# Nomination Committees, Pension Funds and Board Turnover:

Evidence from the Swedish Code of Corporate Governance

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#### Abstract

It is a general belief that pension funds influence corporate governance. However, the corporate setting is likely to determine the extent of their influence. In this thesis, we study the characteristics of the Swedish code of corporate governance and if its implementation has increased the power of pension funds. Specifically, we study nomination committees and the effect from the presence of Swedish AP funds on board turnover. We find that controlling owners and use of dual class shares increases the probability that firms do not comply with the code. Most importantly, our results suggest that the presence of AP funds in committees increases board turnover in small firms. We find no effect on large firms. This is possibly due to the limited financial resources of AP funds. As another explanation, we stress that it is easier for AP funds to affect corporate governance in small firms after the code since these firms may need to make more changes to comply with the rules. Furthermore, we find no indication that ownership changes from AP funds affect board turnover. This, we argue, indicates that the power of pension funds increases when they acquire large stakes and are active owners. Overall, we confirm the conventional wisdom that pension funds influence corporate governance.

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# Abbreviations

| AGM | Annual General Meeting  |
|-----|---|
| AP  | Allmänna Pensionsfonden (in English, The Swedish National Pension Fund) |
| CEO | Chief Executive Officer   |
| SOX | The Sarbanes-Oxley Act  |

#### 1 Introduction

Corporate governance has been one of the most debated policy issues in market economies over the last two decades. For example, Shleifer and Vishny (1997) and La Porta et al. (1997 and 1998) describe the importance of a strong corporate governance system. They argue that there is a close relationship between investor protection and ownership concentration. Countries with low protection have a more concentrated ownership since this is a method of control that helps investors secure their investments. Moreover, Giannetti and Simonov (2006) find that even in a country as Sweden, with generally high investor protection, investors that face only dividend rights, i.e. no private benefits, are reluctant to invest in firms with relatively weak corporate governance systems.

The enhanced attention for corporate governance and its assumed importance has led to a trend among many countries to develop corporate governance codes (Berglöf and von Thadden, 1999). In the light of corporate scandals and stock market downturns 2000–2003, this interest has continued to increase in the United States and Continental Europe. In Sweden, a code of corporate governance (henceforth, the code) was introduced during 2005. This document discusses several corporate governance issues. Among other things, it declares that a transparent process that is governed by the shareholders should prepare the election of board directors. More precisely, a nomination committee that represents the shareholders should present recommendations for the board of directors to the shareholders. (Swedish Code of Corporate Governance, 2005)

So far, researchers (e.g. Chhaochharia and Grinstein, 2006b) have documented effects of corporate governance regulations in the U.S. In Europe, the effects have been explored to a lesser extent. In Sweden, the increased interest for corporate governance issues has not been accompanied by academic studies on the functioning of the Swedish mechanisms of corporate governance. Specifically, little is known about how specific groups of owners and their presence in nomination committees influence Swedish corporate governance.

Anecdotal evidence points to the importance of the nomination committee in corporate Sweden. On September 6, 2006, Cevian Capital announced that they had bought a large stake in the Volvo Group. One of the investment fund's main ambitions was to take a seat in the nomination committee in order to receive a place on the board. This intention met strong resistance from, among others, Swedish pension funds. These pension funds form a group of owners that is present in many nomination committees.

In general, it is widely believed that pension funds have a large impact on corporate governance. They are for example the most active in public targeting. From the nomination committee, pension funds can be a part of the election of board directors. Hence, the code could possibly have created an institution from which pension funds can practice influence on board elections.

The purpose of this thesis is to analyze if the implementation of the code in Sweden has given pension funds power. First, we study the characteristics of nomination committees in Sweden. Second, we analyze if pension funds have affected board turnover through the committee, or as owners, after the implementation of the code.

The contribution of our thesis is twofold. First, our study contributes to the literature on shareholder activism and institutional ownership. Second, we increase the understanding of the effects of the implementation of new corporate governance rules on the Swedish market. We accomplish this by being, to our knowledge, the first to conduct a systematic study of the impact of Swedish nomination committees on board turnover.

The remainder of the thesis is organized as follows. In section 2, we describe the background for our study. Section 3 presents a short survey of the literature that leads to our testable hypotheses. Sections 4 and 5 describe the data and the methodology, respectively. In section 6 we present and discuss our empirical results. Finally, our conclusion is in section 7.

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<sup>&</sup>lt;sup>1</sup> See Karpoff (2001), for a survey on shareholder activism, or Del Guercio et al. (2006), who study involvement from institutional owners in vote no campaigns.

## 2 Background

In this section, we give a more detailed overview of the institutional setting in Sweden. We then describe the Swedish code of corporate governance. We conclude this section with a background of the Swedish pension funds.

#### 2.1 The institutional setting in Sweden

La Porta et al. (1997 and 1998) show that ownership is often concentrated in rich countries. By using pyramidal groups, typically with a holding firm at the top controlling subsidiaries, families can control firms and actively take part in management as well as board elections. Moreover, use of dual class shares increases the separation between control and cash flow rights. Under these conditions an agency problem between controlling and minority shareholders is likely to occur (see e.g. Shleifer and Vishny, 1997).

This ownership description is in many ways applicable for Sweden, i.e. ownership and control are often separated. By using dual class shares and pyramidal structures many families and individuals in Sweden can obtain controlling power (Giannetti and Simonov, 2006). Even if the use of dual class shares and pyramiding is widespread in Swedish firms, other European countries have even more concentrated ownership structures (Giannetti and Laeven, 2007). However, the institutional setting in Sweden is closer to the German and Japanese relationship models with concentrated ownership than the Anglo-Saxon model with dispersed ownership.

#### 2.2 The Swedish code of corporate governance

As mentioned in section 1, the increased attention paid to corporate governance issues has led to a trend among many European countries to establish corporate governance codes. Among Swedish legislators a common opinion in late 2003 was that the field of corporate governance would continue to develop rapidly. This resulted in a first publication of the code in April 2004. After a time of further discussions, the result was the introduction of the code on June 30, 2005. The aim of this initiative is to codify good existing corporate governance structures as well as identifying areas where there is room for improvements. (Swedish Code of Corporate Governance, 2005) Arguably, new

corporate governance rules are necessary if existing mechanisms do not offer enough protection for shareholders. Moreover, if shareholders do not have enough power to demand corporate insiders to change the current system, rules must be enforced. (Chhaochharia and Grinstein, 2006b)

The code primarily targets stock market firms. All firms listed on the Stockholm Stock Exchange with a market capitalization above SEK 3 billion are obliged to follow the code.<sup>2</sup> However, the intention is that all listed firms in the future shall follow the code (Swedish Code of Corporate Governance, 2005). It is therefore reasonable to assume that also listed firms with a market capitalization less than SEK 3 billon have an incentive to comply with the code already today. The code includes rules for the election of the board and auditors, guidelines for the responsibilities of firm management and board of directors as well as shareholders' meetings. Hence, one important aspect of the code is to stipulate guidelines for the election of board directors. A nomination committee should prepare these elections. Internationally, the nomination committee often consists of non-operational board directors. This structure has developed from the Anglo-Saxon model. However, in Sweden the committee should consist of the owners of the firm. The reason for this is the more concentrated ownership structure and a view that owners actively should be able to take part in firm elections. The nomination committee is not a completely new institution in Sweden. However, the code defines its structures and clarifies its purpose. (Swedish Code of Corporate Governance, 2005)

#### 2.3 The Swedish pension system

As previously stated, it is widely believed that pension funds are influential in corporate governance systems. In order to understand the Swedish pension funds, we give a background to the Swedish pension system and its reform in this section.

On January 1, 2001, Sweden implemented a new national retirement pension system. The new system consists of three elements. First, for people with low or no pension there is a guarantee pension funded by general tax revenues. Employers pay an equivalent of 18.5 percent of the salary an employee enjoys

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<sup>&</sup>lt;sup>2</sup>http://www.omxgroup.com, 2007-05-30.

into a fund for future pension liabilities. Of the 18.5 percent 16 goes to the *Income Pension* (IP) system (which is the second element), while remaining 2.5 percent goes into the *Premium Pension* (PP) system (third element). In addition to this, many people have private pension savings, of which most are invested in mutual funds. (Giannetti and Laeven, 2007)

The 16 percent that goes to the IP system are managed by five public pension funds, known as AP funds (AP1, AP2, AP3, AP4 and AP6). The main purpose of these funds is to work as a buffer for pension deficits that occasionally arise when social security disbursements exceed income from contributions. When the reform was implemented in 2001, each of the first four AP funds received assets to a value of around SEK 130 billion. The funds invest in a broad range of asset classes, where about 60 percent of the assets are invested in Swedish and foreign equities.3 Moreover, the AP funds have certain investment rules that they have to follow regarding equity investments. For AP funds 1-4 this means, among other things, that the funds are not allowed to hold more than 10 percent of the votes in a listed firm. AP6 has a different investment strategy with most of its assets invested in private equity. This is due to a change in asset allocation since the beginning of the reform, when a larger part of its assets was invested in listed assets. The 2.5 percent that goes to the third pension element, i.e. the PP system, are allocated to either any of the approximately 700 private mutual funds or the AP7 fund if the employee makes no selection.

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<sup>&</sup>lt;sup>3</sup> On January 1, 2001, SEK 152.0 billion (or 26.3 per cent) of buffer funds' assets consisted of equities. On January 1, 2002, the same figures were SEK 114.9 billion and 20.3 percent, respectively. On January 1, 2005, the figures were SEK 120.3 billion, or 18.6 per cent of total assets (<a href="http://www.ap1.se">http://www.ap1.se</a>, 2007-05-30).

# 3 Previous research and testable hypotheses

In this section we will present previous research related to our study. This will lead us to a number of testable hypotheses, which will enable us to fulfill the purpose.

As described in the background, the Swedish setting is characterized by many owners with large control (voting) rights in proportion to cash flow (dividend) rights. It could be argued that it is in the controlling owners' interest to maintain this setting since they can exercise a high level of control even with a relatively small capital base. Hence, the presence of dual class shares and pyramiding creates a special environment in which controlling power can become stable and some owners can extract private benefits. Giannetti and Simonov (2006) show that investors who only enjoy dividend rights are reluctant to hold shares in these firms due to fear of expropriation. Therefore, it is reasonable to expect that dual class shares decrease the possibility for noncontrolling owners, such as pension funds,<sup>4</sup> to exercise power since some owners take advantage of shares with stronger voting rights. Under these conditions, we believe it is in the interest of non-controlling owners to influence the development of a well-defined corporate governance system, i.e. a system that enables them to be powerful.

#### 3.1 New corporate governance rules

Before turning focus to the development of the Swedish setting after the code, we look at previous academic research conducted on implementation processes after new corporate governance elements. In a U.S. study, Chhaochharia and Grinstein (2006b) analyze effects from the implementation of the Sarbanes-Oxley act (SOX) in the United States. They argue that it is especially interesting to study implementation effects of new governance structures. This relates to the fact that the rules are an exogenous factor that is imposed on all firms at the same time. As a result, it is possible to explore different effects on firms with different characteristics.

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<sup>&</sup>lt;sup>4</sup> Since AP 1–4 are not allowed to own more than 10 per cent of the votes in a listed firm they will never be a controlling owner according to the definition of controlling owner used by e.g. Volpin (2002) and La Porta et al. (1998).

It has been argued by e.g. Hermalin and Weisbach (1988), and Holmström and Kaplan (2003), that imposing a regulatory structure is suboptimal for some firms. This can be due to firm specific characteristics. For example, Holmström and Kaplan (2003) warn that smaller firms bear relatively higher costs if they are to comply with SOX regulations. We believe this is likely to be true also for Swedish firms complying with the code. Moreover, Cronqvist and Nilsson (2005) argue that the wedge between control and cash flow rights decreases the likelihood of owners subjecting themselves to more monitoring through the choice between rights offerings and private equity placements. Since the owners decide whether the firm has a nomination committee, and its possible characteristics, we find it interesting to test the influence from controlling owners on the structure of the committee. In our belief, a nomination committee that follows the guidelines set up by the committee should facilitate the work of non-controlling owners since the interests of controlling owners may not always correspond with minority shareholders. In sum, we argue that it is interesting to study the determinants of complying with the code or not. As a result, this will give us an indication on how different corporate characteristics affect the probability of complying with the code. Our first hypothesis that we test is therefore the following.

Hypothesis 1: The probability that firms have a nomination committee decreases with the existence of a controlling owner and the probability that firms do not comply with the code increases with a controlling owner or a control wedge for the owners represented in the nomination committee.

#### 3.2 Board turnover and pension funds in nomination committees

Historically, board directors in Swedish firms have generally been elected based on proposals from the previous board (Bruzelius and Holmlund, 2006). Since late 1990's, an increasing number of firms have instead established a nomination committee that prepares decisions on appointments for the annual general meeting (AGM). However, Bruzelius and Holmlund (2006) describe that there was a need of more clearly stipulating the role and structure of the nomination committee in order to increase transparency around board elections. Therefore, it is not surprising that they argue that the importance of the nomination committee has increased after the implementation of the

code. This is partly due to the willingness among institutional owners to be active and responsible owners. This is something that these owners have become through their participation in the committee. As a result, Bruzelius and Holmlund (2006) conclude that institutional owners have gained more influence in firms where they are present in the nomination committee.

In a survey of the literature, Hermalin and Weisbach (2003) present empirical findings on board composition in the U.S. They interestingly conclude that empirical studies have not been able to show any strong relationship between board composition and firm performance. However, they note that variables such as ownership structure and CEO turnover seem to have significant effect on board changes. In this context, it is important to bear in mind the difference between Swedish and U.S. corporate governance. In the latter, the CEO has a larger impact on board election, which explains the correlation between CEO turnover and board changes. However, we find no reason to believe that ownership structure should not have an important impact on board changes in a Swedish setting as well. Therefore, based on the findings of Hermalin and Weisbach (2003), we believe that studying board turnover, and its sensitivity to the composition of the nomination committee and ownership structure, is one way to assess the corporate governance system.

Moreover, in a study on CEO and board turnover on U.S. data, Del Guercio et al. (2006) conclude that firms attacked by activists (such as mutual funds and private investment groups) experience a higher level of director turnover. Chhaochharia and Grinstein (2004) study changes in board characteristics in U.S. public firms between 1997 and 2003, and find that boards got smaller and more independent during the period. Changes are especially evident between 2000 and 2003. The authors relate this to corporate scandals and new regulations. In sum, empirical findings indicate that institutional owners seem to influence board turnover, and governance rules can enhance the effects.

Compared to many other investors, the primary interest of pension funds may not solely be to maximize fund value. Romano (1993), for example, argues that public pension funds take actions that are politically popular but might decrease the funds' investment performance. Murphy and Van Nuys (1994) continue on this reasoning and argue that public pension managers have a strong incentive to take actions that generate publicity and improve their own reputation. As a result, pension managers will help themselves to future employments and political opportunities. Moreover, Giannetti and Laeven (2007) describe that when a pension fund acquires large stakes in listed firms it is in their interest to affect e.g. board composition and corporate policies.

Considering the findings on pension funds and the fact that the code developed in the aftermath of corporate scandals in a process with political participation, we strongly believe that pension funds will try to practice power from nomination committees, i.e. affecting appointment of board directors. As a result, pension funds, and pension fund managers, can increase their legitimacy. Therefore, in line with the findings by Chhaochharia and Grinstein (2004), the characteristics of the code, and the nomination committee in particular, can create a platform from which pension funds can, and are willing to, exercise power. Hence, our intention is to analyze if changes in the regulatory corporate governance setting has made it easier for these owners to practice power, i.e. we want to see if the code has lent pension funds a voice. We are therefore interested in studying the target of the nomination committees' work, i.e. board election. To conduct this, we study differences in board turnover before and after the code. Our second testable hypothesis is therefore the following.

Hypothesis 2: Board turnover is positively related to the presence of pension funds in the nomination committee after the code.

#### 3.3 Board turnover and ownership changes by pension funds

On Italian data, Brunello et al. (2000) study if board turnover increases with poor firm performance, and how the ownership structure affects these relations. The authors look at three forms of turnover: turnover of the entire board; turnover of the President, Vice-President, General Manager and CEO; as well as CEO turnover alone. They find that a change in the controlling owner in a firm increases board turnover. Since the Italian ownership structure is concentrated in the same way as the Swedish, we believe that this

empirical finding makes it interesting for us to study the effect of ownership changes on board turnover. In turn, this can give us an indication of how differences in the ownership structure before and after the code have affected board turnover.

Del Guercio et al. (2006) study effects of changes in institutional ownership on board turnover. They find that decreasing ownership from institutions<sup>5</sup> increases board turnover. Therefore, they suggest that institutions voting with their feet, i.e. exiting, put pressure on corporate boards in the sense that director turnover occur. As a starting point, it is therefore reasonable to believe that decreases in ownership from pension funds in Sweden increase director turnover. However, Bruzelius and Holmlund (2006) describe that ownership structure generally determines the composition of the nomination committee, which is in line with the directives in the code (Swedish Code of Corporate Governance, 2005). Therefore, changes in ownership structure could also capture changes that had occurred in nomination committees if they had existed to the same extent, and with the same structure, before as well as after the code. In turn, by studying the impact on board turnover caused by changes in pension funds' ownership we can identify if there is an influence from the code. Therefore, on the contrary, we believe that firms where pension funds increase their ownership should also have increased board turnover. We base this on the belief that the code and the nomination committee has created a platform from where pension funds actively can affect board turnover, as we argue in hypothesis 2. Our third and final hypothesis to be tested is therefore the following.

Hypothesis 3: Board turnover is positively related to changes in ownership for pension funds.

We summarize the hypotheses in table 3.1 below.

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<sup>&</sup>lt;sup>5</sup> Del Guercio et al. (2006) define institutions according to the SEC 13F filing, thus including investment advisers, banks, insurance companies, broker-dealers, pension funds, and corporations.

| Hypothesis 1 | The probability that firms have a nomination committee decreases with        |
|--------------|--|
|              | the existence of a controlling owner and the probability that firms do not   |
|              | comply with the code increases with a controlling owner or a control wedge   |
|              | for the owners represented in the nomination committee.                      |
|              |  |
| Hypothesis 2 | Board turnover is positively related to the presence of pension funds in the |
|              | nomination committee after the code.   |
|              |  |
| Hypothesis 3 | Board turnover is positively related to changes in ownership for pension     |
|              | funds.   |
|              |  |

Table 3.1 Summary of hypotheses.

#### 4 Data

In this section, we present the sources for our data and summarize the characteristics of the firms we study. We also define our variables for testing the hypotheses.

#### 4.1 Constructing the sample

We choose to look at Swedish firms listed on the large, mid, and small cap lists of the Stockholm stock exchange. This means that we do not include firms listed on other lists. The reason for our selection is, as mentioned previously, that the Stockholm stock exchange requires all firms with a market capitalization above SEK 3 billion to comply with the code, and that all listed firms will be required to comply with the code in the future. This also means that many firms listed outside the Stockholm stock exchange do not follow the code and do not disclose information on corporate governance issues. We consider all firms that have been listed from 2001 to 2006, i.e. our sample includes only "stayers". For firms incorporated abroad, we exclude the firms with headquarters abroad, which is a similar definition to the one used by Volpin (2002). However, we make an exception for foreign firms that state that they are following the code. We end up with a final sample of 219 firms. Of these, 5 firms are incorporated abroad. In total, we have 53 firms on large cap, 56 firms on mid cap, and 110 firms on small cap.

#### 4.2 Nomination committees

The implementation of the code in Sweden offers a unique opportunity to study the effects on board turnover from having pension funds in nomination committees and as owners. Therefore, we collect information on whether firms have a nomination committee, the composition of the committee, and which owner each member in the committee represents. We obtain the information about nomination committees from each firm's website<sup>7</sup>. To our knowledge, we are the first to collect, systematically categorize and analyze

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<sup>&</sup>lt;sup>6</sup> Hence, firms listed after 2001 as well as firms delisted during the period due to for example spin-offs and mergers are not included in our sample.

<sup>&</sup>lt;sup>7</sup> A limited number of firms did not present sufficiently detailed information on their websites. We have contacted these firms directly and thereby been able to make our dataset more complete. <sup>7</sup>

this form of information about Swedish nomination committees. When collecting the data on nomination committees we first make a distinction whether a firm has a nomination committee or not. In order to be classified as a nomination committee the following two conditions must be fulfilled. First, the purpose of the nomination committee should be to prepare appointments to the shareholders' meeting. Second, all the members of the committee should not be board directors. If this is the case, we treat it as a board committee and not a nomination committee. This last condition may require further explanation. Pension funds usually do not take place on the board due to exit difficulties. This means that they are not likely to exercise their ownership through the committee in firms with board committees. Hence, we believe that treating these firms as having a nomination committee would bias our sample in an undesirable way. Since board committees are common in e.g. the United States and other European countries many of the firms on the stock exchange incorporated abroad have a board committee. In our sample of 219 firms, there are 173 firms that have a nomination committee, 10 firms that have a board committee, and 36 that have neither a nomination nor a board committee. Of the 5 firms incorporated abroad, 2 have a board committee and 3 have a nomination committee. To capture effects of the implementation of the code we collect information for the committee established before the first AGM after the implementation of the code on June 30, 2005, i.e. for 5 firms this is the committee for 2005 and for 168 firms this is the committee for 2006. The nomination committees vary in size from 2 to 9 members.

Even if a firm has a nomination committee its structure can deviate from the guidelines in the code. This must not necessarily be negative since some rules can be unsuitable for the individual firms (Swedish Code of Corporate Governance, 2005). However, for simplicity reasons, we treat all these deviations as a breach against the code. In total, we identify four ways in which a firm can have a nomination committee but breach against an important composition rule in the code. First, the firm has a committee with less than three members. Second, a board director chairs the committee. Third, the CEO is included in the committee. Fourth, at least 50 percent but less than all of the committee members are board directors. Note that if all committee members are board directors the firm does not fall within this category since it is then treated as a board committee. In total, we find 77 firms that breach against

any of these four criteria. We identify 4 firms that violate the code in respect to the first criteria. 56 firms have a board director as chairman of the committee. In 13 firms the CEO is a member of the committee. In 39 firms more than 50 percent of the committee are board directors. There are 48 firms that breach with one, 24 firms that breach with two, 4 firms that breach with three, and 1 firm that breaches with all four of the mentioned composition rules.

Based on our categorizations we construct a dummy that is equal to one if a firm has a nomination committee, and zero otherwise. Moreover, we define another dummy that is equal to one if a firm has no nomination committee, a board committee, or a nomination committee that breaches against any of the four composition rules, and zero otherwise. For firms that have a nomination committee, we also assign dummies to each of the four composition rules, where the dummy is equal to one if the firm violates the code in that respect, and zero otherwise. These four separate breaches we then also collapse into a dummy that is equal to one if the firm violates any of the composition rules, and zero otherwise.

Moreover, we make some interesting observations during our collection of nomination committees. One is that foreign institutions show a tendency not to be a part of the committee even if they are one of the largest shareholders. We believe this can in part be explained by foreign institutions having a more limited local presence. For Swedish owners, both individuals, families and institutions, we instead see a tendency to be present in the nomination committee if they are one of the largest owners. Technically, if a board director also is one of the ten largest shareholders we treat him as representing himself in the committee even if the firm does not explicitly state it. However, we make an exception if the firm explicitly states that the board director represents any other owner than himself. If the owner that the committee member represents can not be identified, we treat the representative as independent. Furthermore, an owner can be represented by more than one committee member if the owner also is chairman of the board, and therefore can represent himself in the role as chairman. In this case, we only recognize the owner once. Finally, if we can not find information about who the chairman of the committee is, we treat the firm as not breaching with the code in this respect. This is true for 10 firms.

In table A.10 in the appendix we present a list of all firms in our sample and include information about committee members where applicable.

#### 4.3 Ownership structure

Using data received from SIS Ägarservice AB, we obtain information on the 10 largest owners of each of the 214 Swedish listed firms between June 2004 and June 2006. We complement this data set with data on ownership in 2004 and 2006 for the 5 firms incorporated abroad, collected from each firm's website. We also complement this data manually from SIS Ägarservice AB with data on ownership of the AP funds of at least 0.1 percent of the voting rights. We do not identify indirect ownership (pyramiding), as the effort is not in line with the purpose of our study. Since we focus on institutional investors, indirect ownership is interesting only when determining the control structure of each firm. Thus, we do not follow the existing literature (e.g. Faccio and Lang 2002, Volpin 2002, Giannetti and Simonov 2006) in this respect. However, we do consider the separation between ownership and control in the nomination committee due to the importance and regular use of dual class shares in Sweden.

We define a controlling owner dummy that is equal to one if the largest owner of a firm has more than 20 percent of all voting rights, and zero otherwise. This is in line with La Porta et al. (1998) and Volpin (2002) who both use a 20 percent threshold for control. We identify 142 firms with at least one controlling owner in the whole sample. We also define the control wedge in the nomination committee as the difference between the total fraction of voting rights and the total fraction of dividend rights of the owners represented in the nomination committee. The dual class share structure of the Swedish market implies that the voting rights of the largest owners in some firms can be substantially larger than their dividend rights. This is also evident in the difference between voting and dividend rights of the owners represented in the nomination committee, which ranges from -9.3 to +59.9 percentage units.

#### 4.4 Board composition

We obtain data on the board composition between 2002 and 2006 for the 214 Swedish listed firms from *Bolagsverket*, the Swedish company registry. This data is comprised of the individual members of the board in each firm and the dates they entered and exited the board. It also includes information on board members' age. Using information obtained from the firm websites, we manually complement this data set with data on board composition for the 5 listed firms incorporated outside of Sweden that we include in our sample, and dates of the AGM for 2005 and 2006.

To capture the effects of the implementation of the code we need to look at abnormal board turnover. We define board turnover as the ratio of board members exiting in a given year to the total size of the board prior to the AGM. We choose to look at turnover for the entire year. Note, however, that we only define board members exiting the board as board turnover, and not changes in duties within the board or board members exiting and entering the board in the same year. Also, we exclude labor representatives from board turnover as they are not appointed by the owners. As retirement can not be considered a part of abnormal turnover, we exclude board members who are above the age of 64 when they exit the board from board turnover. We then define abnormal board turnover as the difference between board turnover of the year for the first AGM following the implementation of the code and the board turnover of either 2002 or 2004. We use both these base years to see if there are differences in the effect depending on the year used to calculate normal board turnover. Abnormal board turnover ranged between -71 and +67 percent with 2002 as base year, and -83 and +67 percent with 2004 as base year

The tenure of board members leaving the board is defined as the logarithm of the average number of days between starting date and ending date of board members exiting the board in each firm. If there is no board turnover in a firm, we set tenure equal to zero. The number of days a director had been on the board when exiting ranged from 177 to 3966.

#### 4.5 Performance and size

Using *SIX Trust*, we gather data on stock returns and market capitalizations. Firm performance is defined as the annual stock return of each firm for the year before the abnormal board turnover year in excess of the annual stock return for the year before the base year used for normal board turnover. For our first hypothesis, however, we use the abnormal annual stock return in excess of the previous year. The reason for this is that we want to capture the effect of firm performance just before a nomination committee was or should have been established, i.e. after the introduction of the code.

We define size as the logarithm of the market capitalization as of December 31, 2004, and as of December 31, 2005, depending on the time of the first AGM after the introduction of the code. We also construct a sub sample of larger firms that have a market capitalization above SEK 3 billion meaning that they should follow the code. This sample consists of 80 firms. Furthermore, we construct another sub sample consisting of 139 firms with market capitalization equal to or below SEK 3 billion. The smallest firm had a market capitalization of SEK 21 million, and the largest firm had a market capitalization of SEK 341 billion.

#### 4.6 Pension funds

To capture the effect on board turnover from having pension funds as owners represented in the nomination committee we first need to define a pension fund. Using information obtained from the *Factiva* database and their own web sites, we treat the four AP funds (AP1, AP2, AP3, and AP4) as active owners in the sense that they work actively with corporate governance issues. Therefore, we believe they will take an active role in the decision of the board composition through the nomination committee. In an international study on U.S. data, Del Guercio et al. (2006) show that public pension funds are the most active/frequent proponents in vote no campaigns. Since the AP funds are government owned we believe they are the most active pension funds in Sweden. Moreover, they only manage contributions from the IP system. We also believe this is an advantage since pension funds (asset managers) that are partly mutual funds might have different corporate governance agendas.

We thus define pension funds in this thesis as AP1–48. Therefore, our delimitations also mean that we choose not to look at pension managers such as AMF Pension, Alecta, or Skandia Liv.

We define three dummies concerning the presence of AP funds in firms' nomination committees. First, at least one AP fund is present in the committee. Second, exactly one AP fund is present in the committee. Third, at least two AP funds are present in the committee. In each case, the dummy is equal to one if the condition is fulfilled, and zero otherwise. The purpose for using these different dummies is that we would like to see if the AP funds in the nomination committee could practice more power if they are more than one. In the dataset, there are 30 firms with at least one AP fund in the committee. Of these firms, 28 have only one and 2 have more than one AP fund in the committee.

We also define a variable as the change in total ownership of the AP funds in each firm between 2004 and 2006. Thus, we aggregate ownership of the AP funds in each firm for 2004 and 2006 and take the difference between the two years. We consider ownership of at least 0.1 percent of the voting rights. The purpose of this variable is threefold. First, it has many data points. Second, it is independent of having a nomination committee. Third, it captures changes in holdings, i.e. all ownership changes from AP funds are possible to explore. On aggregate, AP1–4 increased their ownership between 2004 and 2006 in 78 of the 219 firms, and decreased their ownership in 54 firms. The changes in ownership ranged from –12.9 to +8.7 percentage units.

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<sup>&</sup>lt;sup>8</sup> We do not consider AP6 since it primarily invests in private equity (http://www.ap6.se, 2007-05-30). We neither consider AP7 since it according to law is not allowed to use its voting power in Swedish firms (http://www.ap7.se, 2007-05-30).

# 5 Implementation of hypotheses

In this section, we present our methodology and describe our models and variables for testing the hypotheses.

#### 5.1 Dprobit analysis of compliance with the code

In the dprobit model, the coefficients reported are marginal effects. To test our first hypothesis we develop four different dprobit models. First, we estimate the probability that firms have a nomination committee. Second, we estimate the probability that firms do not have a nomination committee, have a nomination committee that breaches with the code in its composition, or have a board committee. Third, we estimate the probability that firms with a nomination committee deviate from any of the four mentioned composition rules. Fourth, we separately estimate the four individual probabilities that firms breach against each of the four composition rules.

In the first two dprobit models, we use the full sample of firms and test for the existence of at least one controlling owner. We test for a threshold of 20 percent of the voting rights. If a controlling owner exists, we expect the firm to be more likely to deviate from the code in any respect since the interests of the controlling owners may not always be in line with the code. For example, we believe that representatives of large, controlling, shareholders that also are board directors can show a willingness to be part of the nomination committee, and possibly be the chairman of the same as well. This could lead to a situation where the current board directors in turn receive much power in board elections. We control for firm size since larger firms should be more likely to have a nomination committee. We also control for firm performance by using abnormal annual stock returns of the year prior to the year of the first AGM after the code, when a committee either was established or should have been established, over the year before this year. Thus, if the first AGM after the code was in the fall of 2005, we use abnormal annual stock returns of 2004 over 2003, and if the AGM was in 2006, we use abnormal annual stock returns of 2005 over 2004. Shareholders in poor performing firms may want to change the composition of the board of directors. The establishment

of a nomination committee could help this. Therefore, we believe that poor firm performance increases the probability that firms comply with the code.

In our third and fourth dprobit model we test for the composition of the nomination committee, proxied by the wedge between voting and dividend rights of the owners represented in the committee. As mentioned in section 4.3, for our purpose, we believe that it is not necessary to look at firm control structure and indirect ownership since we are primarily interested in studying the effect from separations between control and cash flow rights in the committee. We define cash flow owners as owners with at least as many dividend rights as voting rights, and control owners (not to be confused with our controlling owner dummy) as owners with more voting rights than dividend rights. If the nomination committee mainly represents cash flow owners, we expect their interests to be more in line with the code than if the nomination committee represents control owners. This expectation draws on the assumption that the code obstructs extraction of private benefits by firm management. Giannetti and Simonov (2006) argue that investors are less likely to hold stocks in firms with poor corporate governance due to the fear that management will extract private benefits. To capture this effect they proxy for the quality of corporate governance by using a control to cash flow rights variable. Hence, their variable is similar to ours. The probability of breaching with the code should thus be higher the larger the control wedge. Cronqvist and Nilsson (2005) argue that the wedge between control and cash flow rights decreases the likelihood that owners subject themselves to more monitoring through the choice between rights offerings and private equity placements. Since implementing the code implies increasing monitoring, this is in line with our expectation that firms with cash flow owners in the nomination committee are less likely to breach with the code than firms with control owners in the committee. We also test for the effect from having at least one AP fund in the committee. We believe this will give us an indication of their importance for the composition of the committee as well as an insight into which characteristics they possibly stress. We control for firm size. The variables and their predicted signs are summarized in table 5.1.

| First hypothesis        |                                |                |  |
|-------------------------|--------------------------------|----------------|--|
| Dependent variable      | Independent variables          | Predicted sign |  |
| Nomination committee    | Controlling owner dummy        | _              |  |
|                         | Firm size                      | +              |  |
|                         | Firm performance               | _              |  |
| Breaches, no committee, | Controlling owner dummy        | +              |  |
| or board committee      | Firm size                      | _              |  |
|                         | Firm performance               | +              |  |
| Breaches with the code  | Control wedge in the committee | +              |  |
|                         | Firm size                      | _              |  |
| Fewer than 3 members    | Control wedge in the committee | +              |  |
|                         | Firm size                      | _              |  |
|                         | AP fund dummy                  | _              |  |
| Board member chairman   | Control wedge in the committee | +              |  |
|                         | Firm size                      | _              |  |
|                         | AP fund dummy                  | _              |  |
| CEO committee member    | Control wedge in the committee | +              |  |
|                         | Firm size                      | _              |  |
|                         | AP fund dummy                  | _              |  |
| Board members majority  | Control wedge in the committee | +              |  |
|                         | Firm size                      | _              |  |
|                         | AP fund dummy                  | _              |  |

Table 5.1 Summary of variables and their predicted signs for the models of hypothesis 1.

#### 5.2 Effects from AP funds in nomination committees

Regarding our second hypothesis, we analyze the relationship between board turnover and the presence of AP funds in the nomination committee. We calculate abnormal board turnover for the calendar year when the first AGM following the implementation of the code was held, i.e. 2005 for 11 firms and 2006 for 208 firms. To be able to maximize their power, we expect AP funds to be represented in the nomination committee and to take an active role in board election. We test for the existence of at least one AP fund in the nomination committee.

The choice of committee year and abnormal board turnover year requires further explanation. Regarding the nomination committee, an alternative could have been to study effects on board turnover from the first year of the nomination committee. Hence, it could be argued that pension funds would use power received from the implementation of the nomination committee immediately. Thereafter, the board composition has already changed and the effect from the committee could be less visible in later years. However, this approach would have some drawbacks as well. First, we can not be sure that the hypothesized effect occurs in the first nomination committee. For example, the first committee could have different characteristics than the one after the implementation of the code. Second, some firms (especially larger) have had a nomination since the late 1990s. Third, the approach has a practical drawback. Since we have collected all our data on nomination committees manually by searching firms' web sites it would be time consuming to find the first nomination committee, if it is stated at all. Finally, as previously mentioned, Bruzelius and Holmlund (2006) argue that the structure of the nomination committee has changed, and become a more powerful institution, after the implementation of the code. Hence, it would be illogical to study a nomination committee before the code if it only had little power. More importantly, this also corresponds with our purpose to study effects after the code.

Using calendar year for turnover can also be discussed. Ideally, one could argue that board turnover should only be recognized if it occurred on the AGM since the primary purpose of the nomination committee is, according to the code, to prepare elections for the AGM. However, the reason for using full calendar year is fourfold. First, our data does not offer sufficiently accurate information on the ending date of directors and the date of the AGM. Second, according to the code, the nomination committee should be announced at least six months before the AGM. In our belief, this means that effects from the committee could occur before the AGM if the work of the committee becomes known. Third, any appointments of new board members outside the AGM are likely to be handled by the nomination committee in many firms. Fourth, if our second and third assumptions are incorrect, we believe that turnover effects outside the AGM are fairly the same every year, i.e. abnormal effects do not exist to any larger extent outside the AGM. As a normal year for board turnover, we first use 2004, which is the year before the implementation of the code. However, as a complement we also use 2002 as normal year for board turnover, which is the year before code discussions began. In sum, our goal is to compare board turnover before the rules to practices after the rules. Therefore, we use the mentioned board turnover years. This methodology follows one used by Chhaochharia and Grinstein (2006a).

We control for the logarithm of the tenure of the board members who exit the board in each year. Tenure is used in various forms as a control variable in previous research on board turnover (e.g. Del Guercio et al. 2006). The construction of tenure means that it will be equal to zero if there are no changes in the board composition in a given year, and since board turnover will also be equal to zero in that year, we expect tenure to have strong explanatory power in the regressions. We also control for firm performance, proxied by the abnormal annual stock return. It is possible that board turnover is higher in firms that have seen negative abnormal returns compared to previous years. However, the existing literature does not give any strong support to this expectation (Hermalin and Weisbach, 2003). We still want to control for this factor since it proxies for board directors being replaced due to poor performance. We also control for a size effect. To measure size we use the logarithm of market capitalization at the start of the abnormal turnover year, which is the point in time used by e.g. Hermalin and Weisbach (1988).

To explore effects from AP funds on firms with different characteristics we conduct regressions on three sub samples as well. First, we test on firms with a nomination committee, i.e. firms that to a greater extent comply with the code. Second, and third, we test on firms with a market capitalization above SEK 3 billion and less than SEK 3 billion, respectively. By doing this, we can explore if AP funds possibly can exercise more power in firms where a smaller capital base is needed to gain influence. In the last two sub samples, we do not test for firm size since the samples are already based on a size dependent dummy. The variables and their predicted signs are summarized in table 5.2.

| Second hypothesis       |                       |                |  |  |
|-------------------------|-----------------------|----------------|--|--|
| Dependent variable      | Independent variables | Predicted sign |  |  |
| Abnormal board turnover | AP fund dummy         | +              |  |  |
|                         | Tenure                | +              |  |  |
|                         | Firm performance      | _              |  |  |
|                         | Firm size             | _              |  |  |

Table 5.2 Summary of variables and their predicted signs for the models of hypothesis 2.

#### 5.3 Ownership changes by AP funds

To test our third hypothesis, we study the relation between board turnover and ownership changes by AP funds. Since the code is a newly introduced regulatory framework in corporate Sweden, we need to understand the differences before and after the implementation of the code and the appointment of nomination committees. Since members representing the largest owners of a firm generally constitute the nomination committee, ownership by pension funds is to some extent a proxy for their presence in nomination committees. However, it is important to bear in mind that we study all ownership changes of at least 0.1 percent of the voting rights. Therefore, we also recognize ownership changes for AP funds that are not represented in the nomination committee.

In order to get the power to appoint the board of directors, we expect AP funds to increase their ownership in firms where they would like to change the board composition. Therefore, in contrast to the findings by Del Guercio et al. (2006), we expect abnormal board turnover to be positively correlated to changes in ownership by pension funds before and after the implementation of the code.

Moreover, using ownership data from mid 2004 and mid 2005/2006 we estimate abnormal board turnover of the year for the first AGM following the implementation of the code compared to board turnover in 2004. First, we test the full sample and control for board tenure, firm performance and firm size. Second, we split our sample into the same sub samples as in hypothesis 2. The control variables are the same as for the full sample, with the exception of firm size. The variables and their predicted signs are summarized in table 5.3.

| Third hypothesis        |                                 |                |  |  |
|-------------------------|---------------------------------|----------------|--|--|
| Dependent variable      | Independent variables           | Predicted sign |  |  |
| Abnormal board turnover | Change in ownership of AP funds | +              |  |  |
|                         | Tenure                          | +              |  |  |
|                         | Firm performance                | _              |  |  |
|                         | Firm size                       | _              |  |  |

Table 5.3 Summary of variables and their predicted signs for the models of hypothesis 3.

#### 5.4 Publication effects

Our focus in this thesis is implementation effects from the code in contrast to, for example, publication effects. However, since firms were not formally re-

quired to comply with the code until July 2005, the AP funds can have started to gain increased power already in 2004 when the code committee published its first recommendations. For example, Dahya et al. (2002) conclude that effects of the Cadbury corporate governance reforms in England increased CEO turnover already following the first publication of the code. Chhaochharia and Grinstein (2006a) also use this methodology when they test effects from board turnover on CEO compensation before and after corporate governance rules in the U.S. In our case, board turnover could therefore be hypothesized to be affected already in 2005 for all firms. Therefore, as a complement to our previous testing, and in order to increase the understanding of when AP funds possibly can have gained power, we conduct regressions using 2005 as abnormal board turnover year. We conduct these tests for all samples in hypothesis 2. We do not test for publication effects in hypothesis 3 since we are primarily interested in publication effects through the nomination committees, and not through ownership changes. In this respect, testing for publication effects is also a robustness test of our model in hypothesis 2. For firms where we have used the 2006 committee, we use this same committee as a proxy also for the committee 2005. We do not believe this is a too strong assumption since committees for two following years probably are quite stable. We control for tenure, firm performance and firm size.

# 6 Empirical Results

In this section, we present the empirical results we obtained from our models and discuss our findings.

#### 6.1 Compliance with the code

As we discussed in section 5.1, we use a dprobit model to analyze the probability of having a nomination committee prior to the first AGM after the implementation of the code. Consistent with our predictions, table A.2 shows that the sign of the coefficient for the controlling owner dummy is negative and statistically significant on a 10 percent level. This effect suggests that firms with a controlling owner are less likely to have a nomination committee. We control for firm size, and we see that the coefficient is significant and positively correlated on a 1 percent level. This is not surprising since firms with a market capitalization less than SEK 3 billion are not required to comply with the code. Furthermore, since smaller firms are more likely to bear higher costs from complying with new corporate governance rules (see Holmström and Kaplan, 2003) their unwillingness of complying is predicted due to this reason as well. We also control for firm performance and we see that the coefficient is not significant on a 10 percent level. This shows that minority shareholders are not able to put pressure on poor performing firms to establish a nomination committee.

In table A.3, we present the results from the dprobit regression for the full sample that estimates the probability of firms breaching with the code by not having a nomination committee, having a board committee, or having a nomination committee that breaches with the code in any of the four mentioned respects. We find that the coefficient of the controlling owner dummy has the predicted sign and is significant on a 1 percent level. This is in line with the results from the previous regression and confirms that firms with controlling owners are less likely to comply with the code. The increased significance for the variable in this regression indicates that if firms with controlling owners have a nomination committee its composition often deviates from the code. Table A.3 also shows that firm size is significant on a 1 percent

level and negatively correlated with the probability of breaching, which is in line with the reasoning above. Firm performance is not significant in this regression either.

Table A.4 contains dprobit regression estimates for the sample of firms with a nomination committee. We test if the committee deviates from the code in any of our four mentioned respects. We find that our control wedge variable is significant on a 5 percent level. This means that firms with a positive wedge between control and cash flow rights for the owners represented in the nomination committee are more likely to breach with the code in any of the four respects identified. The effect is consistent with our predictions as well as the previous two regressions. The result is interesting since it confirms that power can be created by the use of dual class shares. Hence, by using strong voting rights, owners can create a committee that suits them. As previously outlined, we believe that the characteristics of the nomination committee suggested by the code committee follows a structure that protects/favors minority shareholders that only enjoy security benefits. Therefore, the correlation between wedge and breaching is predicted. The table also shows that the firm size coefficient is negatively correlated also in this dprobit regression on a 1 percent level. As was previously described, smaller firms are more likely to breach with the code.

In table A.5, we summarize the dprobit regression estimates of the four individual breach probabilities for the sample of firms that have a nomination committee. We find that the control wedge is positively correlated to all four forms of breaching on at least a 10 percent significance level. The effect is most significant when tested against having a majority of board directors. Hence, our result suggests that owners who can take advantage of dual class shares, and not only enjoy dividend rights, elect board directors to the committee. It is possible that this is one way for these owners to obtain control over the nomination committee. The AP fund dummy is negatively correlated on a 10 percent significance level to having a majority of board directors in the committee. We have also tested the AP fund dummy in the dprobit regressions on the other three individual breach probabilities. However, the results are then insignificant and we do not include them in the tables. Our interpretation is therefore that AP funds consider not having a majority of

board directors as the most important instruction to follow. This is hardly surprising since this composition rule strongly correlates with the purpose of the committee, i.e. board election. The result is nevertheless interesting since it emphasizes the relation between board turnover and pension funds, something we discuss in further detail below. Size is significant on a 1 percent level and negatively correlated to the probability of having fewer than three members in the committee and the probability of having a majority of board directors in the committee. This means that smaller firms are more likely to breach with the code in these respects. An explanation for this can be that smaller firms more often have one or two founders who are controlling owners, board directors and members of the nomination committee. There is no size effect for the probability of having a board member as the chairman of the committee or having the CEO in the committee.

#### 6.2 Board turnover and nomination committees

So far, our results have shown that controlling owners as well as owners that take advantage of dual class shares are reluctant to follow the code. Furthermore, we have found that AP funds try to counteract nomination committees that have a majority of board directors. This section and the next expand the focus to AP funds.

To assess if the nomination committee has given AP funds power after the implementation of the code, we study the impact on board turnover. Table A.6 presents our results for our four samples using board turnover for 2004 to calculate abnormal board turnover in 2005/2006. First, for the full sample, we can see that the coefficient of the presence of at least one AP fund in the nomination committee is significant on a 10 percent level. These results give support to our hypothesis that AP funds have increased their power through the nomination committee. This is also supported by the high adjusted R<sup>2</sup> of 33.7 percent, indicating that the explanatory power of our model is strong. We control for firm performance and we see that the coefficient is insignificant. This is in line with the findings of Hermalin and Weisbach (2003), who concluded that empirical findings have not been able to present any strong evidence of a correlation between board turnover and firm performance. We also control for board tenure and the coefficients have the expected sign, i.e.

board turnover is positively correlated with tenure. This indicates that directors are more likely to leave the board if they are older or have been on the board for a long period, which corresponds to the findings of Del Guercio et al. (2006). Table A.6 also shows that the level of abnormal board turnover is unaffected by the size of the firm.

Second, table A.6 shows that AP funds have no explanatory power on board turnover when we limit the sample to only firms with a nomination committee. The coefficient is merely slightly insignificant on a 10 percent level. However, in comparison to the full sample, the effects from AP funds are weaker when we delimitate our sample to firms with a nomination committee. We believe this means that there could be a general increase in board turnover in firms with a nomination committee. This can be due to the implementation of the code since also other non-controlling shareholders can benefit from its effects, and in turn explain the abnormal board turnover. Moreover, the effects from our control variables are similar to the results for the full sample. Hence, there is a strong positive correlation between board turnover and tenure, however, no correlation between board turnover and firm performance or firm size.

Third, in table A.6 we also present our results for firms with a market capitalization above SEK 3 billion. Interestingly, the presence of at least one AP fund in the committee does not have any significant effect on abnormal board turnover in this sample. This is quite surprising since AP funds are likely to hold shares in firms included in a blue chip index due to liquidity aspects as well as a desire to mimic large mutual funds. This is also confirmed by the fact that AP funds are present in 20 of the committees in the sample of firms with a market capitalization above SEK 3 billion, and only in 10 committees for the rest of the firms. Moreover, we believe that AP funds would like to take an active part in large firms' corporate governance issues. However, since the financial resources of the AP funds are limited it is likely to be more difficult for them to attain influence in larger firms where larger investments are required to gain influence.

Finally, given the previous results, it is not surprising that table A.6 shows that the presence of at least one AP fund in the nomination committee increases abnormal board turnover in the sample of firms with a market capitalization less than SEK 3 billion. The AP fund dummy is significant on a 5 percent level, i.e. it is clear that we have found a strong impact on abnormal board turnover with respect to AP funds. These results suggest that the effect from AP funds on abnormal board turnover in small firms has been significant since the implementation of the code. One explanation for this could be that fewer small firms had a nomination committee prior to the implementation of the code. Therefore, AP funds have probably not been able to practice power in these firms before the code, and the effect becomes strong after the implementation of the code. This is hardly surprising since smaller firms are likely to adapt more slowly to new corporate governance regulations. Holmström and Kaplan (2003) argue that this is because smaller firms are likely to bear higher costs to comply with new regulations. This is also in line with findings by Chhaochharia and Grinstein (2006b) since they argue that governance rules help to improve governance in firms that did not comply with them before the enforcement. Moreover, in line with the discussion on effects in large firms, the strong effect from AP funds on small firms can probably be helped by the fact that it requires less capital to acquire influence in these firms.

Furthermore, we have conducted tests where exactly one AP fund was present in the committee. These tests did not show any significant differences from when we tested for at least one AP fund in the committee. Therefore, we do not present the results. We also tested for exactly two AP funds in the committee. However, these tests gave no significant effect so we do not present these results either. This lack of significance is not surprising since there are only 2 firms that have at least two AP funds in their committee.

As was outlined in the methodology, we also conduct tests using 2002 as base year for board turnover. It is evident from the results in table A.7 that the impact from AP funds is overall weaker when we use this base year. However, the absence of significant results in these regressions is interesting since it indicates that changes mainly took place 2004. Hence, our results suggest that AP funds have received influence mainly from 2004 to 2005/2006, i.e. there seems to be an effect from the implementation of the code in smaller firms. As we discussed above, smaller firms may need to

make more changes to comply with the new corporate governance rules. Extensive changes in the corporate governance have probably made it easier for AP funds to gain power in smaller firms. Another observation in the regressions using 2002 as a base year is that firm performance has a negative impact on abnormal board turnover. Combined with what we have concluded above it seems that abnormal board turnover with 2002 as base year is more dependent on firm performance than the presence of AP funds in the committee. Instead, AP funds affect abnormal board turnover over 2004. However, the various effects from firm performance are consistent with what Hermalin and Weisbach (2003) find.

#### 6.3 Board turnover and ownership changes

An alternative way to assess the impact from pension funds on abnormal board turnover is to study changes in ownership. As was outlined in section 5.3, we believe that ownership to some extent could be a proxy for presence in the nomination committee. Therefore, we study the effect of changes in ownership by AP funds between 2004 and 2005/2006 on abnormal board turnover with base year 2004.

Table A.8 shows our regression results for the full sample, as well as the two samples defined by market capitalization. First, for the full sample, we find that the coefficient for changes in ownership between 2004 and 2006 is negative. However, this result is not statistically significant on a 10 percent level. Therefore, we can not, in contrast to Del Guercio et al. (2006), conclude that institutional selling is associated with director turnover. However, the negative sign on the coefficient also means that we can not see any evidence of a positive relationship between ownership changes and director turnover, as we predicted. To explain, and compare, the results with the ones obtained for board turnover and nomination committees in hypothesis 2, we believe that AP funds increase their holdings in firms where they can see profitable investments as well as possibilities to affect corporate governance, e.g. board composition. Therefore, in firms where AP funds would like to take an active ownership role, they will be present in nomination committees and affect board turnover from them, as our results from hypothesis 2 suggest. However, our ownership changes variable includes increases and decreases in ownership as well as all changes over 0.1 percent. Therefore, it also captures changes in firms where AP funds are not taking an active role as well as firms where they are not able to present their opinion from a committee. In that sense, ownership is not an exact proxy for committee changes, and that may explain our different result compared to hypothesis 2. We control for tenure, firm performance and size. Abnormal board turnover has a strong positive correlation with tenure also in this regression, as we predicted. In congruence with table A.6, table A.8 shows that abnormal board turnover is not associated with poor firm performance. Size has no explanatory effect in this regression either.

Second, in table A.8, we also report the results for only firms with a market capitalization above SEK 3 billion. The table shows that we can not conclude any correlation between board turnover and changes in ownership for AP funds. The coefficient is negative, however, not significant on a 10 percent level. We control for tenure and firm performance. The coefficient for tenure is still positively significant on all reasonable levels. Based on the results from hypothesis 2 it is hardly surprising that there is no relation between abnormal board turnover and firm performance.

Finally, in table A.8, we also report the results for the relationship between abnormal board turnover and ownership changes for AP funds, using the sample consisting of firms with a market capitalization less than SEK 3 billion. It can be seen that the relationship is not significant on a 10 percent level in this regression either.

### 6.4 Board turnover and publication effects

An alternative way to assess the impact of new regulations is to evaluate effects from the first publication of the rules, as has been done by Dahya et al. (2002). Therefore, to explore possible time effects, we test whether our AP fund dummy explains abnormal board turnover 2005. Table A.9 shows that there is an effect from AP funds on abnormal board turnover only for the sample of firms with a market capitalization below SEK 3 billion. Hence, compared to the full sample results in table A.6 for implementation effects we can not conclude that AP funds have affected board turnover after the first

publication of the code. In sum, there seems to be a publication effect from the code, however, only on smaller firms. Therefore, for smaller firms, these findings are consistent with findings by Dahya et al. (2002), i.e. new corporate governance rules have an impact from the first time they are published. Hence, our results suggest that AP funds force boards in smaller firms to respond to market demand before governance changes. Table A.9 also shows that tenure is positively significant on a 1 percent level. Size is not significant in the regression for the full sample. However, the coefficient for firm performance is significant and negatively correlated on a 5 percent level for firms with a market capitalization below SEK 3 billion. We believe a possible explanation for the stronger impact on turnover from performance in smaller firms is that it is more difficult for large minority shareholders, who only enjoy dividend rights and can be assumed to replace board directors in poor performing firms, to affect board turnover in large firms. This reasoning is also in line with the non-existent correlation between board turnover and AP funds in large firms, something we have shown clearly.

#### 7 Conclusions

In this section, we draw conclusions based on the empirical evidence. We also present two avenues for future research.

We find that many firms have a nomination committee after the implementation of the code. The probability of complying is higher for larger firms. We also find that firms with controlling owners have a tendency not to comply with the code to some extent. Furthermore, we have shown that there exists a conflict between owners that take advantage of stronger voting rights and AP funds concerning the presence of board directors in the committee. The former wants to increase the number of board directors and the latter decrease it. This illustrates conflicting interests that can occur between controlling owners that can extract private benefits and non-controlling owners, which have been shown by e.g. Giannetti and Simonov (2006).

Our results suggest that AP funds have an impact on board turnover through the nomination committee after the implementation of the code. We find that the effects are larger when we only look at smaller firms. Possible explanations for this can be that smaller firms were least compliant with the new governance rules before the code as well as difficulties to acquire influence in large firms due to the limited financial resources of AP funds.

We also find that there is no impact on board turnover caused by ownership changes for AP funds. This indicates that the power from AP funds is more significant when they are active owners, as they by definition become when they are present in a nomination committee.

Moreover, we find that AP funds also have received influence on board turnover in smaller firms from the first publication of the code. Therefore, it appears that corporate boards to some extent respond to new governance rules before the actual implementation, which is consistent with findings by Chhaochharia and Grinstein (2004). The non-existent effect from AP funds on board turnover in larger firms is also evident when studying publication effects. It is therefore possible that they have adapted to coming governance rules even before the first publication of the code. Another possible explanation is that AP funds do not have the capacity to affect corporate governance in larger firms.

Overall, our results confirm the widespread opinion that pension funds affect corporate governance when they take an active ownership role. We also show that new regulations can enhance these effects. This is especially true for firms that need to make more changes to comply with the new rules.

We can see two interesting avenues for further research. First, our analysis shows that pension funds can affect corporate governance in Sweden. Giannetti and Simonov (2006) show that shareholders who only enjoy dividend rights are reluctant to hold shares in firms where other investors can extract private benefits. Therefore, we believe that it would be interesting to study if the presence of AP funds in nomination committees decreases the reluctance among investors who only enjoy dividend rights to invest in firms with weak corporate governance. Second, if we go back a number of years in time nomination committees were a rare element. Today, most firms on the Stockholm stock exchange have a nomination committee. Therefore, it could be interesting to study the effect from changes in nomination committees on, for example, board turnover or firm performance.

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## Appendix

Table A.1
Variables and descriptive statistics for sample firms

| Variable   | Mean     | Median  | Standard<br>deviation | Minimum | Maximum   | Number of observations |
|--|----------|---------|-----------------------|---------|-----------|------------------------|
| Abnormal board turnover 2005/2006 over 2004 (in %)           | 0.59     | 0.00    | 19.78                 | -83.33  | 66.67     | 219                    |
| Abnormal board turnover 2005/2006 over 2002 (in %)           | -0.69    | 0.00    | 19.88                 | -71.43  | 66.67     | 219                    |
| Abnormal board turnover 2005 over 2004 (in %)                | -0.77    | 0.00    | 19.93                 | -83.33  | 66.67     | 219                    |
| $\Delta$ Ownership of AP funds from 2004 to 2006 (in %)      | -0.06    | 0.00    | 1.91                  | -12.90  | 8.70      | 219                    |
| Dividend rights of the nomination committee (in %)           | 26.31    | 24.00   | 21.71                 | 0.00    | 100.00    | 219                    |
| Voting rights of the nomination committee (in %)             | 32.85    | 32.00   | 26.70                 | 0.00    | 100.00    | 219                    |
| Control wedge in the nomination committee (in %)             | 6.54     | 0.00    | 11.27                 | -9.30   | 59.91     | 219                    |
| Average tenure of exiting board members 2005/2006 (in days)  | 1573.29  | 1581.25 | 805.24                | 177.00  | 3966.00   | 106                    |
| Average tenure of exiting board members 2005 (in days)       | 1452.24  | 1426    | 757.55                | 177.00  | 3472.00   | 97                     |
| Logarithm of tenure 2005/2006                                | 3.49     | 0.00    | 3.64                  | 0.00    | 8.29      | 219                    |
| Logarithm of tenure 2005                                     | 3.15     | 0.00    | 3.57                  | 0.00    | 8.15      | 219                    |
| Abnormal annual stock return 2004/2005 over 2003 (in %)      | -22.19   | -9.00   | 112.93                | -654.90 | 518.90    | 219                    |
| Abnormal annual stock return 2004/2005 over 2001 (in %)      | 61.10    | 54.20   | 73.04                 | -130.00 | 527.20    | 219                    |
| Abnormal annual stock return 2004/2005 over 2003/2004 (in %) | -20.41   | -5.70   | 115.70                | -654.90 | 542.00    | 219                    |
| Market capitalization 2004/2005 (in SEK million)             | 10948.45 | 1022.49 | 34984.90              | 20.70   | 341123.55 | 219                    |
| Market capitalization 2004 (in SEK million)                  | 12443.96 | 3664.20 | 34443.90              | 14.30   | 340914.20 | 219                    |
| Logarithm of market capitalization 2004/2005                 | 7.23     | 6.93    | 1.91                  | 3.03    | 12.74     | 219                    |
| Logarithm of market capitalization 2004                      | 7.13     | 6.71    | 1.98                  | 3.03    | 12.74     | 219                    |

Table A.2

Effects on the probability of firms having a nomination committee from having a controlling owner

Dprobit regression. The dependent variable is a dummy that is equal to one if firm i has a nomination committee for the first AGM after the implementation of the code, and zero otherwise. The reported coefficients show the marginal effects from a change in the explanatory variable. The constant is included in all regressions, but the coefficients are not reported. Robust standard errors are reported between brackets. \*, \*\*, and \*\*\* denote significance at the 10, 5, and 1 percent level, respectively.

| the coefficients are not reported, woo as countain a circle are reported | a sectional statistics, , , and | denote significance at the 10, 0, and 1 percent is (ci, respectively). |
|--|---------------------------------|--|
|  | (1)                             |  |
| Controlling owner dummy (at least 20 % of voting rights)                 | 0.00 = 4                        |  |
| Controlling owner duminity (at least 20 % of voting rights)              | -0.095*                         |  |
|  | (0.052)                         |  |
| Performance (abnormal annual stock return of the firm)                   | -0.042                          |  |
|  | (0.029)                         |  |
|  | (0.029)                         |  |
| Size (logarithm of the market capitalization of the firm)                | 0.058***                        |  |
|  | (0.015)                         |  |
| N 1 6.1  | 210                             |  |
| Number of observations   | 219                             |  |
| Pseudo R <sup>2</sup>  | 0.09                            |  |

Table A.3

Effects on the probability of firms not having a nomination committee, having a nomination committee that breaches with the code, or having a board committee, from having a controlling owner

Dprobit regression. The dependent variable is a dummy that is equal to one if firm i does not have a nomination committee for the first AGM after the implementation of the Swedish Code of Corporate Governance in June 2005, has a nomination committee that breaches with the code, or has a board committee, and zero otherwise. The reported coefficients show the marginal effects from a change in the explanatory variable. The constant is included in all regressions, but the coefficients are not reported. Robust standard errors are reported between brackets. \*, \*\*, and \*\*\* denote significance at the 10, 5, and 1 percent level, respectively.

|   | (1)                  |  |
|---|----------------------|--|
| Controlling owner dummy (at least 20 % of voting rights)  | 0.287***<br>(0.070)  |  |
| Performance (abnormal annual stock return of the firm)    | -0.002<br>(0.028)    |  |
| Size (logarithm of the market capitalization of the firm) | -0.071***<br>(0.019) |  |
| Number of observations                                    | 219                  |  |
| Pseudo R²   | 0.09                 |  |

Table A.4

Effects on the probability of firms having a nomination committee that the nomination committee breaches with the code from the wedge between control and cash flow rights of the owners represented in the nomination committee

Dprobit regression. The dependent variable is a dummy that is equal to one if firm i has a nomination committee that breaches with the code in its composition, and zero otherwise. The reported coefficients show the marginal effects from a change in the explanatory variable. The constant is included in all regressions, but the coefficients are not reported. Robust standard errors are reported between brackets. \*, \*\*, and \*\*\* denote significance at the 10, 5, and 1 percent level, respectively.

|   | (1)       |  |
|---|-----------|--|
|   |           |  |
| Control wedge   | 0.957**   |  |
|   | (0.401)   |  |
| Size (logarithm of the market capitalization of the firm) |           |  |
| Size (logarithm of the market capitalization of the firm) | -0.059*** |  |
|   | (0.021)   |  |
|   |           |  |
| Number of observations                                    | 173       |  |
| Pseudo R²   | 0.05      |  |

Table A.5

Effects on the probability of firms having a nomination committee that the nomination committee breaches with the code in a certain respect

Dprobit regressions. The dependent variable is a dummy that is equal to one if firm i has a nomination committee that breaches with the code in a certain respect, and zero otherwise. The reported coefficients show the marginal effects from a change in the explanatory variable. The constant is included in all regressions, but the coefficient is not reported. Robust standard errors are reported between brackets. \*, \*\*, and \*\*\* denote significance at the 10, 5, and 1 percent level, respectively.

|  | (1)          | (2)         | (3)       | (4)          | (5)          |  |
|--|--------------|-------------|-----------|--------------|--------------|--|
|  | Fewer than 3 | Committee   | CEO is a  | The majority | The majority |  |
|  | members      | chairman is | committee | are board    | are board    |  |
|  |              | a board     | member    | members      | members      |  |
|  |              | member      |           |              |              |  |
|  |              |             |           |              |              |  |
| Control wedge (control wedge in the nomination committee)              | 0.039*       | 0.560*      | 0.290*    | 0.671**      | 0.635**      |  |
|  | (0.026)      | (0.312)     | (0.147)   | (0.287)      | (0.292)      |  |
|  |              |             |           |              |              |  |
| Size (logarithm of the market capitalization of the firm)              | -0.005***    | -0.021      | -0.014    | -0.063***    | -0.054***    |  |
|  | (0.004)      | (0.018)     | (0.009)   | (0.018)      | (0.017)      |  |
|  | ,            | ,           | , ,       | , ,          | , , ,        |  |
| AP fund dummy (at least one AP fund represented in the nomination com- |              |             |           |              | -0.148*      |  |
| mittee)  |              |             |           |              | (0.064)      |  |
|  |              |             |           |              | (0.001/      |  |
| Number of observations   | 173          | 173         | 173       | 173          | 173          |  |
|  |              |             |           |              |              |  |
| Pseudo R <sup>2</sup>  | 0.24         | 0.02        | 0.05      | 0.08         | 0.10         |  |

The dependent variable is the abnormal board turnover of the year of the first AGM after the implementation of the code compared to 2004. In regression (2), we use only observations of firms that have a nomination committee. In regression (3), we use only observations of firms that have a market capitalization above SEK 3 bn. In regression (4), we use only observations of firms that have a market capitalization equal to or below SEK 3 bn. Abnormal annual stock returns of the year prior to the abnormal board turnover year are compared to 2003. The constant is included in all regressions, but the coefficient is not reported. Robust standard errors are reported between brackets. \*, \*\*, and \*\*\* denote significance at the 10, 5, and 1 percent level, respectively.

|  | (1)         | (2)        | (3)        | (4)        |  |
|--|-------------|------------|------------|------------|--|
|  | Full sample | Nomination | Market cap | Market cap |  |
|  |             | committees | above 3 bn | below 3 bn |  |
|  |             |            |            |            |  |
| AP fund dummy (at least one AP fund represented in the nomination com- | 0.060*      | 0.059      | -0.002     | 0.148**    |  |
| mittee)  | (0.036)     | (0.036)    | (0.045)    | (0.059)    |  |
|  |             |            |            |            |  |
| Tenure (logarithm of the tenure of exiting board members)              | 0.031***    | 0.032***   | 0.021***   | 0.034***   |  |
|  | (0.003)     | (0.003)    | (0.005)    | (0.004)    |  |
|  | (0.000)     | (0.000)    | (0.000)    | (0.001)    |  |
| Performance (abnormal annual stock return of the firm)                 | -0.006      | -0.005     | 0.024      | -0.015     |  |
|  |             |            |            |            |  |
|  | (0.008)     | (0.010)    | (0.022)    | (0.010)    |  |
|  |             |            |            |            |  |
| Size (logarithm of the market capitalization of the firm)              | -0.010      | -0.009     |            |            |  |
|  | (0.006)     | (0.007)    |            |            |  |
|  |             |            |            |            |  |
| Number of observations   | 219         | 173        | 80         | 139        |  |
| $\mathbb{R}^2$   | 0.35        | 0.35       | 0.25       | 0.42       |  |

Table A.7
Effects on abnormal board turnover 2005/2006 over 2002 from having an AP fund in the nomination committee

The dependent variable is the abnormal board turnover of the year of the first AGM after the implementation of the code compared to 2002. In regression (2), we use only observations of firms that have a nomination committee. In regression (3), we use only observations of firms that have a market capitalization above SEK 3 bn. In regression (4), we use only observations of firms that have a market capitalization equal to or below SEK 3 bn. Abnormal annual stock returns of the year prior to the abnormal board turnover year are compared to 2001. The constant is included in all regressions, but the coefficient is not reported. Robust standard errors are reported between brackets. \*, \*\*, and \*\*\* denote significance at the 10, 5, and 1 percent level, respectively.

|  | (1)         | (2)        | (3)        | (4)        |  |
|--|-------------|------------|------------|------------|--|
|  | Full sample | Nomination | Market cap | Market cap |  |
|  |             | committees | above 3 bn | below 3 bn |  |
|  |             |            |            |            |  |
| AP fund dummy (at least one AP fund represented in the nomination com- | 0.045       | 0.056      | -0.002     | 0.104      |  |
| mittee)  | (0.034)     | (0.034)    | (0.029)    | (0.068)    |  |
|  |             |            |            |            |  |
| Tenure (logarithm of the tenure of exiting board members)              | 0.023***    | 0.020***   | 0.016***   | 0.025***   |  |
|  | (0.003)     | (0.004)    | (0.005)    | (0.005)    |  |
|  | (0.000)     | (0.004)    | (0.000)    | (0.000)    |  |
| Performance (abnormal annual stock return of the firm)                 | -0.044**    | -0.000**   | -0.049     | -0.049*    |  |
| 1 citorinance (asnormal annual stock return of the min)                |             | -0.060**   | -0.043     | -0.042*    |  |
|  | (0.019)     | (0.025)    | (0.028)    | (0.023)    |  |
|  |             |            |            |            |  |
| Size (logarithm of the market capitalization of the firm)              | -0.003      | -0.005     |            |            |  |
|  | (0.007)     | (0.007)    |            |            |  |
|  |             |            |            |            |  |
| Number of observations   | 219         | 173        | 80         | 139        |  |
| $ bracket{R^2}$  | 0.20        | 0.19       | 0.18       | 0.22       |  |

Table A.8
Effects on abnormal board turnover from changing ownership by AP funds

The dependent variable is the abnormal board turnover of the year of the first AGM after the implementation of the code compared to 2004. In regression (2), we use only observations of firms that have a market capitalization above SEK 3 bn. In regression (3), we use only observations of firms that have a market capitalization equal to or below SEK 3 bn. Abnormal annual stock returns are compared to 2003. The constant is included in all regressions, but the coefficient is not reported. Ro-

bust standard errors are reported between brackets. \*, \*\*, and \*\*\* denote significance at the 10, 5, and 1 percent level, respectively.

|   | (1)         | (2)        | (3)        |  |
|---|-------------|------------|------------|--|
|   | Full sample | Market cap | Market cap |  |
|   |             | above 3 bn | below 3 bn |  |
|   |             |            |            |  |
| Change in ownership of AP funds (between 2004 and 2006)     | -1.001      | -0.661     | -1.537     |  |
|   | (0.635)     | (0.428)    | (1.477)    |  |
| Towns (long with a state towns of within a board wouth and) |             |            |            |  |
| Tenure (logarithm of the tenure of exiting board members)   | 0.030***    | 0.021***   | 0.035***   |  |
|   | (0.003)     | (0.005)    | (0.004)    |  |
| Performance (abnormal annual stock return of the firm)      | 0.001       | 0.029      | -0.005     |  |
|   | (0.008)     | (0.022)    | (0.009)    |  |
|   | (0.006)     | (0.022)    | (0.009)    |  |
| Size (logarithm of the market capitalization of the firm)   | -0.006      |            |            |  |
|   | (0.006)     |            |            |  |
|   |             |            |            |  |
| Number of observations                                      | 219         | 80         | 139        |  |
| $\mathbb{R}^2$  | 0.34        | 0.28       | 0.39       |  |

Table A.9

Publication effects on abnormal board turnover from having an AP fund in the nomination committee

The dependent variable is the abnormal board turnover of 2005 compared to 2004. In regression (2), we use only observations of firms that have a nomination committee. In regression (3), we use only observations of firms that have a market capitalization above SEK 3 bn. In regression (4), we use only observations of firms that have a market capitalization equal to or below SEK 3 bn. Abnormal annual stock returns are compared to 2003. The constant is included in all regressions, but the coefficient is not reported. Robust standard errors are reported between brackets. \*, \*\*, and \*\*\* denote significance at the 10, 5, and 1 percent level, respectively.

|  | (1)         | (2)        | (3)        | (4)        |  |
|--|-------------|------------|------------|------------|--|
|  | Full sample | Nomination | Market cap | Market cap |  |
|  |             | committees | above 3 bn | below 3 bn |  |
|  |             |            |            |            |  |
| AP fund dummy (at least one AP fund represented in the nomination com- | 0.057       | 0.059      | 0.000      | 0.152**    |  |
| mittee)  | (0.036)     | (0.036)    | (0.045)    | (0.059)    |  |
|  |             |            |            |            |  |
| Tenure (logarithm of the tenure of exiting board members)              | 0.031***    | 0.032***   | 0.021***   | 0.033***   |  |
|  | (0.003)     | (0.003)    | (0.005)    | (0.004)    |  |
|  | (0.000)     | (0.000)    | (0.000)    | (0.001)    |  |
| Performance (abnormal annual stock return of the firm)                 | -0.013      | -0.005     | 0.025      | -0.024**   |  |
|  | (0.009)     | (0.010)    | (0.023)    | (0.011)    |  |
|  | (0.009)     | (0.010)    | (0.025)    | (0.011)    |  |
| Size (logarithm of the market capitalization of the firm)              | 0.005       | 0.000      |            |            |  |
| of the individual of the market capitalization of the inin/            | -0.007      | -0.009     |            |            |  |
|  | (0.006)     | (0.007)    |            |            |  |
|  |             |            |            |            |  |
| Number of observations   | 219         | 173        | 80         | 139        |  |
| $\mathrm{R}^2$   | 0.33        | 0.35       | 0.24       | 0.41       |  |

| Company           | Person                             | Represents                              | Person                 | Represents                      | Person               | Represents                  |
|-------------------|------------------------------------|---|------------------------|---------------------------------|----------------------|-----------------------------|
| 24hPoker Holding  | No committee                       |   |                        |                                 |                      |                             |
| AcadeMedia        | No committee                       |   |                        |                                 |                      |                             |
| Acando            | Ulf J. Johansson                   | Ulf J. Johansson, Chairman of the Board | Ulf Hedlundh           | Svolder                         | Bengt Wallentin      | Bengt Wallentin             |
| A-Com             | Board committee                    |   |                        |                                 |                      |                             |
| ACSC              | No committee                       |   |                        |                                 |                      |                             |
| Active Biotech    | Mats Arnhög                        | Mats Arnhög, Chairman of the Board      | Johnny Sommarlund      | MGA Holding                     | Tomas Billing        | Nordstjernan                |
|                   | Ulf Strömsten                      | Catella Funds                           |                        |                                 |                      |                             |
| AddNode           | Staffan Johansson                  | Staffan Johansson                       | Jonas Gejer            | Jonas Gejer                     | Fredrik Åkerman      | Bonnier                     |
|                   | Per Hallerby                       | Chairman of the Board                   |                        |                                 |                      |                             |
| Addtech           | Anders Börjesson                   | Börjesson family, Chairman of the Board | Mats Gustafsson        | SEB Funds                       | Magnus Bakke         | Robur Funds                 |
|                   | Tom Hedelius                       | Tom Hedelius                            | Pär Stenberg           | Pär Stenberg                    |                      |                             |
| Affärsstrategerna | Per-Anders Johansson               | Nomic                                   | Gunnar Lindberg        | Länsförsäkringar                | Anders Bergnäs       | Chairman of the Board       |
|                   | Claes-Göran Fridh                  | Claes-Göran Fridh, CEO                  |                        |                                 |                      |                             |
| Anoto Group       | Stein Revelsby                     | Norden Technology                       | Bernard Gander         | Logitech                        | Christer Fåhraeus    | Christer Fåhraeus           |
|                   | Britt Reigo                        | Robur Funds                             |                        |                                 |                      |                             |
| Artimplant        | Petter Odhnoff                     | AP2                                     | John Arnold            | Arnold John & Claire Foundation | Johan Ågren          | Banco Funds                 |
|                   | Akbar Seddigh                      | Chairman of the Board                   |                        |                                 |                      |                             |
| Aspiro            | Johan Lenander                     | CEO, no voting right                    | Christian Ruth         | Schibsted                       | Marianne Nilsson     | Robur Funds                 |
|                   | Ulf Strömsten                      | Catella Funds                           |                        |                                 |                      |                             |
| Assa Abloy        | Gustaf Douglas<br>Melker Schörling | Latour<br>MSAB                          | Staffan Grefbäck       | Alecta                          | Marianne Nilsson     | Robur Funds                 |
| Atlas Copco       | Börje Ekholm<br>Björn C. Andersson | Investor<br>SHB Funds                   | Thomas Ehlin           | Nordea Funds                    | William af Sandeberg | AP1                         |
| AudioDev          | No committee                       |   |                        |                                 |                      |                             |
| Autoliv           | Board committee                    |   |                        |                                 |                      |                             |
| Avanza            | Erik Törnberg                      | Öresund                                 | Eva Qviberg            | Qviberg family                  | Jack Junel           | Aktiespararna               |
|                   | Sven Hagströmer                    | Chairman of the Board                   | •                      | •                               |                      | •                           |
| Axfood            | Hans Dalborg                       | Independent                             | Antonia Ax:son Johnson | Johnson Group                   | Inge Bäckström       | Axfoods Aktiespararförening |
|                   | Björn Lind                         | SEB Funds                               | Göran Ennerfelt        | Chairman of the Board           |                      |                             |
| Axis              | Christer Brandberg                 | Inter Indu S.P.R.L                      | Therese Karlsson       | LMK Industri AB                 | Martin Gren          | AB Grenspecialisten         |
| B&B Tools         | Tom Hedelius                       | Tom Hedelius                            | Marianne Nilsson       | Robur Funds                     | Tor Marthin          | AMF Pension                 |
|                   | Anders Börjesson                   | Anders Börjesson                        | Pär Stenberg           | Pär Stenberg                    |                      |                             |
| Balder            | No committee                       |   |                        |                                 |                      |                             |

| Company            | Person                               | Represents                                      | Person              | Represents                          | Person              | Represents            |
|--------------------|--------------------------------------|---|---------------------|-------------------------------------|---------------------|-----------------------|
| Beijer Alma        | Anders Wall                          | Wall family, Chairman of the<br>Board           | Caroline af Ugglas  | Skandia Liv                         | Jan Andersson       | Robur Funds           |
|                    | Thomas Halvorsen                     | Member of the Board                             | Henrik Didner       | Didner & Gerge Funds                |                     |                       |
| Beijer Electronics | Anders Ilstam                        | Chairman of the Board                           | Bert Åke Eriksson   | Stena Sessan                        | Mats Tunér          | SEB Funds             |
| •                  | Mats Andersson                       | Skandia Liv                                     | Ulf Hedlundh        | Svolder                             |                     |                       |
| Bergs Timber       | No committee                         |   |                     |                                     |                     |                       |
| Betsson            | Per Hamberg                          | Per Hamberg                                     | Rolf Blom           | Dixcart Financial Services          | Fredrik Danielsson  | Straumur-Burdaras     |
| Bilia              | Mats Qviberg                         | Qviberg family                                  | Mikael Nordberg     | Firstnordic Funds                   | Per Erik Mohlin     | SEB Funds             |
|                    | Hans Hedström                        | HQ Funds  | Stefan Dahlbo       | Öresund                             |                     |                       |
| Billerud           | Michael Kaufmann                     | Frapag Vermögensverwal-<br>tung                 | Cecilia Lager       | SEB Funds                           | Torsten Johansson   | SHB Funds             |
|                    | Ingvar Petersson                     | Chairman of the Board                           |                     |                                     |                     |                       |
| BioGaia            | No committee                         |   |                     |                                     |                     |                       |
| BioInvent          | Björn Ogenstam                       | Industrifonder Foundation                       | Roy Berg            | Stena                               | Björn Franzon       | AP4                   |
|                    | Per-Olof Mårtensson                  | Per-Olof Mårtensson, Chair-<br>man of the Board |                     |                                     |                     |                       |
| Biolin             | No committee                         |   |                     |                                     |                     |                       |
| BioPhausia         | Caroline af Ugglas                   | Skandia Liv                                     | Sören Berggren      | Sören Berggren                      | Jan Rynning         | Chairman of the Board |
| Biotage            | Anki Forsberg<br>Börje Ekholm        | HealthCap<br>Investor                           | Pål Nyrén           | Pål Nyrén                           | Mats Thorén         | Catella Funds         |
| Boliden            | Björn Lind                           | SEB Funds, SEB Trygg-Liv                        | Steven Heinz        | Lansdowne Partners                  | Jonas Pålsson       | Eton Park             |
|                    | Nils Petter Hollekim                 | Odin Funds                                      | Torgny Wännström    | AFA                                 | Peter Rudman        | Nordea Funds          |
|                    | Caroline af Ugglas                   | Skandia Liv                                     | Lars-Erik Forsgårdh | Aktiespararna                       | Anders Ullberg      | Chairman of the Board |
| Bong Ljungdahl     | Mikael Ekdahl                        | Melker Schörling, Chairman<br>of the Board      | Alf Tönnesson       | Alf Tönnesson                       | Bernt Gunnarsson    | Bernt Gunnarsson      |
| Borås Wäfveri      | No committee                         |   |                     |                                     |                     |                       |
| Boss Media         | Björn Nordstrand                     | Chairman of the Board                           | Mats Lindström      | Medströms                           | Åsa Nisell          | Robur Funds           |
|                    | Tobias Hagströmer                    | SEB Funds                                       |                     |                                     |                     |                       |
| Brio               | Bengt Ivarsson                       | Ivarsson family                                 | Daniel Sachs        | Proventus, Chairman of the<br>Board | Ragnhild Wiborg     | Pecunia               |
| Broström           | No committee                         |   |                     |                                     |                     |                       |
| BTS Group          | No committee                         |   |                     |                                     |                     |                       |
| Bure Equity        | Patrik Tigerschiöld<br>Cecilia Lager | Chairman of the Board<br>SEB Funds              | Henrik Blomquist    | Skanditek                           | Torsten Johansson   | SHB Funds             |
| Cardo              | Ulf Lundahl                          | Lundbergföretagen                               | Britt Reigo         | Robur Funds                         | Cecilia Lager       | SEB Funds             |
|                    | Fredrik Lundberg                     | Lundbergföretagen, Chair-<br>man of the Board   | ar ar gr            |                                     |                     |                       |
| Cash Guard         | Leif Flemming Bakke                  | PSI Group                                       | Ulf Davidson        | Ulf Davidson                        | Christer Zetterberg | IDI & Accent          |
|                    | Lars Johansson                       | Chairman of the Board                           |                     |                                     | Ü                   |                       |
| Castellum          | Pernilla Klein                       | AP3   | Lars Öhrstedt       | AFA Försäkringar                    | Lásló Szombatfalvy  | Lásló Szombatfalvy    |
|                    | Jan Kvarnström                       | Chairman of the Board                           |                     |                                     |                     |                       |
| Cision             | Caroline af Ugglas                   | Skandia Liv                                     | Cecilia Lager       | SEB Funds                           | Örjan Håkansson     | Chairman of the Board |

| Company            | Person              | Represents                             | Person                | Represents            | Person              | Represents                               |
|--------------------|---------------------|--|-----------------------|-----------------------|---------------------|--|
| Clas Ohlson        | Anders Moberg       | Anders Moberg                          | Per Karlsson          | Independent           | Mats Pettersson     | Independent                              |
| Cloetta Fazer      | Olof Svenfelt       | Olof Svenfelt                          | Anders Drejer         | Chairman of the Board |                     |  |
| Concordia          | Karl-Magnus Sjölin  | Stena                                  | Nils Petter Hollekim  | Odin Funds            | Mikael von Mentzer  | Member of the Board                      |
| Consilium          | No committee        |  |                       |                       |                     |  |
| CTT Systems        | No committee        |  |                       |                       |                     |  |
| Cybercom Group     | Per Edlund          | Large investors                        | Gert Schyborger       | Chairman of the Board | John Örtengren      | Aktiespararna                            |
| D. Carnegie & Co   | Kjartan Gunnarsson  | Landsbanki                             | Henrik Didner         | Didner & Gerge Funds  | Mats Lagerqvist     | Robur Funds                              |
|                    | Mikael Nordberg     | Firstnordic Funds                      | Lars Bertmar          | Chairman of the Board |                     |  |
| Diamyd Medical     | Anders Essen-Möller | Anders Essen-Möller, CEO               | Bertil Lindqvist      | Bertil Lindqvist      |                     |  |
| Digital Vision     | No committee        |  |                       |                       |                     |  |
| Din Bostad Sverige | Peter Horal         | Peter Horal                            | Bo Svennerholm        | Bo Svennerholm        | Rolf L. Nordström   | Rolf L. Nordström, Chairman of the Board |
| Doro               | No committee        |  |                       |                       |                     |  |
| Duroc              | No committee        |  |                       |                       |                     |  |
| Elanders           | Carl Bennet         | Carl Bennet, Chairman of<br>the Board  | Gustaf Douglas        | Latour                | Caroline af Ugglas  | Skandia                                  |
|                    | Björn Lind          | SEB Funds                              | Nils Petter Hollekim  | Odin Funds            | Göran Erlandssson   | Small Shareholders                       |
| Electrolux         | Jacob Wallenberg    | Investor                               | Carl Rosén            | AP2                   | Ramsay J. Brufer    | Alecta                                   |
|                    | Kjell Norling       | SHB Funds/SPP Funds                    | Michael Treschcow     | Chairman of the Board |                     |  |
| Elekta             | Laurent Leksell     | Laurent Leksell                        | Marianne Nilsson      | Robur Funds           | Charles Evans Lombe | Egerton Capital Ltc                      |
|                    | Torsten Johansson   | SHB Funds/SPP Funds                    | Caroline af Ugglas    | Skandia Liv           | Björn Lind          | SEB Funds                                |
|                    | Akkbar Seddigh      | Chairman of the Board                  |                       |                       |                     |  |
| ElektronikGruppen  | Thomas Wernhoff     | Thomas Wernhoff, Chairman of the Board | Kenneth Lindqvist     | Kenneth Lindqvist     | Ulf Järvefelt       | Not stated                               |
|                    | Tommy Jägermo       | Not stated                             |                       |                       |                     |  |
| Enea               | Per Lindberg        | Per Lindberg                           | Thomas Ehlin          | Nordea Funds          | Magnus Bakke        | Robur Funds                              |
|                    | Joachim Waldén      | Joachim Waldén                         | Staffan Ahlberg       | Chairman of the Board |                     |  |
| Eniro              | Wouter Rosingh      | Hermes Focus                           | Torsten Johansson     | SHB Funds/SPP Funds   | Magnus Wärn         | AMF Pension                              |
|                    | Ossian Ekdahl       | AP1                                    | Lars Berg             | Chairman of the Board |                     |  |
| Ericsson           | Björn Svedberg      | Investor                               | Bengt Belfrage        | Nordea Funds          | Christer Elmehagen  | AMF Pension                              |
|                    | Curt Källströmer    | SHB Pension Foundation                 | Michael Treschcow     | Chairman of the Board |                     |  |
| Expanda            | Anders Hultman      | Not stated                             | Gunnar Lindberg       | Not stated            | Johan Sjöberg       | Johan Sjöberg                            |
|                    | Erik Sjöström       | Not stated                             |                       |                       |                     |  |
| Fabege             | Anders Silverbåge   | Brinova                                | Erik Törnberg         | Öresund               | Magnus Wärn         | AMF Pension                              |
|                    | Jan Andersson       | Robur Funds                            |                       |                       |                     |  |
| Fagerhult          | Gustaf Douglas      | Latour                                 | Göran Espelund        | Lannebo Funds         | Björn Karlsson      | Svensson family                          |
|                    | Anders Frick        | Chairman of the Board                  |                       |                       |                     |  |
| Fast Partner       | Thomas Ericsson     | Bo Wahlström                           | Roland Martin-Löf     | Roland Martin-Löf     | Sven-Olof Johansson | Sven Olof Johansson, CEO                 |
| Feelgood Svenska   | Uwe Löffler         | Uwe Löffler, Chairman of the<br>Board  | Christoffer Lundström | Provobis Holding      | Ulf Strömsten       | Catella Funds                            |
|                    | Torsten Söderberg   | Torsten Söderberg                      |                       |                       |                     |  |
| Fenix Outdoor      | No committee        |  |                       |                       |                     |  |

| Company           | Person                                   | Represents   | Person                           | Represents   | Person                 | Represents                                       |
|-------------------|--|--|----------------------------------|--|------------------------|--|
| Fingerprint Cards | No committee                             |  |                                  |  |                        |  |
| G & L Beijer      | Peter Rönström                           | Lannebo Funds  | Erik Sjöström                    | Skandia Liv  | Peter Jessen Jürgensen | Peter Jessen Jürgensen,<br>Chairman of the Board |
| Getinge           | Carl Bennet                              | Carl Bennet  | Marianne Nilsson                 | Robur Funds  | Björn Franzon          | AP4  |
|                   | Joachim Spetz                            | SHB Funds  | Peter Rudman                     | Nordea Funds   | Olle Törnblom          | Small shareholders                               |
| Geveko            | Sigurd Walldal                           | Former CEO   | Jarl Ergel                       | Honorary Chairman of the<br>Board                    | Sören Sjölander        | Professor at Chalmers                            |
| Gunnebo           | Roger Holtback<br>Nils Petter Hollekim   | Chairman of the Board<br>Odin Funds                                | Nils-Olov Jönsson                | Nils-Olov Jönsson                                    | Dan Sten Olsson        | Stena Adactum                                    |
| Haldex            | Bengt Stillström<br>Nils Petter Hollekim | Traction<br>Odin Funds   | Carl Rosén                       | AP2  | Pernilla Klein         | AP3  |
| Havsfrun          | No committee                             |  |                                  |  |                        |  |
| Heba              | Lars F. Ericsson                         | Ericsson family  | Birgitta Härnblad                | Birgitta Härnblad                                    | Caroline af Ugglas     | Skandia Liv                                      |
| Hennes & Mauritz  | Stefan Persson                           | Persson family, Chairman of<br>the Board                           | Lottie Tham                      | Lottie Tham  | Thomas Nicolin         | Alecta   |
|                   | Mats Lagerqvist                          | Robur Funds  | Magnus Wärn                      | AMF Pension  | Peter Rudman           | Nordea Funds                                     |
| Hexagon           | Melker Schörling<br>Anders Algotsson     | MSAB<br>AFA  | Maths O. Sundqvist               | Maths O. Sundqvist                                   | Henrik Didner          | Didner & Gerge Funds                             |
| HiQ International | Peter Rönström<br>Ken Gerhardsen         | Lannebo Funds<br>Ken Gerhardsen                                    | Jan Andersson<br>Anders Ljung    | Robur Funds<br>Chairman of the Board                 | Tomas Ehlin            | Nordea Funds                                     |
| HL Display        | Arne Karlsson<br>Åke Wester              | Ratos<br>Chairman of the Board                                     | Johan Lannebo                    | Lannebo Funds  | Anders Remius          | Remius family, CEO                               |
| Holmen            | Per Welin<br>Fredrik Lundberg            | Lundbergföretagen<br>Lundbergföretagen, Chair-<br>man of the Board | Alice J. Kempe                   | Kempeföretagen                                       | Robert Vikström        | SHB Pension Foundations                          |
| Home Properties   | Petter A. Stordalen                      | Home Invest, Chairman of the Board                                 | Bo Jansson                       | Skandia Liv  | Ragnar Sjoner          | Choice Hotels                                    |
|                   | Anders Evander                           | LF Fastighetsfonden  |                                  |  |                        |  |
| HQ                | No committee                             |  |                                  |  |                        |  |
| Hufvudstaden      | No committee                             |  |                                  |  |                        |  |
| Human Care        | Bruce Grant                              | Garden Growth Capital,<br>Chairman of the Board                    | Fredrik Strömbeck                | Fintrina International                               | Hans Bergengren        | Hans Bergengren                                  |
|                   | Tommy Gunnarsson                         | ÅGES Industrier Unnaryd  | Sandra Wennberg                  | Small shareholders                                   |                        |  |
| Höganäs           | Carl-Olof By<br>Ulf G. Lindén            | Industrivärden<br>Ulf G. Lindén, Chairman of<br>the Board          | Mikael Garton                    | SEB Funds  | Henrik Didner          | Didner & Gerge Funds                             |
| IBS               | No committee                             |  |                                  |  |                        |  |
| IFS               | Gustaf Douglas<br>Bengt Nilsson          | Wasatornet<br>Bengt Nilsson  | Magnus Bakke<br>Anders Böös      | Robur Funds<br>Anders Böös, Chairman of<br>the Board | Ulf Strömsten          | Catella Funds                                    |
| Industrivärden    | Christer Elmehagen<br>Anders Nyberg      | AMF Pension<br>SCA Pension Foundations                             | Curt Källströmer<br>Tom Hedelius | SHB Funds<br>Chairman of the Board                   | Ulf Lundahl            | Lundbergföretagen                                |

| Company              | Person                     | Represents                           | Person              | Represents                                       | Person            | Represents         |
|----------------------|----------------------------|--------------------------------------|---------------------|--|-------------------|--------------------|
| Intellecta           | Richard Ohlson             | Larger B-shares                      | Leif Lindberg       | A-shares, Chairman of the<br>Board               | Anders Danielsson | Smaller B-shares   |
|                      | Gunnar Lindberg            | Institutional owners                 |                     |  |                   |                    |
| Investor             | Marcus Wallenberg          | Wallenberg foundations               | Lars Isacsson       | SEB Trygg-Liv                                    | Peter Nordman     | Nordea Funds       |
|                      | Caroline af Ugglas         | Skandia Liv                          | Jacob Wallenberg    | Wallenberg foundations,<br>Chairman of the Board |                   |                    |
| Jeeves               | Board committee            |                                      |                     |  |                   |                    |
| JM                   | KG Lindvall                | Robur Funds                          | Anders Algotsson    | AFA Försäkringar                                 | Mats Tunér        | SEB Funds          |
|                      | Björn Franzon              | AP4                                  | Lars Lundquist      | Chairman of the Board                            |                   |                    |
| Kabe                 | Kurt Blomqvist             | Kurt Blomqvist                       | Johan Svedberg      | Länsförsäkringar                                 | Roland Isaksson   | Small shareholders |
| Karo Bio             | Thomas Ehlin               | Nordea Funds                         | Björn Franzon       | AP4  | Carl Rosén        | AP2                |
|                      | Ragnhild Wiborg            | Pecunia                              | Per-Olof Mårtensson | Chairman of the Board                            |                   |                    |
| Kinnevik             | Cristina Stenbeck          | Emesco                               | Wilhelm Klingspor   | Klingspor family                                 | Mats Lagerqvist   | Robur Funds        |
|                      | Björn Lind                 | SEB Funds, SEB Trygg Liv             | Thomas Nicolin      | Alecta   |                   |                    |
| KMT                  | Viveca Ax:son Johnson      | Nordstjernan                         | Nils Petter Holekim | Odin Funds                                       | Erik Sjöström     | Skandia Liv        |
| Know IT              | Anders Nordh               | CMA Europé                           | Mats Olsson         | Retrib, Chairman of the<br>Board                 | Gunnar Lindberg   | LF Småbolagsfonden |
| Kungsleden           | KG Lindvall<br>Bengt Kjell | Robur Funds<br>Chairman of the Board | Gunnars Balsvik     | Kåpan Pensions                                   | Olle Florén       | Olle Florén        |
| Lagercrantz Group    | Tom Hedelius               | Tom Hedelius                         | Marianne Nilsson    | Robur Funds                                      | Pär Stenberg      | Pär Stenberg       |
|                      | Tor Marthin                | Skandia Liv                          | Anders Börjesson    | Anders Börjesson, Chairman<br>of the Board       |                   |                    |
| Latour               | Gustaf Douglas             | Gustaf Douglas                       | Henrik Ankarcrona   | Riddarhuset Funds                                | Björn Karlsson    | Svensson family    |
| Ledstiernan          | Dag Bjurström              | Dag Bjurström                        | Olof Stenhammar     | Olof Stenhammar                                  | Ingemar Syréhn    | Robur Funds        |
|                      | Caroline af Ugglas         | Skandia Liv                          | Jan Carlzon         | Jan Carlzon, Chairman of the<br>Board            |                   |                    |
| Lindex               | KG Lindvall                | Robur Funds                          | Mads Eg Gensmann    | Parvus Asset Management                          | Ossian Hellers    | Cevian             |
|                      | Christer Gardell           | Cevian, Chairman of the<br>Board     | ,                   |  |                   |                    |
| LjungbergGruppen     | No committee               |                                      |                     |  |                   |                    |
| Lundbergföretagen    | No committee               |                                      |                     |  |                   |                    |
| Lundin Petroleum     | Magnus Unger               | Member of the Board                  | Björn Lind          | SEB Trygg-Liv                                    | Magnus Bakke      | Robur Funds        |
|                      | Ossian Ekdahl              | AP1                                  | Ian H. Lundin       | Lundin family                                    |                   |                    |
| Malmbergs Elektriska | No committee               |                                      |                     | ·  |                   |                    |
| Mandator             | Jan Rynning                | Chairman of the Board                | Bård Flatin         | DnB NOR  | Leo Gillholm      | Aktiespararna      |
|                      | Torbjörn Gunnarsson        | Torbjörn Gunnarsson                  | Caroline af Ugglas  | Skandia Liv                                      |                   |                    |
| Meda                 | Karl-Magnus Sjölin         | Stena Sessan                         | Petter Odhnoff      | AP2  | Olof Neiglick     | Nordea Funds       |
|                      | Bengt Julander             | Kaprik Invest                        | Peter Sjöstrand     | Peter Sjöstrand, Chairman of<br>the Board        | -                 |                    |
| Medivir              | Staffan Grefbäck           | Alecta                               | Carl Harald Jansson | Carnegie Funds                                   | Roger Johansson   | Skandia            |
|                      | Anders Vedin               | Chairman of the Board                | Bo Öberg            | Bo Öberg, A-Shares                               |                   |                    |
| Mekonomen            | No committee               |                                      |                     |  |                   |                    |

| Company              | Person                               | Represents                               | Person                | Represents                                     | Person             | Represents                               |
|----------------------|--------------------------------------|--|-----------------------|--|--------------------|--|
| Metro                | Cristina Stenbeck                    | Emesco                                   | Björn Lind            | SEB Funds                                      | Annika Andersson   | AP4                                      |
| Micronic Laser Sys   | Annika Andersson                     | AP4                                      | Britt Reigo           | Robur Funds                                    | Ulf Strömsten      | Catella Funds                            |
|                      | Henrik Söderberg                     | Skandia Liv                              | _                     |  |                    |  |
| Midelfart Sonesson   | Göran Danielsson                     | Stena                                    | Andreas Enger         | Midelfart Holding                              | Thomas Olausson    | M2C                                      |
| Midway Holding       | Jan Bengtsson                        | Jan Bengtsson                            | Sten K. Johnson       | Sten K. Johnson, CEO,<br>Chairman of the Board | Berit Grönvall     | Independent                              |
| Mobyson              | Board committee                      |  |                       |  |                    |  |
| Modul 1 Data         | Torsten Möller                       | Torsten Möller, Chairman of<br>the Board | Owe Johansson         | Owe Johansson                                  | Lars Ericson       | Göran Hagegård                           |
|                      | Magnus Abrahamsson                   | Small shareholders                       |                       |  |                    |  |
| MSC Konsult          | Lars Zacharoff                       | Lars Zacharoff                           | Anna Granlund         | Anna Granlund                                  | Matz Borsch        | Matz Borsch                              |
| MTG                  | Cristina Stenbeck<br>Mats Lagerqvist | Kinnevik<br>Robur Funds                  | Björn Lind            | SEB Funds, SEB Trygg-Liv                       | Annika Andersson   | AP4                                      |
| MultiQ International | Martin-Baaz Lindquist                | Baazius Holding                          | Ulf Svensson          | Intensive Holding                              | Peter Ahlgren      | Chairman of the Board                    |
| Munters              | Carl-Olof By                         | Industrivärden                           | Gustaf Douglas        | Latour   | Jan-Erik Erenius   | AMF Pension                              |
|                      | Cecilia Lager                        | SEB Funds                                | Jan Andersson         | Robur Funds                                    | Berthold Lindqvist | Chairman of the Board                    |
| NCC                  | Johan Björkman                       | Not stated                               | Viveca Ax:son Johnson | Nordstjernan                                   | Mats Lagerqvist    | Robur Funds                              |
|                      | Ulf Lundahl                          | Fredrik Lundberg                         | Tomas Billing         | Chairman of the Board, no voting right         |                    |  |
| Nefab                | Jochum Pihl                          | Nordgren family                          | Caroline af Ugglas    | Skandia Liv                                    | Johan Lannebo      | Lannebo Funds                            |
|                      | Björn Svedberg                       | Chairman of the Board                    |                       |  |                    |  |
| NeoNet               | Peter Lindell                        | Peter Lindell                            | Staffan Persson       | Staffan Persson, Chairman of<br>the Board      | Hans Karlsson      | Member of the Board                      |
| Net Insight          | No committee                         |  |                       |  |                    |  |
| NetOnNet             | No committee                         |  |                       |  |                    |  |
| New Wave Group       | Håkan Thylén                         | Chairman of the Board                    | Torsten Jansson       | Torsten Jansson, CEO                           | Britt Reigo        | Robur Funds                              |
| Nibe Industrier      | No committee                         |  |                       |  |                    |  |
| Nilörngruppen        | Claes von Post                       | Investor                                 | Petter Stillström     | Traction                                       | Peter Edwall       | Pecunia                                  |
| Nocom                | No committee                         |  |                       |  |                    |  |
| Nolato               | Henrik Jorlén                        | Henrik Jorlén                            | Gun Boström           | Boström family                                 | Erik Paulsson      | Paulsson family                          |
|                      | Erik Sjöström                        | Skandia Liv                              |                       |  |                    |  |
| Nordea Bank          | Eva Halvarsson                       | Swedish state                            | Mogens Hugo Jørgensen | Nordea Denmark Fund                            | Staffan Grefbäck   | Alecta                                   |
|                      | Christer Elmehagen                   | AMF Pension                              | Hans Dalborg          | Chairman of the Board                          |                    |  |
| Nordnet              | Fred Wennerholm                      | Fred Wennerholm                          | Olle Isberg           | Olle Isberg                                    | Claes Dinkelspiel  | Claes Dinkelspiel, Chairman of the Board |
| NovaCast Tech        | No committee                         |  |                       |  |                    |  |
| Novestra             | Roger Buehler                        | Laxey Partners                           | Lars Bader            | QVT Financial                                  | Thorpe W. McKenzie | Thorpe W. McKenzie                       |
| Novotek              | Göran Andersson                      | Göran Andersson                          | Ingvar Unnerstam      | Chairman of the Board                          |                    |  |
| OEM International    | Board committee                      |  |                       |  |                    |  |
| OMX                  | KG Lindvall                          | Robur Funds                              | Jacob Wallenberg      | Investor                                       | Ramsay Brufer      | Alecta                                   |
|                      |                                      | Swedish state                            | Olof Stenhammar       | Chairman of the Board                          | •                  |  |

| Company            | Person                                 | Represents                                     | Person                             | Represents                                      | Person             | Represents                           |
|--------------------|--|--|------------------------------------|---|--------------------|--------------------------------------|
| Opcon              | No committee                           |  |                                    |   |                    |                                      |
| Orc Software       | Björn Lind                             | SEB Funds                                      | Magnus Bakke                       | Robur Funds                                     | Magnus Eriksson    | Skandia Liv                          |
|                    | Fredrik Craaford                       | Hagströmer & Qviberg                           | Magnus Böcker                      | OMX, Chairman of the Board                      |                    |                                      |
| Ortivus            | Sture Hedlund                          | Small Shareholders                             | Johan Ågren                        | Banco Funds                                     | Caroline af Ugglas | Skandia Liv                          |
|                    | Ragnhild Wiborg                        | Pecunia  | Laurent Leksell                    | Laurent Leksell                                 | Akbar Seddigh      | Chairman of the Board                |
| PartnerTech        | Patrik Tigerschiöld                    | Skanditek                                      | Henrik Söderberg                   | Skandia Liv                                     | Peter Rönström     | Lannebo Funds                        |
| Peab               | Malte Åkerström<br>Ulf H. Jansson      | Malte Åkerström<br>Chairman of the Board       | Leif Franzon                       | Aktiespararna                                   | Mats Paulsson      | Paulsson family, CEO                 |
| Pergo              | Peter Odhnoff                          | AP2  | Peter Ekelund                      | Novestra  | David Marcus       | M2 Capital Management                |
|                    | Peter Rudman                           | Nordea Funds                                   | Roger Buehler                      | Laxey Partners                                  | Bertil Villard     | Chairman of the Board                |
| Phonera            | Vigo Carlund                           | Kinnevik                                       | Carl Schneider                     | Carl Schneider                                  | Göran Ahlström     | Chairman of the Board                |
| Poolia             | Thomas Ehlin                           | Nordea Funds                                   | Mats Andersson                     | Skandia Liv                                     | Björn Örås         | Björn Örås, Chairman of the<br>Board |
| Precise Biometrics | Svein Carlsson                         | Odin Funds                                     | Tom Henderson                      | Eden Capital                                    | Stefan Johnson     | AP4                                  |
|                    | Leif Eriksröd                          | Storebrand Funds                               | Lars Grönberg                      | Chairman of the Board                           |                    |                                      |
| Prevas             | Göran Lundin                           | Lundin family, Chairman of the Board           | Jan Karlsson                       | Länsförsäkringar Funds                          | Anders Hallqvist   | Anders Hallqvist                     |
|                    | Claes Dinkelspiel                      | Member of the Board                            |                                    |   |                    |                                      |
| Pricer             | Salvatore Grimaldi                     | Salvatore Grimaldi, Chair-<br>man of the Board | Tedde Jeansson Jr.                 | Not stated                                      | Michael S. Juuhl   | Member of the Board                  |
|                    | John Örtengren                         | Aktiespararna                                  |                                    |   |                    |                                      |
| Proact IT Group    | Henrik Söderberg                       | Skandia Liv                                    | Anders Hultmark                    | IGC   | Carl Rosén         | AP2                                  |
|                    | Peter Rudman                           | Nordea Funds                                   | Staffan Ahlberg                    | Chairman of the Board                           |                    |                                      |
| Proffice           | Christer Hägglund                      | Christiania Compagnie B.V.                     | Johan Lannebo                      | Lannebo Funds                                   | Björn Lind         | SEB Funds                            |
| Profilgruppen      | Jerry Fredriksson<br>Staffan Håkansson | Rådhuset<br>Chairman of the Board              | Mats Egeholm                       | Mats Egeholm                                    | Anne Skoglund      | IVT                                  |
| Protect Data       | Magnus Bakke                           | Robur Funds                                    | Carl Rosvall                       | Monterro Holding                                | Fredrik Nilert     | AFA                                  |
| Q-Med              | Robert Wikholm                         | Former Member of the Board                     | Bengt Ågerup                       | Bengt Ågerup                                    | Anders Milton      | Member of the Board                  |
| Transatlantic      | Ulf G. Lindén                          | Ulf G. Lindén                                  | Jan Thunberg                       | Director of subsidiary                          | Folke Patriksson   | Blacken Rederi                       |
| Ratos              | Pernilla Klein                         | AP3  | Jan-Erik Erenius                   | AMF Pension                                     | Jan Söderberg      | Söderberg family                     |
|                    | Per-Olof Söderberg                     | Söderberg family                               | Maria Söderberg                    | Torsten Söderberg founda-<br>tion               | Olof Stenhammar    | Chairman of the Board                |
| RaySearch Labs     | No committee                           |  |                                    |   |                    |                                      |
| ReadSoft           | Jan Andersson<br>Göran E. Larsson      | Jan Andersson, CEO<br>Chairman of the Board    | Lars Appelstål<br>Henrik Söderberg | Lars Appelstål<br>Skandia                       | Bengt Kjell        | Industrivärden                       |
| RNB                | No committee                           | Chairman of the Doafu                          | Hellik boderberg                   | DRanuia   |                    |                                      |
| Rottneros          | Olle Grundberg                         | Nemus Holding                                  | Torgny Prior                       | P&N Yield                                       | Bengt Nordin       | Chairman of the Board                |
| Rörvik Timber      | Board committee                        | Tomas Holaing                                  | 1015119 1 1101                     | Tan Tiou  | Dongt Horum        | Chairman of the Board                |
| Saab               | Adine Grate Axén<br>Christer Elmehagen | Investor AMF Pension                           | Peter Wallenberg Jr. Anders Scharp | Wallenberg foundations<br>Chairman of the Board | Mats Lagerqvist    | Robur Funds                          |

| Company        | Person                             | Represents   | Person                | Represents                             | Person               | Represents                            |
|----------------|------------------------------------|--|-----------------------|--|----------------------|---------------------------------------|
| SalusAnsvar    | Tom Dinkelspiel                    | Öhman  | Johan Bohman          | Sveriges Läkarförbund                  | Björn Rosén          | Praktikertjänst                       |
|                | Stefan Walhagen                    | Roppongi   |                       |  |                      |                                       |
| Sandvik        | Carl-Olof By                       | Industrivärden   | Curt Källströmer      | SHB Pension Foundations                | Marianne Nilsson     | Robur Funds                           |
|                | Sarah McPhee                       | AMF Pension  | Clas Åke Hedström     | Chairman of the Board                  |                      |                                       |
| Sardus         | Rikard Svensson                    | Arvid Svensson Invest  | Henrik Strömbom       | Tala Investments                       | Carl Rosén           | AP2                                   |
|                | John Örtengren                     | Aktiespararna  | Raoul Hasselgren      | Chairman of the Board, no voting right |                      |                                       |
| SAS            | Eva Halvarsson                     | Swedish state  | Jacob Heinsen         | Danish state                           | Reier Søberg         | Norwegian state                       |
|                | Palle Olsen                        | Pen-Sam Liv  | Mathias Pedersen      | W Capital Management                   | Rune Selmar          | Folketrygdfondet                      |
|                | Jarl Ulvin                         | Odin Funds   |                       |  |                      |                                       |
| SCA            | Carl-Olof By                       | Industrivärden   | Curt Källströmer      | SHB Funds                              | Björn Lind           | SEB Funds, SEB Trygg-Liv              |
|                | Björn Franzon                      | AP4  | Caroline af Ugglas    | Skandia Liv                            | Sverker Martin-Löf   | Chairman of the Board                 |
| Scania         | Adine Grate Axén                   | Investor   | Gudrun Letzel         | Volkswagen                             | Marcus Wallenberg    | Wallenberg foundations                |
|                | Ramsay Brufer                      | Alecta   | Bernd Pischetsrieder  | Volkswagen, Chairman of the<br>Board   | _                    |                                       |
| ScanMining     | Jan Pettersson                     | Swelandia International  | Reidar Östman         | Reidar Östman Invest                   | Birger Lövgren       | Länsförsäkringar                      |
| Scribona       | Carl Backman                       | Bure Equity  | Ragnar Thorisson      | Burdaras                               | Ulf Hedlund          | Svolder                               |
|                | Åke Smids                          | Östersjöstiftelsen   |                       |  |                      |                                       |
| SEB            | Adine Grate Axén                   | Investor   | Hans Mertzig          | Trygg-Stiftelsen                       | Torgny Wännström     | AFA                                   |
|                | Conny Karlsson                     | SEB Funds  | Marcus Wallenberg     | Investor, Chairman of the<br>Board     | •                    |                                       |
| Seco Tools     | Lars Pettersson                    | Sandvik  | Marianne Nilsson      | Robur Funds                            | Mats Guldbrand       | AMF Pension                           |
| 2000 10010     | Ramsay Brufer                      | Alecta   | Gunnar Björklund      | Chairman of the Board                  |                      |                                       |
| Sectra         | Viiveke Fåk                        | Viiveke Fåk  | Bengt Bengtsson       | Bengt Bengtsson                        | Thomas Ericson       | Thomas Ericson, Chairman of the Board |
| Securitas      | Gustaf Douglas<br>Melker Schörling | Large shareholders<br>Melker Schörling, Chairman<br>of the Board | Marianne Nilsson      | Robur Funds                            | Annika Andersson     | AP4                                   |
| Semcon         | Erik Sjöström                      | Skandia Liv  | KG Lindvall           | Robur Funds                            | Christian W. Jansson | Chairman of the Board                 |
| Sensys Traffic | Sten K. Johnson                    | Sten K. Johnson  | Lars-Gunnar Berntsson | Jan Bengtsson                          | Jan Ahnberg          | Aktiespararna                         |
| SHB            | Tom Hedelius                       | Industrivärden   | Stellan Borgh         | Oktogonen                              | Tomas Nicolin        | Alecta                                |
|                | Carl Rosén                         | AP2  | Arne Mårtensson       | Chairman of the Board                  |                      |                                       |
| Sigma          | Dan Olofsson                       | Dan Olofsson, Chairman of<br>the Board                           | Sten Kottmeier        | AMF Pension                            | Axel Brändström      | Skandia Liv                           |
|                | Konstantin Caliacmanis             | Konstantin Caliacmanis   |                       |  |                      |                                       |
| SinterCast     | Bertil Hagman                      | Independent  | Bo C. E. Ramfors      | Independent                            | Lennart Svantesson   | Independent                           |
| Skanditek      | Tomas Fischer                      | Fischer family   | Tomas Billing         | Nordstjernan                           | Bob Persson          | Persson family                        |
| Skanska        | Carl-Olof By                       | Industrivärden   | Robert Vikström       | SHB Funds                              | Magnus Wärn          | AMF Pension                           |
|                | Per Ludvigsson                     | Inter-IKEA Investments   | KG Lindvall           | Robur Funds                            | Sverker Martin-Löf   | Chairman of the Board                 |
| SKF            | Claes Dahlbäck                     | Wallenberg foundations   | Marianne Nilsson      | Robur Funds                            | Tomas Nicolin        | Alecta                                |
|                | Bengt-Åke Fagerman                 | Skandia Liv  | Anders Scharp         | Chairman of the Board                  |                      |                                       |

| Company             | Person                                 | Represents   | Person                                 | Represents   | Person              | Represents                                   |
|---------------------|--|--|--|--|---------------------|--|
| SkiStar             | Erik Paulsson                          | Paulsson family, Chairman of<br>the Board            | Mats Qviberg                           | Mats Qviberg   | Mats Paulsson       | Paulsson family                              |
| Softronic           | John Örtengren<br>Petter Stillström    | Aktiespararna<br>Traction                            | Rolf Jinglöv                           | Chairman of the Board  | Stig Martin         | Stig Martin                                  |
| SSAB                | Carl-Olof By<br>Marianne Nilsson       | Industrivärden<br>Robur Funds                        | Tor Marthin<br>Sverker Martin-Löf      | AMF Pension<br>Chairman of the Board                             | Per-Erik Mohlin     | SEB Funds                                    |
| Stora Enso          | Markku Tapio<br>Claes Dahlbäck         | Finnish state<br>Chairman of the Board               | Ilkka Niemi                            | Member of the Board  | Marcus Wallenberg   | Wallenberg foundations                       |
| Studsvik            | Björn C. Andersson                     | Jan Barchan  | Anna Karinen                           | Karinen family, Heureka<br>Invest                                | Per Wahlström       | Blue Wahle, Chairman of the<br>Board         |
| Sweco               | Gustaf Douglas                         | Gustaf Douglas                                       | Lars Kritz                             | J. Gust. Richert Memory<br>Foundation                            | Olle Nordström      | Gunnar Nordström, Chair-<br>man of the Board |
| Swedbank            | Allan Karlsson<br>Jan-Erik Erenius     | Sparbanksstiftelserna<br>AMF Pension                 | Ramsay Brufer<br>Carl Eric Stålberg    | Alecta<br>Chairman of the Board                                  | Ulf Christoffersson | Sparbankerna                                 |
| Svedbergs           | No committee                           |  |  |  |                     |  |
| Swedish Match       | Joachim Spetz<br>Bernt Magnusson       | SHB Funds<br>Chairman of the Board                   | Marianne Nilsson                       | Robur Funds  | Pernilla Klein      | AP3  |
| SwitchCore          | Jan Andersson                          | Per Andersson, Christer<br>Svensson                  | Lars-Göran Orreval                     | Skandia  | Bengt Green         | Small shareholders                           |
| Svolder             | Christoffer Lundström<br>Mats Ola Palm | Provobis Holding<br>Chairman of the Board            | Magnus Wärn                            | AMF Pension  | Anne Gentzel        | Ernströmgruppen                              |
| SäkI                | Gustaf Douglas                         | Gustaf Douglas, Chairman of<br>the Board             | Fredrik Palmstierna                    | Palmstierna family, CEO  | Adam Gerge          | Didner & Gerge Funds                         |
| Technology Nexus    | Peter Edwall<br>Thomas Jonsson         | Pecunia<br>Small shareholders                        | Henrik Jonsson<br>Peter Markbom        | Catella Funds<br>Chairman of the Board                           | Daniel Sandberg     | Daniel Sandberg                              |
| Tele2               | Cristina Stenbeck<br>Mats Guldbrand    | Kinnevik<br>AMF Pension                              | Björn Lind                             | SEB Funds, SEB Trygg-Liv   | Peter Rudman        | Nordea Funds                                 |
| Teleca              | Sten Kottmeier<br>Henrik Didner        | AMF Pension<br>Didner & Gerge Funds                  | Konstantin Caliacmanis<br>Dan Olofsson | Konstantin Caliacmanis<br>Dan Olofsson, Chairman of<br>the Board | Per Lindberg        | Per Lindberg                                 |
| Telelogic           | Annika Andersson<br>Mats Tunér         | AP4<br>SEB Funds                                     | Anders Ljungqvist                      | AMF Pension  | Peter Rönnström     | Lannebo Funds                                |
| TeliaSonera         | Jonas Iversen<br>Lennart Ribohn        | Swedish state<br>SEB Funds                           | Markku Tapio<br>Tom von Weymarn        | Finnish state<br>Chairman of the Board                           | KG Lindvall         | Robur Funds                                  |
| Teligent            | Henrik Söderberg<br>Olle Isberg        | Skandia<br>LMK Industri                              | Johan Strandberg<br>Ulf Lindstén       | SEB Funds<br>Pekka Peltola                                       | Per Wejke           | Olle Isberg                                  |
| Thalamus Networks   | Board committee                        |  |  |  |                     |  |
| Ticket Travel Group | Caroline af Ugglas<br>Ulf Fältén       | Skandia Liv<br>Ulf Fältén, Lena Böös, Bertil<br>Leek | Theodor Dalenson<br>Jon Risfelt        | Nove Capital Fund<br>Chairman of the Board                       | Henrik Strömbom     | Eskil Johannesson                            |
| TietoEnator         | Board committee                        |  |  |  |                     |  |
| Traction            | No committee                           |  |  |  |                     |  |

| Company            | Person               | Represents                             | Person             | Represents             | Person             | Represents            |
|--------------------|----------------------|--|--------------------|------------------------|--------------------|-----------------------|
| Transcom           | Cristina Stenbeck    | Emesco                                 | Björn Lind         | SEB Funds              | Annika Andersson   | AP4                   |
| Trelleborg         | Didrik Normark       | Henry & Gerda Dunkers<br>Foundation    | Ramsay Brufer      | Alecta                 | Lars Öhrstedt      | AFA/TFA               |
|                    | Torsten Johansson    | SHB Funds                              | Mats Lagerqvist    | Robur Funds            |                    |                       |
| Tricorona          | Jan Lundström        | Bliwa Liv                              | John Örtengren     | Aktiespararna          | Lars Ransgart      | Chairman of the Board |
| Wallenstam         | Lennart Svensson     | Not stated                             | Hans Wallenstam    | Hans Wallenstam, CEO   | Christer Willard   | Chairman of the Board |
| VBG                | Richard Persson      | Chairman of the Board                  | Åke Persson        | Not stated             | Staffan Ekelund    | Member of the Board   |
| Wedins             | Per-Olof Edin        | Östersjöstiftelsen                     | Peter Lindgren     | Lindborgen             | Petter Odhnoff     | AP2                   |
| Westergyllen       | Bo Nilsson           | Bo Nilsson                             | Lars Runmarker     | Lars Runmarker         | Sture Öster        | Sture Öster           |
|                    | Ingemar Johansson    | Small shareholders                     |                    |                        |                    |                       |
| Vitrolife          | Henrik Blomquist     | Skanditek                              | Carl Rosén         | AP2                    | Gunnar Lindberg    | Länsförsäkringar      |
|                    | Patrik Tigerschiöld  | Chairman of the Board                  |                    |                        |                    |                       |
| Volvo              | Lars Idermark        | AP2                                    | Thierry Moulonguet | Renault                | Marianne Nilsson   | Robur Funds           |
|                    | Curt Källströmer     | SHB Funds                              | Finn Johnson       | Chairman of the Board  |                    |                       |
| XANO Industri      | Board committee      |  |                    |                        |                    |                       |
| XponCard Group     | Ulf Hedlundh         | Svolder                                | Peter Edvall       | Pecunia                | Peter Hollekim     | Odin Funds            |
|                    | Carl Leijonhufvud    | Carl Leijonhufvud                      | Johan Rapp         | Chairman of the Board  |                    |                       |
| Zodiak Television  | Håkan Andersson      | Intercommerce Media                    | Conny Karlsson     | Chairman of the Board  |                    |                       |
| Ångpanneföreningen | Lena Treschow Torell | IVA                                    | Gunnar Svedberg    | ÅF Research Foundation | Björn Lind         | SEB Funds             |
| Öresund            | Sven Hagströmer      | Sven Hagströmer, Chairman of the Board | Mats Qviberg       | Mats Qviberg, CEO      | Maths O. Sundqvist | Maths O. Sundqvist    |