

# **Internationalization of the firm and its board**

## **INTRODUCTION**

After the last decade's rash of corporate scandals—epitomized by none other than Enron and Parmalat—policy makers began prioritizing the issues of corporate governance and corporate board composition (OECD, 2004). The current global financial crisis has further fueled the demand for more competent and independent boards, particularly in terms of firm globalization. Indeed, 2007 saw global inflows of foreign direct investment (FDI) exceed the previous all time high from 2000 (UNCTAD, 2008). In a parallel development, social and political interest in diversity issues has started to rise (e.g., Economist, 2008). Taken together, these developments prompt the question of how supervisory corporate boards should be composed to most adequately tackle growing globalization. Globalization demands more sophisticated management skills; though cross-border harmonization has come a long way, the increase in national borders crossing has spurred a number of idiosyncratic factors for management to successfully monitor and control. Hence, globalization calls for the supervisory board to assume special capabilities in order to control, guide, and monitor the management in the interest of owners.

A firm can be internationalized in two ways: through commercial activities and through financial activities. Commercial internationalization embraces export and import, foreign direct investment, and foreign employees. Internationalization of the firm's financial

activities, on the other hand, rests on internationalization of the firm's capital providers via the equity market, bond market, and financial intermediation. Moreover, financial internationalization sparks encounters with corporate governance regulations and investor expectations from multiple countries. For example, in a highly integrated global financial market, a German firm can exploit savings in the US to invest in Singapore. It may also cross-list in a foreign market with the goal of reaching a new clientele of investors, or in case of the most prestigious capital markets, to reduce its cost of capital (e.g., Stulz, 1999). In regard to corporate governance, the firm can internationalize monitoring by importing foreign board members as a means to signal compliance with a corporate governance system with harsher monitoring, as the US system (Oxelheim and Randøy, 2003).

Multinational firms (as defined by UNCTAD) have increased from circa 7,000 in 1970, to about 79,000 in 2006. Multinationals employ more than 82 million people outside their home country. Some countries operate in about one hundred countries or more; Deutsche Post leads the pack with 111 countries, followed by Royal Dutch Shell (98), and Nestlé (96) (UNCTAD, 2008). Following in the wake of increased financial integration, companies are progressively operating in global financial markets. This development poses an immense challenge to a board, whose role is to monitor and support the management. How has this degree of firm internationalization impacted the composition of the board of directors? Has the supervisory board kept pace with the firm internationalization?

Internationalization demands new competencies. We argue therefore that the composition of a supervisory board should reflect a firm's internationalization. To this end, this study will analyze and discuss the drivers of the internationalization of supervisory boards.

But first, does board internationalization occur prior to the internationalization of the firm or merely as a response to *de facto* internationalization? Throughout long periods of time, many countries have restricted the internationalization of boards.<sup>1</sup> Foreigners were not welcome; even if they were permitted entry, they were discriminated against in one way or another. In many cases, foreigners were forced to take up residence in the home country of the firm. Indeed, similar restrictions and discrimination still characterize many countries today. Legal restrictions may also explain why board internationalization has escaped extensive research. However, qualitative studies support that board internationalization springs from firm internationalization—not vice versa (Piekkari and Vesanen, 2009).

What then does supervisory board internationalization entail? It is a complex issue, especially when it comes to the operationalization of the concept (Sambarya, 1996; Elron, 1997; Hambrick et al 1998, Carpenter et al. 2001, Athanassiou and Nigh, 2002). We can, however, identify two ways that a firm can use to undertake such internationalization: (a) by recruiting foreigners, and (b) by hiring nationals with international experience. Does a foreign passport imply that a board member will behave as a non-national? Not necessarily. Admittedly, arguing for effects on firm performance presents a significant

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<sup>1</sup> For such a discussion in relation to the Nordic countries see Oxelheim et al. (1998).

research challenge. Hence, the use of these proxies can only be regarded as indicative of cross-country board influences. Yet they are, after thorough inquiry, the best at hand.

This paper analyzes how supervisory board internationalization correlates with a number of relevant firm-specific features from the preceding year. We argue that small open economies previously sheltered by capital controls exhibit the highest need for board internationalization. Northern European countries—classified as political economies formerly sheltered by extensive capital controls—harbor the largest relative share of multinational firms (UNCTAD, 2008). Thus, we draw our sample firms from four small, open political economies: Denmark, Finland, Norway, and Sweden.

As it varies by country, the concept of boards requires clarification. To begin, we distinguish between a management board and a supervisory board. These boards can be further classified into two systems: one-tier and two-tier. The one tier-system combines the two boards into one while strongly emphasizing outside and inside members. In the two-tier system, the management board and the supervisory board are kept separate. In some countries, however, some members of the management board also sit on the supervisory board; the CEO, for example, tends to be a member of both boards. The firms analyzed in this study engage a two-tier system—or, better said, a semi-two tier system (Sinani et al., 2008)<sup>2</sup>. Nordic supervisory boards are mostly composed of non-executives. In this sense, they remain quite independent vis-à-vis managers. Furthermore, CEO duality is prohibited by law. But differences occur across two-tier and semi two-tier

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<sup>2</sup> The Norwegian board system actually consists of no management board, but with the option of using one or two levels of boards (“styret” and “representantskap”).

systems as well. For instance, the four countries in our study have different recommendations for nomination committees. In Sweden, representatives of major owners make up the nomination committee; the chairman of the board can also become a member. Norway comes closest to this model, whereas nomination committee members in Denmark and Finland are predominantly members of the supervisory board.

Using Poisson random effects and negative binominal random effects estimators on an unbalanced panel of listed firms from four small, open economies, we find a clear and robust message. Competencies called for by the financial internationalization are found relevant whereas commercial internationalization exerts a less clear impact on the internationalization of the supervisory board. However, national board members may boast international experience themselves. We find that the more national board members with such experience, the higher the number of foreigners on the supervisory board. A significantly positive impact is also found for foreign ownership; the higher such ownership of a firm, the higher the number of foreigners we can expect on the firm's supervisory board. Median board tenure negatively impacts the prevalence of foreigners on the supervisory board, while the effect of the median board age is negative but not significant. This negative impact of board tenure may reflect conservatism, a potential reluctance of tackling communication difficulties due to language problems and an "old boys' network" effect. However, it may also reflect entrenchment of the current board members and fear of the fact that a new foreigner may come and break their way of handling things. Finally, larger firms and firms with larger boards on average appoint

more foreign directors. A negative, although only weakly significant effect is observed for firm's financial performance (ROA).

The rest of the article is organized in the following way. The theory and the conceptual framework are discussed in Section 2. Here we also discuss some of the measurement problems. In Section 3 we formulate our hypotheses, whereas in Section 4 we provide some stylized facts for the four countries involved; all representing the Nordic corporate governance model. In Section 5 we present the methodology used, our definitions of variables and the data. Our results are then analyzed and presented in Section 6. Finally, concluding remarks are given in Section 7.

## **THEORY AND CONCEPTUAL FRAMEWORK**

### **Internationalization of the Firm**

Firm internationalization can be expressed by individual variables or by an index (see e.g. UNCTAD 1995; Aharoni 1971). Measures of firm internationalization incorporate foreign sales/total sales, foreign direct investment, and number of foreign employees/total number of employees, or—like suggested by UNCTAD—an index based on an amalgam of these variables. However, in line with Oxelheim and Randøy (2003) we here argue that financial internationalization is of equal importance. Suitable variables include foreign loans, foreign shareholders, foreign financial assets, or aggregate involvement in foreign financial markets, i.e. the prevalence of foreign listings or marketplaces where the firm's

shares are traded. Moreover, foreign board members coming from a more demanding corporate governance system may contribute to the firm receiving an international cost of capital.

As was mentioned in the introduction, the formulation of our model rests on the assumption that the firm internationalization precedes board internationalization. As stated above, this assumption is based on case-studies and anecdotal evidence<sup>3</sup>. Discrimination towards foreigners based on legal restrictions explains a great deal. The two global telecom giants in our sample, Ericsson and Nokia, exemplify this tendency. Ericsson was established in Sweden in 1876 and began to internationalize its operations some decades later. In 2008, about 95% of Ericsson's sales came from outside Sweden, foreign employment rested at about 73%, and the company's shares were listed on three major stock markets. With the recruitment of the Ericsson's first foreign board member, board internationalization began in 1996; in 2004, it recruited its first board member from outside Europe. In 2008, Ericsson had three foreign members out of ten (thirteen including the employee representatives). Finland's Nokia also dates to the nineteenth century, namely 1865. It began international operations (somewhat different from the current form) in 1940. In 1967, Nokia Corporation was formed. Nokia started internationalizing its board in 1997. In 2008, four out of eight board members (ten including the employee representatives) were foreigners and company's shares were listed on three major stock markets. Both companies were transformed by the 1994 ban on discrimination in the EU (and in the bigger EEA) as the albeit late internationalization

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<sup>3</sup> We however mitigate potential problems of endogeneity (or reverse-causality) by introducing the key explanatory variables with an one-year lag

of the supervisory board followed in its wake. Regulations matter for the understanding of the board internationalization process.

### **Internationalization of the Board**

Adam Smith forecast the problems of separate ownership and control as early as 1776. Much later, Berle and Means (1932) continued this discourse. The principal-agent relationship was then further discussed and developed in Jensen and Meckling (1976). In representing the principal, the board sets main goals and targets for the business, determines the strategies needed to reach these goals, continuously evaluates the management board, and—when necessary—removes the current CEO and appoints a new. The board exists to ensure the effectiveness of control systems, the transparency and accuracy of the company's external communication, the board's compliance with laws, regulations, and corporate responsibilities, and the adoption of other ethical rules. The theoretical basis underlying the effectiveness of board internationalization in fulfilling these tasks is fragmented. In turn, our analytical approach builds on three theoretical “components”: resource-based theory, institutional theory, and the principal-agent theory.

*Resource based theory* addresses the need for adequate competencies and resources in pursuing value-creating strategies and enhancing competitiveness (Barney and Clarke, 2007). Resources can be physical, financial, human, and intellectual. The two last categories—often labeled intellectual capital—are relevant for supervisory board internationalization. Intellectual capital encompasses experience, information, knowledge relationships, and routines for value creation (Leblanc and Gillies 2005). Furthermore,

Teece (2002) includes human capital in intellectual capital and adds two more pillars: social capital and the structural capital. Social capital refers to the board members' social competence and outcomes information transfer between individuals. Also included here is the board members' ability to pursue relations with outside stakeholders in order to create networks and bridge the gap to management. Competencies are firm and time specific, but their core includes coordination, contracts, experience, knowledge, leadership/guidance, skills, and values.

Many case studies report that board internationalization involves finding missing pieces of competence rather than satisfying a specific geographic need (see e.g. Piekkari and Vesanen, 2009). A particular need could be satiated with a board member who understands and can communicate with customers and markets, suppliers, banks and financial institutions, and regulators and politicians. In light of internationalization, a board member should be able to do all this while meeting specific international criteria at the same time.

These international criteria may be general or specific. However, it is naïve to believe that one international board member could address the entire international dimension. For instance, recruiting a French director does not guarantee more international insight into Asian markets than what a North American board member could contribute about Latin American business conditions. The requirements of recruited competencies have to be more detailed. A company should recruit a board member familiar with the business conditions in its major market. It could recruit a board member versed in Chinese politics,

for example, or in US regulatory bodies. Such requirement specific recruitment may improve firm performance. For example, recruitment of Anglo-American board members has been advantageous for Norwegian and Swedish firms (Oxelheim and Randøy, 2003).

The supervisory board's effectiveness is given by the interaction between individual board members as the sum of their competencies—including synergies. This measures how the firm's value creation increases in tact with the board's support and governance of management. The supervisory board's role has gradually shifted over recent years from a monitoring device to an active part of a firm's competitive advantage (Nicholson and Kiel, 2004; Leblanc and Gilles, 2005).

*Agency theory* probes problems stemming from the separation of ownership and control, including the consequences of delegating decision-making authority to an agent (Jensen and Meckling, 1976). As a monitoring device, the supervisory board aligns the interests of the principal and the agent and minimizes any problems between shareholders and management (Monks and Minow, 2004). In terms of board internationalization, the theory addresses the adequacy of allowing a foreign owner (principal) to exercise his/her control rights and vocalize opinions on how the CEO (agent) manages the company. Apart from benign motives, the foreign owner may harbor his/her own agenda, just like the domestic owner. Having a representative on the board might increase the chances of that agenda becoming reality; and in turn, different ownership categories may act differently. Foreign institutional owners are often claimed to express scant interest in assuming an active role in the governance process.

*Institutional theory* may to some extent explain why supervisory boards are internationalized. New regulations and corporate governance codes have emerged rapidly during the last 20 years. Codes akin to the UK's 1992 Cadbury code now prevail in most countries, including throughout Europe (Oxelheim and Wihlborg, 2008). In order to bridge the incentive gap between owners and management, the code offers in most cases a "comply or explain" solution. The code normally contains recommendations about the size and composition of the supervisory board; its composition should enable the firm to embrace various qualifications and experiences and to meet the independence criteria required to effectively manage the firm's businesses. The corporate governance codes also contain recommendations about the launching of a nomination or election committee, and about its composition.

In general, corporate governance codes do not offer direct guidance for supervisory board internationalization. They also fail to provide indirect guidance beyond general encouragement of diversity of experiences and qualifications among supervisory board members. In contrary to internationalization, gender distribution and member independence command explicit attention. The institutional framework may, however, require board members able to handle foreign corporate codes and regulations like the Sarbanes-Oxley Act (2002). Increased corporate cross-border activities means more layers of regulations to consider, thereby increasing the need for board members with that particular international competence. However, the supervisory board does not necessarily

need to fulfill this requirement itself; it can, for instance, be achieved by adjunct experts or an advisory board.

As firms strive for social acceptability and credibility (Scott, 2001); the search for corporate legitimacy may thus drive the internationalization process. Firms require competencies to help read societal signals in order to accord with stakeholder pressures regarding corporate social responsibility. To meet expectations from foreign employees, internal signaling can take the form of an international board member. External signaling, on the other hand, may involve the recruitment of an international board member to signal the firm's dedicated interest in a particular foreign market.

### **How to Define and Operationalize the International Dimension of the Supervisory Board?**

Measuring supervisory board internationalization is a complex task. In terms of operationalizing the international dimension of the supervisory board, the literature offers five main characteristics: a) degree of multinationality; b) international experience; c) international network ties; d) foreign language proficiency; and c) cultural differentiation. Each of these requires further consideration.

A supervisory board member's nationality represents the most obvious measure of board internationalization. Nationality reflects not only an individual's values and behavior, but also his/her native language and the ease with which other foreign languages are learned (Hambrick et al., 1998). Empirical studies of management teams show that superior

performance arises from the unison of strategy and managerial characteristics (Gupta and Govindarajan, 1984; Govindarajan, 1989, Thomas et al., 1991). These results can also be extended to supervisory board members. Hence, an internationalized firm should require an internationalized supervisory board. Buckley et al. (2002) support this argument by emphasizing that internationalization increases the need to work through differences, especially cultural differences.

How then should we measure nationality in a way that captures all relevant aspects? Nationality is most commonly given by birthplace or passport, yet this definition fails to embrace values, cognition, and behavior. Indeed, a passport does not guarantee that the holder has even lived in the country at all. To cope with these shortcomings, nationality can be defined by “the country in which an individual spent the majority of his or her formative years” (Hambrick et al., 1998). Considering parents’ identity further refines this definition. Say, for instance, a potential board member was raised in Italy by a Turkish mother and an American father—he would be able to contribute additional insights and values as compared to his Italian counterparts.

Although a potential board member may have neither passport nor a childhood history in the country of interest, he/she could have gathered the requisite international experience by spending considerable time in that country. Gregersen et al. (1998) report that executives consider international assignments the “most powerful experience in (their) life for developing global leadership capabilities”. A manager’s international experience is a valuable resource without substitute (see e.g. Daily et al. 2000 Carpenter et al. 2001).

Some studies have described a link between top management's international experience and the firm's international strategy (see e.g. Sambarya, 1996; Reuber and Fischer, 1997).

We extend this reasoning to embrace members of the supervisory board in turn.

International experience can be expressed as single dimensional (see e.g. Sullivan, 1994; Carpenter and Fredrickson 2001) or multidimensional (see e.g. Roth 1995, Reuber and Fisher 1997; Herrmann and Datta, 2002). Pertinent experience involves an individual's education and work life. International experience can in its simplest form be expressed by a dummy variable—international experience or not (Reuber and Fisher, 1997; Tihany et al, 2000; Wally and Becerra, 2001). The next step is to set a lower limit for the duration of the experience (for example one year) (Carpenter et al, 2001). An alternative measure can be the exact number of years an individual spent abroad (Sambarya, 1996; Herrman and Datta, 2002) or relative number of years spent abroad (Carpenter and Fredrikson, 2001). Another alternative is to include the number of assignments abroad (Daily et al, 2000) and the possession of a foreign university degree (Carpenter et al, 2001). Moreover, some researchers argue that international experience can also be gained within a domestic firm, for instance, by holding responsibility for an international department (Wally and Becerra, 2001) or by working in an international division (Sambaraya, 1996; Herrmann and Datta, 2002).

Board members' international network and ties account for a third dimension of board internationalization. One measure focuses on official mandates like board appointments in international companies—a valuable resource for an internationally operating firm

(Carpenter and Westphal, 2001). In addition to board appointments, board members' network ties can extend advantages to a firm. Network ties can, for instance, be expressed by the number of international contacts surrounding a specific issue (Athanasios and Nigh, 2002). Obviously not all appointments and ties are of equal importance (Geletkanycz et al, 2001). Which important appointments and ties to consider relate to the operations that the supervisory board evaluates?

Foreign language proficiency also pertains to supervisory board internationalization. Following the logic of Piekkari et al. (1999), supervisory board members with superior language skills are better able to build broad contact networks within international firms and are therefore instrumental in board internationalization. As stressed by Buckley et al. (2002), language proficiency is crucial to successful knowledge transfer—both receiving and transmitting. However, language may also hinder the internationalization process (Piekkari and Vesanen 2009). Language proficiency can be measured using different tests, written or oral, or via self-evaluations.

Finally, the literature on cultural distance (Tihany et al. 2005) advises that measures of supervisory board internationalization should include cultural differentiation. This, in turn, heeds both cultural differences and marginal contributions of supervisory members. A Norwegian member of a Swedish supervisory board, for example, adds less internationalization than a Japanese member. In the same vein, a French manager accrues a broader “foreign” perspective from an assignment in Singapore than one in Belgium. Given a potential board member's particular task, the precise nationality or the exact

location of his/her assignment should be taken into account in the recruitment process. Cultural differentiation can be expressed in measures of cultural distance (Kogut and Sing, 1988) or of cultural clusters (Ronen and Shenkar, 1985).

In short, supervisory board internationalization is a multidimensional concept. The question remains as to which measures are the most relevant. Are we missing some? Should the task of a supervisory board member be matched with the measure of internationalization to see if internationalization adds value? Our empirical analysis will provide guidance in the search for these answers.

## **INTERNATIONALIZATION OF THE BOARD - THE HYPOTHESES**

The previous section illustrates how different strands of literature contribute to an understanding of the board internationalization process. However, most of the existing literature (in English) addresses management teams or one-tier boards. The construction of the two-tier system makes it relevant to ask if the supervisory board should act as a complement or a supplement to the management board. Current literature does not provide the answer. We argue rather that the board should play both roles; together with the management board, the supervisory board should stand for successful decision-making. What then are the expected gains and costs of internationalizing the supervisory board? A traditional cost-benefit analysis of board internationalization sheds light on this

question. The benefits would include: new competence, increased external and internal legitimacy, and a larger pool of talented candidates. The costs would include: friction due to linguistic barriers, economic effects due to conflicts of interest, increased travel costs, economic effects from minimized interaction due to physical distance, and the extra cost of having at least two foreigners in order not to have a required single foreign member captive.

Which actors work for and against supervisory board internationalization? Occasionally, internationalization merely results from a cross-border merger. For instance, the merger of US pharmaceutical company Upjohn and Swedish Pharmacia in the 1990s effected a US-based firm with five Swedes on the board (one-tier board). However, drivers of supervisory board internationalization can be discerned from the different theories explored in the literature review.

In accordance with resource-based theory, we may first ask if there is indeed a need for international competence in a firm. Such a need can be detected in the degree of the firm's internationalization. A high degree of international operations necessitates foreign market expertise among supervisory board members. As was stressed in the previous section, firm internationalization can be expressed in many ways, including by single indicators or an all-encompassing index. The presence of many dimensions increases the uncertainty of poor data and of capturing behavioral aspects. Most of all, the multidimensional indices can be criticized because the choice of weighing system arbitrarily escalates a system which otherwise is of equal importance. Bearing in mind

these measurement problems, we will use the most common definition of firm internationalization—the relative magnitude of foreign sales. We hypothesize that a higher degree of commercial firm internationalization increases the number of foreigners on the supervisory board.

**Hypothesis 1:** The higher the proportion of foreign sales in total sales, the higher the number of foreign members on the supervisory board.

With the exception of Oxelheim and Randøy (2003)<sup>4</sup>, financial internationalization of the firm is not explicitly recognized in studies of board internationalization. Oxelheim and Randøy (2003) address the virtue of signaling compliance with a harsher monitoring system by adding a supervisory board member who represents these demands. They discuss hence a particular type of competence. In Oxelheim and Randøy (2005), they list a number of financial benefits arising from the addition of an international member to a supervisory board. This person may provide insight into a particular financial market or the regulatory body of that market, for example, or offer his/her skills in communicating with investors. Therefore, a firm's presence in an international financial market—by listing or by shares trading—may signal a need for supervisory board internationalization. We hypothesize that increased financial internationalization of the firm will increase recruitment of supervisory board members, this with the goal of signaling compliance with a harsher monitoring system or bringing insight and network ties from foreign financial markets.

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<sup>4</sup> Oxelheim and Randøy (2003) shows that such internationalization is value creating.

**Hypothesis 2:** The presence on foreign financial markets motivates the appointment of foreign members on the supervisory board.

From the perspective of the resource-based theory, complementary resources inside a firm must be recognized. The supervisory board may already possess knowledge of a particular market. One of the members, for instance, may have spent 20 years of his business career working in that market, although language barriers and cultural distance may have hindered him/her from grasping the market's intrinsic features. Hence, the value of market knowledge is known to the board and an insider is called for. Moreover, the speed with which knowledge becomes obsolete today may produce a mere general understanding the market colored by outdated details. Hence, we hypothesize that increasing existing international experience by nationals inside the supervisory board in turn increases recruitment of foreign board members.

**Hypothesis 3:** The higher the proportion of national supervisory board members with foreign experience, the higher the number of foreign members on the supervisory board.

Agency theory intimates that internationalization of firm ownership drives supervisory board internationalization. Though some studies report that foreign institutional owners show a weak interest in participating in the corporate governance process, private owners may possess just this interest. We hypothesize that higher foreign ownership will be followed by the foreigners' increased interest in firm operations; interest may even

extend to influencing the prospects of the firm through representation on the supervisory board.

**Hypothesis 4:** The higher the foreign ownership, the higher the number of foreign members on the supervisory board.

By combining agency and institutional theory, we may find that the implementation of corporate governance codes also drives supervisory board internationalization. These codes recommend that a special nomination or election committee name the candidates for the supervisory board. Hence, that committee generates the initiative to internationalize the board. As was previously mentioned, the Swedish (and to some extent the Norwegian) nomination committee represents major owners, while in the other three countries nomination committee members are current supervisory board members. Hence, the Swedish system acknowledges the direct influence of owners whereas owners in Denmark, Finland, and Norway exert indirect influence via the board. The Swedish system has the drawback of exposing the board to power conflicts at the expense of competence addition.

We hypothesize here that an internationalized nomination committee will increase the probability of foreign members on the supervisory board.

**Hypothesis 5:** The higher the presence of foreigners on the nomination committee, the higher the number of foreign members on the supervisory board

Finally, we refer to resource-based theory and recognize that the lack of some resources on the board may hinder the recruitment of foreign members to the supervisory board (Piekkari and Vesanen, 2009). As language ability is difficult to measure, we first assume that older board members find it more difficult to communicate in foreign language. At the same time, longer board tenure may lead to conservatism and prejudice that may also preclude the recruitment of a foreign member to the board. We thus assume that the longer the board age, the lower the inclination to communicate in a foreign language and the higher the conservation and strength of the old-boys network. The entrenchment of the current board members and fear of the fact that a new foreigner may come and break their way of handling things may also impact the decision to further internationalize the supervisory board. Hence we hypothesize that the longer the tenure, the lower the propensity to open the supervisory board for foreign members.

**Hypothesis 6:** The longer the age or tenure of the supervisory board, the fewer the number of foreign members on the supervisory board.

## **INTERNATIONALIZATION OF BOARDS – SOME STYLIZED FACTS FROM THE NORDIC REGION**

Our empirical analysis concerns companies from the Nordic region, which sits in the northern part of Europe. In addition to the Scandinavian countries of Denmark, Norway and Sweden, the Nordic region also encompasses Finland and Iceland. Because of its small size, Iceland is excluded from this study. As the borders between the five nations

have migrated over the last five centuries, these countries share a cultural setting. Indeed, Denmark, Norway, Sweden, and Finland can be regarded as siblings—facilitating cross-country comparisons.

The four countries have similar corporate governance systems with focus on the alignment of interests between managers and industrial (corporate) owners; this can, in turn, be likened to a modified version of the German system (Angblad et al. 2001). In a review of national culture and corporate governance, Peace and Osmond (1999) identify similarities between the “civil law” corporate governance system in the Nordic countries and the system in The Netherlands and Israel. The intra-regional similarities are also reflected, as previously mentioned, in the legal requirement regarding employee representation on company supervisory boards. Slightly different details prevail, however, in regard to representation size. La Porta et al. (1998) argue that investor protection in the Nordic countries—an important aspect of corporate governance—equals or nearly equals that in “common law” countries such as Ireland or Australia. In addition, foreign ownership of a high proportion of stock market characterizes the four countries. This pattern has developed gradually since the early 1980s, when the restrictions on foreign ownership of Nordic firms were eased (Oxelheim, 1997). By the beginning of 1994, the use of restricted shares (for domestic owners only) was banned in accordance with the European Economic Area (EEA) treaty (Oxelheim, 2001). Since the mid-1990s, about one-third of the market capitalization of the Nordic exchanges has been owned by foreign investors.

Table 1 conveys sample characteristics of the relevant variables in our six hypotheses of supervisory board internationalization; Table 2 shows the same for firm internationalization. Further descriptive data can be found in Table 3.

Table 1 illustrates that Norway holds the highest relative number of firms that have recruited foreign members to their supervisory boards, which may to some extent reflect the international character of the oil industry. Norway also exhibits the highest commercial internationalization of the firm as seen in Table 2 and Finland the highest financial internationalization. On the other extreme, Denmark possesses the lowest figure for both board and firm internationalization. Firm structure may, to some extent, explain this observation—Denmark is characterized by small firms. Denmark’s distinction as the country with the least amount of internationalized supervisory boards is further strengthened when considering the average number of supervisory board members with international experience. Danish boards also exhibit the longest tenure, which may have curbed board internationalization. The low share of foreign ownership among the top five reflects the situation of non-institutional ownership. Here, Norway exhibits the highest share.

**Insert Table 1**

**Insert Table 2**

## METHODOLOGY AND DATA

### Sample

Our sample is based on the population of all publicly traded firms headquartered in Denmark, Finland, Norway and Sweden at the end of 2006 (banks excluded). For these companies, we first collected data on the structure of the firms' supervisory boards and of board committees at the end of 2006; these provided us with a set of variables for a total of 629 companies: 133 Danish, 125 Finnish, 144 Norwegian and 227 Swedish firms<sup>5</sup>. In the second round of our data collection, the data-set was extended to include information on selected board variables for entire period 2001-2007. This information was mostly collected from firm annual reports. However, data regarding the nationality of board members and their mandates were not available from secondary sources. Telephone interviews together with fax-follow ups were used to identify the nationality of board members and to verify some variables. Unfortunately, we were not able to gather a complete set of data for all firms in the sample and ended up with an unbalance panel of a total of 3885 firm-year units. In the final step, we merged the collected information with financial data and ownership data. Financial data were collected from Thomson One Banker Database, whereas ownership data are from Thomson Ownership database. The descriptive statistics for all variables used in our regression models are outlined in Table 3.

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<sup>5</sup>About 10 percent of the companies were excluded due to unavailability of data on their corporate boards. No systematic pattern is revealed for the companies that are excluded.

### Insert Table 3

#### **Econometric Approach and Variables**

In this section we describe our dependent and explanatory variables and, discuss the estimation methodology.

**Dependent Variable:** As discussed in Section 2.3, board internationalization can be measured in many ways, each of which has its pros and cons. As commonly rendered in the literature, we choose to use the number of foreign members on the supervisory board as our dependent variable (*N\_FOREIGN BOARD*).

**Explanatory Variables:** Our regression models use a number of explanatory variables, chosen in accordance with our hypotheses and, the relevant theory in the field. The selected explanatory variables reflect the commercial as well as financial internationalization of the firms; the international experience of the non-national supervisory board members; firm ownership structure; and, the age and tenure of the board members.

We use five different variables to proxy for potential drivers of board internationalization.

The explanatory variable used as a proxy for a firm's commercial internationalization is foreign sales as percentage of firm's total sales (*FOREIGN SALES\_TOTAL SALES*).<sup>6</sup> As

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<sup>6</sup> Due to data unavailability, we are however not able to match the major foreign market with the nationality of the foreign board members.

a proxy for a firm's involvement in international financial markets, we construct a dummy variable reflecting the international cross-listing and equity trading. This variable (*FOREIGN LISTING*) takes the value of 1 if the company's shares are listed or traded on at least one foreign market, and zero otherwise. The variable used as a proxy for the board's international experience is expressed as the number of national members on the current supervisory board that actually has international experience (*INTEXPERIENCE*). With international experience we mean either international education, international working experience or, international board experience of the current board members. International experience of an individual board member is registered as 0 or 1 in accordance with what is reported in annual reports or as a response to our follow up questions. The collection of this particular information is extremely difficult in retrospective. Thus, for this variable we only dispose with the information corresponding to the year 2006. In our estimations, we are consequently forced to assume that the experience of that year is valid for the entire 2001-2007 period. As was discussed in Section 2.3, this represents one of the least demanding ways of defining international experience but has the virtue of simplicity and lack of arbitrary labeling.

The ownership variable (*FOREIGN OWNERSHIP*) is measured as the percentage of shares that are held by foreigners among the top five owners of the firm. In models 3, 4 and 6, we interact this variable with the foreign listing variable (*FOREIGNLISTING\*FOREIGNOWN*) to proxy for ownership connected with international financial involvement. The variables *MEDIAN BOARD AGE* and *MEDIAN*

*BOARD TENURE* refer to the median age and, the median number of years that the board members have served on the supervisory board, respectively.

In addition to the five variables mentioned above, in the regression model (6), we include the number of foreigners on the nomination committee (*N FOREIGNERS\_ NOMC*) as an explanatory variable. The latter model is estimated only for Sweden and Norway, for reasons stated above<sup>7</sup>. In this case as well, we assume that the figures for 2006 are valid indicators for the entire period under investigation.

**Control variables:** We control for firm size, expressed by the logarithm of market capitalization (*MARKET\_CAP*). The effect of firm size is partially captured also by our second control variable, i.e. the total number of board members (*BOARD\_SIZE*). In addition, in models 2-6, we include the controls for firm financial performance (return on assets - *ROA*). Moreover, we use nine different *industry categories* and *country dummies* as general control variables. All models include *time dummies*. To avoid potential endogeneity problems, all key explanatory variables are entered with one-year lags and are labeled accordingly with the subscript “-1”.

### **Method of analysis**

In this section we present the estimation methodology. As indicated above, the dependent variable in our regression models is the number of foreign members on the supervisory board (*N\_FOREIGN BOARD*), which can take only non-negative integer values. In year 2007, for example, 65 percent of the firms had 0 foreigners on board, 13.2 percent of the

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<sup>7</sup> See the discussion of Hypothesis 3 above.

firms had 1 foreigner on the board, 11 percent of firms had 2 foreigners, 6 percent of firms had 3 foreigners, 3 percent of the firms had 4 foreigners on the supervisory board, 1.5 percent of firms had 5 foreigners, while 2 firms (0.3 percent) had 6 foreign directors.

The preponderance of zeros and small non-negative integer values suggest that the standard linear regression is not the appropriate estimation methodology in this case. The linear regression in fact does not properly account for the specifics in the distribution of our dependent variable. One way to improve on least squares and the linear model is by employing the Poisson specification; the latter has been widely used for this type of data (i.e. count data) and can be estimated with maximum likelihood technique (for more, see Greene, 2003:740). One of the problems with the Poisson model is that it is based on the assumption of the variance-mean equality ( $Var(y|x) = \exp(x'\beta)$ ), which is hardly satisfied in practice. A solution to this so-called over-dispersion problem is to employ the negative binominal regression, which is explicitly designed to account for over-dispersion and has been extensively used by the researchers (see for example, Phene and Almeida, 2008).

Finally, given that we dispose with a panel (i.e. observation of firms at different points in time), we present the results of the random effects estimators for both, Poisson and Negative binominal regression. These estimators have the same robustness properties as cross-section (pooled) estimators, while at the same time, allow us to control for individual heterogeneity as well as, to capture both cross-section and time variation of the dependent variable and the regressors, improving the efficiency of our estimates.

## EMPIRICAL RESULTS

We provide the first insight in the pattern of correlations between our dependent and explanatory variables by presenting the correlation matrix in Table 4. As evidenced in the matrix, there is a significant correlation between our dependent variable (the number of foreign board members), the foreign sales/total sales and, foreign listing variables respectively. Hence, the first impression from this matrix is that resource theory may explain most of the internationalization of the board. However, other variables also exhibit significant correlation with the board internationalization variables. In order to explore these relations more in detail, we proceed to the multivariate analysis, based on our six hypotheses. At this point it must be also noted that the correlation table indicate no severe multicollinearity problem. In addition, we calculate the variance inflation factors; the values for all our regressors are below the critical threshold of 10, confirming that there is no problematic multicollinearity.

### Insert Table 4

The results of the multivariate analysis are presented in Tables 5 and 6 below. We start by presenting the baseline model (1). For the sake of comparison and robustness of our conclusions, we present the results of a range of different estimation methods: OLS in

Model (1a), random-effects linear panel estimator in model (1b), Poisson estimator in model (1c), Poisson random effects in model (1d) and finally, the negative binomial random effects model in model (1e). In order to account for serial correlation and (for model 1c) over-dispersion, we use cluster-robust standard errors in Models (1a) and (1c). Different panel estimators are presented in models (1b), (1d) and (1e); the Hausman test confirms that random effects model is appropriate (*Spec. test* = 9.40). Applying the random effects model is in general preferred in our case since all the observations with no time-variation in the dependent variable are dropped in the fixed-effect estimation; applying fixed effect also does not allow us to estimate the coefficients for time-invariant explanatory variables (e.g. foreign listing)<sup>8</sup>. Apart from the random effects linear estimator in model (1b), we use the random effects Poisson estimator, which accounts for the specific distribution of our data (model (1d)). Finally, to account for the over-dispersion in the data, we present the results of the random effects negative binomial estimator in model (1e); as stated above, the negative binomial random effect model introduces two additional parameters, which accommodate for over-dispersion and within correlation (Cameron and Trivedi, 2009). However, the different models lead to very similar conclusions. Very little difference is (in particular) observed between the coefficients of the Poisson random effects and negative binomial random effects models.

### Insert Table 5

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<sup>8</sup> Note that the sign of the coefficients for the time-variant explanatory variables in the fixed-effect model are the same as in the random effects model; the significance is however weaker (we believe) due to limited time-variation in the data. For robustness, we also run the Tobit random effect model and obtain the same conclusions.

### Insert Table 6

For the sake of space, Table 6 consequently presents only the results for negative binominal random effects model for models that are extensions of our baseline model. Model (2) replicates model (1) with the additional control for firm performance (*ROA*). In model (3), we introduce the interaction term (*FOREIGN LISTING\*FOREIGNOWN*). Model (4) is most complete, including the number of members with international experience (*INTEREXPERIENCE*). Finally in Model (5), we replace the *MEDIAN BOARD AGE* with the *MEDIAN BOARD TENURE* variable, keeping all the other variables unchanged. Model (6) applies only to Norway and Sweden since it, in addition, explores the effect of the foreigners' presence on the nomination committee (*N\_FOREIGNERS\_NOMC*). The variable (*INTEREXPERIENCE*) is excluded from this model; when adding this variable, the sign of the *N\_FOREIGNERS\_NOMC* remains positive but insignificant.

As presented in Tables 5 and 6, the variable for commercial internationalization (*FOREIGN SALES\_TOTAL SALES*) has in most specifications a positive but insignificant impact on the number of foreigners on the supervisory board, which makes us reject Hypothesis 1.<sup>9</sup> In contrast to commercial internationalization, financial internationalization seems to call for foreign board members. The effect of foreign listing (*FOREIGN LISTING*) is significant across all model specifications. We find a significant positive relationship, and we accept our Hypothesis 2.

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<sup>9</sup> In plain statistical jargon, we find no support to reject the working hypothesis about no relationship or a negative one.

The international experience of national board members also positively relates to the number of foreign board members. The result is significant and supports Hypothesis 3. Hence, international experience among national board members make them more inclined to support opening the supervisory board to foreign board members. These internationally inclined members appreciate the value of foreign knowledge but do not possess up-to-dated information themselves.

In accordance with the agency theory, foreign ownership affects the number of foreigners on the supervisory board. A significant positive relationship of the variable (*FOREIGN OWNERSHIP*) leads us to accept Hypothesis 4. We observe no significant difference between the impact of foreign ownership for the firms that are listed abroad and, other firms (i.e., see the non-significant effect of the interaction variable *FOREIGN LISTING\*FOREIGNOWN*).

We also test for a barrier to supervisory board internationalization as expressed by Hypothesis 5. We find support for the existence of a significant negative relationship between the median tenure of national board members and the number of foreign member of the supervisory board. However, as evidenced in Models 2-4, the effect is negative but not significant when we use (*MEDIAN AGE*) instead of (*MEDIAN TENURE*) as the proxy for potential language barriers or, for the openness of the existing members to accept foreigners on the supervisory board. Thus, we argue that, rather than due to a fear against foreign language because of age, the observed negative effect derives from the

presence of an “old boys’ network effect” or put differently: why should we start talking to each other in a foreign language when we have successfully tackled board issues for so many years already?

Finally, due to national governance codes’ special recommendations for the composition of election committees, we only test Hypothesis 6 on data for Sweden and Norway. We find some support for this hypothesis and the fact that an increased number of foreigners on the nomination committee leads to a higher number of foreigners on the supervisory board (see the positive effect of the variable *N\_FOREIGNERS\_NOMC*).

Among our control variables we find significance at the 10% level for the importance of firm size as expressed by the logarithm of markets capitalization. In the same vein, we observe that larger boards tend to have more foreigners than smaller boards (see the positive effect of the *BOARD\_SIZE*). Firm financial performance (*ROA*) has a negative (weakly) significant effect on the number of foreign directors on the supervisory board. We find no significant difference between the countries and between industries; the time dummies indicate an increase in the foreign board membership in the years 2006 and 2007 (and, in some specifications, year 2005).

## CONCLUDING REMARKS

In this paper, we have studied what drives the internationalization of corporate supervisory boards. In a panel study on firms from the Nordic region, we find a very clear and robust message. Competencies called for by the financial internationalization of the firm mimic those required for supervisory board internationalization. The degree of commercial internationalization also positively impacts supervisory board internationalization but not in a significant way across all model specifications. In addition, national board members may possess international experience themselves and be aware of its value. We find that the higher the number of non-national supervisory board members with international experience, the higher the number of foreign board members. As hypothesized, we find hence a complimentary rather than a substitutional relationship; the latter could be generated if the value of up-to-date knowledge of current non-national board members were overrated.

Foreign ownership indicates a significantly positive impact. The greater the foreign ownership of a firm, the higher the number of foreigners we can expect on the firm's supervisory board. Median board tenure is found to significantly reduce the prevalence of foreigners on the supervisory board. Tenure's negative impact may reflect both conservatism and a potential reluctance of tackling communication difficulties due to language problems. Finally, larger firms have on average more foreigners on the supervisory board. Finally, we observe no significant differences in the number of foreigners on board between the Nordic countries or, between different industries.

The major barrier to supervisory board internationalization may be the board's (and maybe the employee representatives') lack of language proficiency (Piekkari and Vesanen, 2009). As reported by Oxelheim and Randøy (2003), internationalization of the supervisory board may create value, especially through the recruitment of Anglo-Americans to the supervisory board. However, Buckley et al. (2002) stress a more general need for international competencies in the internationalized firm. Considering the insignificant board age effect we conclude that the barrier to board internationalization is more of an "old boys' network effect" than a "genuine language effect". Finally, our results for Sweden and Norway indicate that internationalizing the nomination committee may be the first step in opening the supervisory board to foreign board members.

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**Table 1 Internationalization of Nordic supervisory boards in 2007**

<i>Country</i>	<i>Number of companies (boards)</i>	<i>Percentage of foreign board members</i>	<i>Boards with no foreign members (% of all boards)</i>	<i>INTEXPERIENCE</i>	<i>N_FOREIGNERS_NOMC</i>
<i>Denmark</i>	<i>133</i>	<i>8.4</i>	<i>69.92</i>	<i>1.9 (30%)</i>	<i>0.1</i>
<i>Finland</i>	<i>125</i>	<i>12.49</i>	<i>68.80</i>	<i>2.1 (35%)</i>	<i>0.2</i>
<i>Norway</i>	<i>144</i>	<i>14.16</i>	<i>53.47</i>	<i>2.5 (39%)</i>	<i>0.3</i>
<i>Sweden</i>	<i>227</i>	<i>9.74</i>	<i>67.03</i>	<i>2.9 (41%)</i>	<i>0.1</i>
<i>All</i>	<i>629</i>	<i>10.94</i>	<i>65.04</i>	<i>2.5 (38%)</i>	<i>0.1</i>

*Notes: The numbers refer to the year 2007, except for the variables INTEXPERIENCE and N\_FOREIGNERS\_NOMC, which refer to the end of 2006. Mnemonics: INTEXPERIENCE labels the number of board members that actually have international education, board or work experience. N\_FOREIGNERS\_NOMC measures the (average) number of foreigners appointed on the boards' nomination committee.*

**Table 2 Internationalization of Nordic firms between 2001-2007**

<i>Country</i>	<i>International sales of total sales % average</i>	<i>Average percentage of firms listed on at least one foreign market</i>	<i>Foreign ownership average % of capital among top 5 owners</i>
<i>DENMARK</i>	<i>47</i>	<i>19.2</i>	<i>6</i>
<i>FINLAND</i>	<i>53</i>	<i>44.26</i>	<i>5</i>
<i>NORWAY</i>	<i>62</i>	<i>30.30</i>	<i>7</i>
<i>SWEDEN</i>	<i>54</i>	<i>23.37</i>	<i>5</i>
<i>ALL</i>	<i>54</i>	<i>25.48</i>	<i>5</i>

*Notes: The mean values and percentages are calculated over the whole 2001-2007 period.*

**Table 3 Summary statistics for the variables used in the regression model**

	<i>DENMARK</i> Mean (S.d.)	<i>FINLAND</i> Mean (S.d.)	<i>NORWAY</i> Mean (S.d.)	<i>SWEDEN</i> Mean (S.d.)
<i>Observations</i> <sup>~</sup>	841	670	684	1690
<i>N_FOREIGN BOARD</i>	0.49 (0.99)	0.59(1.15)	0.79(1.14)	0.60(1.13)
<i>BOARD_SIZE</i>	6.38 (2.31)	5.97(1.58)	6.46(1.76)	7.03(2.20)
<i>INTEXPERIENCE</i>	1.86(1.59)	2.06 (1.88)	2.51(1.58)	2.88(2.06)
<i>AVERAGE BOARD AGE</i>	54.40 (5.50)	53.72(4.36)	50.22(4.87)	53.61(4.33)
<i>MEDIAN BOARD AGE</i>	54.80 (6.16)	54.28(5.12)	50.14(5.92)	54.07(5.73)
<i>AVERAGE BOARD TENURE</i>	5.88 (3.81)	5.14(3.55)	3.25(3.54)	4.36(2.82)
<i>MEDIAN BOARD TENURE</i>	5.29(4.28)	4.32(3.64)	2.68(3.14)	3.50(2.68)
<i>N_FOREIGNERS_NOMC</i>	0.04(0.29)	0.17(0.51)	0.24(0.98)	0.12(0.41)
<i>FOREIGN SALES_TOTAL SALES (%)</i>	47.14(34.73)	53.29(27.97)	61.81(28.18)	53.71(29.69)
<i>FOREIGN LISTING (%)</i>	19.2 (38.3)	44.3 (49.4)	30.3 (44.4)	23.4 (41.5)
<i>FOREIGN OWNERSHIP</i>	5.85 (12.04)	5.13(8.81)	6.69(11.34)	5.49(10.26)
<i>MARKET_CAP (mill \$)</i>	1030.4(3954.1)	1989.1(10380.2)	1372.7(5572.5)	1357.5(4772.6)
<i>ROA (%)</i>	2.65(19.84)	5.15(13.90)	0.42 (21.74)	-0.7(22.97)

Notes: <sup>~</sup> The number of firm-year observations varies across different explanatory variables. The stated number reports the maximum number of firm-year observations, corresponding to the variable *N\_FOREIGN BOARD* and *BOARD\_SIZE*. Means (S. d.-Standard deviations) are calculated over the whole period of analysis.

Mnemonics: *BOARD\_SIZE* – the number of total board members; *INTEXPERIENCE* – number of board members that actually have international education, work or board experience; *AVERAGE BOARD AGE*- average age of the firm’s directors; *MEDIAN BOARD AGE* – the median age of the firm’s directors; *AVERAGE BOARD TENURE* – the average number of years since the first directors’ appointment on supervisory board; *MEDIAN BOARD TENURE* – the median number of years since the first directors’ appointment on supervisory board; *N\_FOREIGNERS\_NOMC* – number of foreigners, appointed on the supervisory board; *FOREIGNSALES\_TOTALSALES (%)*-the percentage of firm’s foreign sales in total sales; *FOREIGN LISTING* – average percentage of firms listed on at least one foreign market. *FOREIGN OWNERSHIP*- the percent of shares held by foreigners among the 5 largest investors; *MARKET\_CAP*- total market capitalization in million \$; *ROA* – return on assets (in percent);

**Table 4 Correlation matrix**

	<i>N_FOREIGN BOARD</i>	<i>BOARD SIZE</i>	<i>INTEXPERIENCE</i>	<i>MEDIAN BOARD AGE</i>	<i>MEDIAN BOARD TENURE</i>	<i>N_FOREIGN. NOMC</i>	<i>FOREIGN SALES_ TOTAL S.</i>	<i>FOREIGN LISTING</i>
<i>N_FOREIGN BOARD</i>	1.00							
<i>BOARD_SIZE</i>	0.24*	1.00						
<i>INTEXPERIENCE</i>	0.38*	0.39*	1.00					
<i>MEDIAN BOARD AGE</i>	0.04*	0.11*	0.07*	1.00				
<i>MEDIAN BOARD TENURE</i>	-0.12*	-0.06*	-0.04*	0.27*	1.00			
<i>N_FOREIGNERS_ NOMC</i>	0.28*	0.07*	0.21*	0.08*	0.04*	1.00		
<i>FOREIGN SALES_ TOTAL SALES</i>	0.16*	0.15*	0.28*	0.06*	-0.04*	0.04	1.00	
<i>FOREIGN LISTING</i>	0.23*	0.27*	0.31*	0.03	-0.03*	0.08*	0.19*	1.00
<i>FOREIGN OWNERSHIP</i>	0.32*	0.08*	0.38*	-0.04*	-0.10*	0.07*	0.03	0.07*
<i>ROA</i>	-0.08*	0.13*	0.13	0.11*	0.15*	0.01	0.12*	0.02
<i>MARKET CAP</i>	0.27*	.28*	0.11*	0.10*	-0.02	0.14*	0.01	0.21*

\* $p < 0.05$ 

*Mnemonics: N\_FOREIGN BOARD – the number of foreigners on the supervisory board; BOARD\_SIZE – the number of total board members; FOREIGN LISTING- a dummy variable, which takes the value 1 if a firm's shares are listed on at least one foreign stock exchange and, zero otherwise; FOREIGN OWN.- the percent of shares held by foreigners among the 5 largest investors; FOREIGNSALES\_ TOTAL S. -the percentage of firm's foreign sales in total sales; MARKET\_CAP-total market capitalization in million \$; MEDIAN BOARD AGE – the median age of the firm's directors; MEDIAN BOARD TENURE – the median tenure (years on board) of the directors; INTEXPERIENCE-number of board members with international education, working or board experience; N\_FOREIGNERS\_ NOMC – number of foreigners on the nomination committee;*

**Table 5: Determinants of the number of foreigners on the supervisory board (Baseline model)**

<i>Model</i>	<i>(1a)</i>		<i>(1b)</i>		<i>(1c)</i>		<i>(1d)</i>	
<i>Estimation method</i>	<i>OLS (cluster-robust standard errors)</i>		<i>Random effects (GLS)</i>		<i>Poisson (cluster-robust standard errors)</i>		<i>Random effect Poisson regression</i>	
	<i>Coeff.</i>	<i>S.e.</i>	<i>Coeff.</i>	<i>S.e.</i>	<i>Coeff.</i>	<i>S.e.</i>	<i>Coeff.</i>	<i>S.e.</i>
<i>BOARD_SIZE</i>	0.079***	0.030	0.140***	0.016	0.072*	0.042	0.154***	0.03
<i>FOREIGN LISTING</i>	0.274***	0.114	0.353***	0.111	0.443***	0.180	0.557***	0.20
<i>FOREIGN OWNERSHIP (%)<sub>(-1)</sub></i>	0.027***	0.005	0.019***	0.002	0.022***	0.004	0.016***	0.00
<i>FOREIGNSALES_TOTALSALES(%)<sub>(-1)</sub></i>	0.004**	0.002	0.0004	0.004	0.005**	0.002	0.001	0.00
<i>MARKET_CAP<sub>(-1)</sub></i>	0.094**	0.04	0.051**	0.024	0.154***	0.056	0.070*	0.04
<i>MEDIAN BOARD AGE</i>	-0.006	0.008	-0.0004	0.001	-0.001	0.013	-0.001	0.01
<i>DENMARK</i>	-0.027	0.13	0.007	0.144	-0.135	0.190	0.174	0.26
<i>FINLAND</i>	0.065	0.162	0.209*	0.130	0.052	0.232	0.275	0.25
<i>NORWAY</i>	-0.143	0.195	-.078	0.154	-0.034	0.229	0.253	0.26
<i>Constant</i>	-1.69***	0.610	-1.79***	0.57	-4.99***	0.885	-5.16	1.26
<i>Industry dummies</i>	Yes		Yes		Yes		Yes	
<i>Time dummies</i>	Yes		Yes		Yes		Yes	
<i>R<sup>2</sup></i>	0.26		0.24		0.18(0.252) <sup>~</sup>			
<i>Log likelihood</i>					-1936.15		-1474.68	
<i>N</i>	1780		1780		1780		1780	

Notes: ~ The  $R^2$  in model 1c stands for Pseudo  $R^2$ . For comparison, in the brackets we report an alternative measure of fit: the squared coefficient of correlation between the fitted and observed values of the dependent variable.

The dependent variable in all specifications is the number of foreign directors on the supervisory board ( $N\_FOREIGN\_BOARD$ ). Table 5 presents the baseline model (1); the results in the columns 1a-1e differ in the applied method of estimation. S. e. stands for standard errors. All regressions include common time and industry effects. In model 1a (OLS estimation) and 1c (Poisson model), the standard errors are adjusted for adjusted for 353 clusters. \*\*\*, \*\* and \* denote statistical significance at 1, 5 and 10 percent, respectively.

Mnemonics: *BOARD\_SIZE* – the number of total board members; *FOREIGN LISTING*- a dummy variable, which takes the value 1 if a firm's shares are listed on at least one foreign stock exchange and, zero otherwise; *FOREIGN OWNERSHIP*- the percent of shares held by foreigners among the 5 largest investors; *FOREIGNSALES\_TOTALSALES(%)*-the percentage of firm's foreign sales in total sales;

*MARKET\_CAP*-total market capitalization in million \$; *MEDIAN BOARD AGE* – the median age of the firm's directors; *DENMARK, FINLAND, NORWAY* – country dummies.

**Table 6: Determinants of the number of foreigners on the supervisory board (Extensions to the baseline model)**

<i>Model</i>	<i>(2)</i>		<i>(3)</i>		<i>(4)</i>		<i>(5)</i>
<i>Estimation method</i>	<i>Random effects negative binominal regression</i>		<i>Random effects negative binominal regression</i>		<i>Random effects negative binominal regression</i>		<i>Random negative binominal regression</i>
	<i>Coeff.</i>	<i>S.e.</i>	<i>Coeff.</i>	<i>S.e.</i>	<i>Coeff.</i>	<i>S.e.</i>	<i>Coeff.</i>
<i>BOARD_SIZE</i>	0.15***	0.03	0.152***	0.032	0.136***	0.034	0.139***
<i>INTEXPERIENCE</i>	0.09***	0.04			0.117**	0.005	0.121**
<i>FOREIGN LISTING</i>	0.496**	0.202	0.512**	0.212	0.370*	0.220	0.337*
<i>FOREIGN LISTING*FOREIGNOWN<sub>(-1)</sub></i>			-0.002	0.006	-0.001	0.008	
<i>FOREIGNSALES_TOTALSALES(%)<sub>(-1)</sub></i>	0.001	0.002	0.001	0.002	-0.001	0.002	0.001
<i>FOREIGN OWNERSHIP<sub>(-1)</sub></i>	0.016***	0.003	0.017***	0.005	0.016**	0.006	0.014***
<i>MEDIAN BOARD AGE</i>	-0.001	0.010	-0.0003	0.010	-0.002	0.011	
<i>MEDIAN BOARD TENURE</i>							-0.044**
<i>MARKET_CAP (mio USD)<sub>(-1)</sub></i>	0.091**	0.041	0.092*	0.049	0.059	0.051	0.027
<i>ROA (%)<sub>(-1)</sub></i>	-0.038*	0.002	-0.004*	0.002	-0.032	0.002	-0.002
<i>INTEREXPERIENCE</i>					0.117**	0.055	0.121**
<i>N_FOREIGNERS_NOMC</i>							
<i>DENMARK</i>	0.176	0.265	0.178	0.264	0.145	0.264	0.216
<i>FINLAND</i>	0.290	0.246	0.286	0.249	0.443*	0.266	0.423*
<i>NORWAY</i>	0.263	0.269	0.264	0.269	0.267	0.265	0.200
<i>Constant</i>	11.84	207.36	12.76	181.45	12.70	192.43	12.41
<i>Industry dummies</i>	Yes		Yes		Yes		Yes
<i>Time dummies</i>	Yes		Yes		Yes		Yes
<i>Log likelihood</i>	-1468.18		-1468.15		-1324.75		-1174
<i>N</i>	1771		1771		1498		130

*Notes: The dependent variable is the number of foreign directors on the supervisory board (N\_FOREIGN BOARD). Model (6) applies to Norway and Sweden only. Random effect negative binominal regression result reported in all models. S. e. stands for standard errors. All regressions include common time and industry effects. \*\*\*,\*\* and \* denote statistical significance at 1, 5 and 10 percent, respectively.*

*Mnemonics: BOARD\_SIZE – the number of total board members; FOREIGN LISTING- a dummy variable, which takes the value 1 if a firm’s shares are listed on at least one foreign stock exchange and, zero otherwise; FOREIGN OWNERSHIP- the percent of shares held by foreigners among the 5 largest investors; FOREIGN LISTING\*FOREIGNOWN – the interaction term, constructed from the variables FOREIGN OWNERSHIP and FOREIGN LISTING; FOREIGNSALES\_TOTALSALES(%)-the percentage of firm’s foreign sales in total sales; MARKET\_CAP-total market capitalization in million \$; MEDIAN BOARD AGE – the median age of the firm’s directors; MEDIAN BOARD TENURE – the median tenure*

*of the directors on board (lagged); INEXPERIENCE- number of board members with international education, board or working experience; N\_FOREIGNERS\_NOMC – number of foreigners on the nomination committee; DENMARK, FINLAND, NORWAY – country dummies.*

