.99	0.94	0.85	0.68	0.67
Unemployment benefits	0.79	0.80	0.86	0.76	0.69
Civil rights index	0.58	0.47	0.58	0.56	0.73
Market characteristics					
IPOs / Population[4]	1.80	4.50	1.66	2.01	3.11
M&A Activity, deals divided by population[5]	16.78	24.71	22.93	32.52	23.73
Government ownership of banks[6]	8.87	43.68	23.20	0.00	0.00
Government control of banks[6]	8.87	7.76	12.07	0.00	0.00
Widely held	0.10	0.05	0.00	0.90	0.80
Family	0.35	0.25	0.55	0.05	0.20
State	0.20	0.40	0.10	0.00	0.00
Widely held financial	0.05	0.10	0.30	0.05	0.00
Widely held corporation	0.00	0.00	0.00	0.00	0.00
Control of cash flow[8]	0.30	0.27	0.12	0.14	0.20
Control of votes[8]	0.41	0.34	0.32	0.25	0.21
Wedge[8]	0.10	0.07	0.19	0.10	0.01
Capital = 20% Votes[7]	14.87	18.15	12.63	20.00	19.19
Pyramid & not widely held[7]	0.08	0.13	0.53	-	0.00
Cross-shareholdings[7]	0.00	0.00	0.10	0.00	0.00
% dual class shares[2]	0.20	0.11	0.19	0.02	0.08
Probability that controlling shareholder is alone[7]	0.60	0.62	0.43	-	1.00

Table 1b contd.	DK	NO	SE	UK	US
Block premia, raw data[2]	0.08	0.02	0.07	0.01	0.01
Block premia, fixed effect[2]	0.03	0.06	0.05	0.02	0.04
Premia voting/nonvoting shares, raw data[9]	0.01	0.06	0.01	0.01	0.02
Premia voting/nonvoting shares, fixed effect[9]	0.01	0.06	0.01	0.02	0.01
Dividends / cash flow[10]	6.55	10.74	5.59	16.67	11.38
Dividends / earnings[10]	17.27	23.91	18.33	36.91	22.11
Dividends / sales[10]	0.71	0.98	0.78	1.89	0.95
Corporate tax, undistributed profits[10]	0.34	0.28	0.28	0.33	0.42
Corporate tax, distributed profits[10]	0.34	0.28	0.28	0.33	0.42
Personal tax, capital gains[10]	0.40	0.28	0.13	0.40	0.36
Personal tax, dividends[10]	0.40	0.28	0.00	0.40	0.47
Dividend tax preference[10]	0.67	1.08	1.03	0.83	0.58

Notes: [1] La Porta et al. (1998), [2] Dyck and Zingales (2004), [3] Botero et al. (2004), [4] La Porta et al. (1997), [5] Pagano and Volpin (2001), [6] La Porta et al. (2002a), [7] La Porta et al. (1999), [8] La Porta et al. (2002b), [9] Nenova (2003), [10] La Porta et al. (2000).

Scandinavian corporate governance system characteristics are presented in terms of investor protection law, World Bank indicators, extra-legal institutions, regulation of labor and market characteristics for approximately the mid 1990's for Denmark, Norway and Sweden as well as the UK and the US for comparison.

Table 2 Small World Statistics for Scandinavian Corporate Governance Networks in 2000

Governance network	N	Largest component	% n component	Density connected firms	CCactual	CCrandom	PLactual	PLrandom	Norm CC	Norm PL	Small world estimate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Directors											
Denmark	2,199	1129	51	0.01	0.93	0.010	5.87	2.88	92.9	2.04	45.62
Norway	910	78	9	0.10	0.92	0.103	3.05	2.086	8.971	1.46	6.13
Sweden	1,780	1,457	82	0.01	0.88	0.006	4.83	3.26	137.55	1.48	92.81
Firms through directors											
Denmark	323	155	48	0.02	0.51	0.024	5.13	3.78	21.25	1.36	15.68
Norway	323	23	7	0.16	0.71	0.151	3.58	2.52	4.72	1.43	3.31
Sweden	323	265	82	0.02	0.40	0.022	4.04	3.18	18.17	1.27	14.28
Owners											
Denmark	456	109	24	0.06	0.91	0.058	2.28	2.55	15.86	0.89	17.76
Norway	822	478	58	0.02	0.90	0.022	3.21	2.64	41.85	1.21	34.47
Sweden	869	694	80	0.02	0.91	0.015	2.95	2.81	60.40	1.05	57.52

Table 2 contd.	N	Largest component	% n component	Density connected firms	CCactual	CCrandom	PLactual	PLrandom	Norm CC	Norm PL	Small world estimate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Firms through owners											
Denmark	323	51	16	0.36	0.91	0.351	1.84	1.36	2.59	1.35	1.92
Norway	323	106	33	0.11	0.71	0.114	2.58	1.87	6.26	1.38	4.55
Sweden	323	277	86	0.30	0.78	0.284	1.91	1.29	2.74	1.48	1.85

Note: Results of owner and board network analyses for Denmark, Norway and Sweden in 2000 are presented in terms of total number of companies, number of companies in the largest component, density, clustering coefficient (CC) and average path length (APL) for actual and random networks. Finally, normalized CC and APL are presented together with small world estimates.

Table 3 Comparative Statistics of Small World Estimates

Governance network	% main component	Normalized CC	Normalized APL	Small world estimate
Directors				
Danish directors 2001	51	92.9	2.04	45.62
Norwegian directors 2000	9	8.971	1.46	6.13
Swedish directors 2000	82	137.55	1.48	92.81
German directors 2001-02[1]	33	1.49	1.83	0.81
UK directors 2002[1]	77	1.63	1.35	1.21
UK directors 2000[2]	76	1.31	1.64	1.25
US directors 2003[1]	83	1.56	1.23	1.27
US directors 2001[3]	83	440.00	1.45	303.07
US directors 1999[4]	85	290.00	1.42	183.03
Firms through directors				
Danish firms 2001	48	21.25	1.36	15.68
Norwegian firms 2000	7	4.72	1.43	3.31
Swedish firms 2000	82	18.17	1.27	14.28
German firms 2001-2002[1]	25	1.30	2.07	0.63
UK firms 2002[1]	77	1.00	1.36	0.74
UK firms 2000[2]	77	1.21	1.34	0.91
US firms 2003[1]	85	1.38	1.23	1.12
US firms 2001[3]	79	26.67	1.15	23.30
US firms 1999[4]	86	13.75	1.18	11.84

Governance network	% main component	Normalized CC	Normalized APL	Small world estimate
Owners				
Danish Owners 2001	24	15.86	0.89	17.76
Norwegian Owners 2000	58	41.85	1.21	34.47
Swedish Owners 2000	80	60.40	1.05	57.52
German Owners 1998[5]	(N=497)	176.00	0.91	193.41
Italian owners 2000[6]	56	21.05	1.32	15.93
UK owners 2000[2]	81	20.10	1.57	12.79
US owners 2001[3]	60	3.81	1.42	2.67
Firms through owners				
Danish firms 2001	16	2.59	1.35	1.92
Norwegian firms 2000	33	6.26	1.38	4.55
Swedish firms 2000	86	2.74	1.48	1.85
German firms 1998[5]	46	95.00	1.08	87.96
Italian firms 2000[6]	49	6.94	1.30	5.33
UK firms 2000[2]	85	1.60	1.54	1.04

Sources: Own calculations, [1] Conyon and Muldoon (2006a), [2] Conyon and Muldoon (2006b), [6] Corrado and Zollo (2003), [3] Davis and Yoo (2003), [4] Davis et al. (2003) and [5] Kogut and Walker (2003b).

Comparative statistics in terms of normalized path length (APL) clustering coefficient (CC) together with small world estimates are presented for the Scandinavian countries of Denmark, Norway and Sweden as well as Germany, Italy, the UK and the US.

Table 4 Determinants of Board Diversity in Scandinavia

	Descriptives		Regression analysis, board diversity as dependent variable				
	Mean	Std.dev.	Estimate	Std. error	t-value	Pr > t	Pr > F
Board size	6.92	2.19	0.0083	0.0056	1.49	0.1369	0.1369
Sales 2004	1,043.96	3,854.75	0.0000	0.0000	2.14	0.0332	0.0332
Chair positions	1.09	1.48	-0.0036	0.0070	-0.52	0.6058	0.6058
Average age	53.90	4.81	-0.0047	0.0025	-1.88	0.0606	0.0606
Denmark	29.20		-0.1509	0.0257	-5.88	< 0.0001	< 0.0001
Norway	25.10		0.1100	0.0268	4.11	< 0.0001	< 0.0001
Sweden	45.80		0.0000	-	-	-	-

Sources: Own calculations and Oxelheim et al. (2006)

Regression analysis with board diversity (mean 0.35, std.dev. 0.21) as dependent variable and board size, sales 2004, chair positions, average age and country effects of Denmark, Norway and Sweden as independent variables.

Table Captions

Table 1a Scandinavian Corporate Governance Systems' Characteristics I

Table 1b Scandinavian Corporate Governance Systems' Characteristics II

Table 2 Small World Statistics for Scandinavian Corporate Governance Networks in 2000

Table 3 Comparative Statistics of Small World Estimates

Table 4 Determinants of Board Diversity in Scandinavia