

Performance and CEO/COB turnover

- A study on Swedish listed companies

Abstract: This paper investigates the relationship between firm performance and Chief Executive Officer (CEO) turnover as well as the relationship between firm performance and Chairman of the Board (COB) turnover using both decomposed stock price performance and Return on Equity (ROE) as performance measures. By analysing 220 Swedish listed companies during the time period of 1997 to 2008, we examine whether boards are efficient in replacing CEOs at times of poor company performance as well as if shareholders are efficient in replacing the COB during equally bad times. Furthermore, we analyse how firm size and the magnitude of a firm's principal shareholder's ownership stake impact the performance-turnover relationship. Our results show that (1) firm specific stock price performance has a negative effect on CEO and COB turnover, and poor industry specific performance has a negative effect on COB turnover (2) smaller companies are more efficient at replacing a CEO following poor firm specific performance, however, we find no firm size effect when studying COB turnover (3) companies with a large principal shareholder are more efficient in replacing CEOs than companies with a smaller principal shareholder following poor firm performance, however, the opposite is true when studying COB turnover.

Keywords: CEO turnover, COB turnover, corporate governance, Sweden

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1. Introduction

The separation of ownership and control in capitalist economies is one of the main concerns for shareholders in today's society. As organizations mature to become more complex, shareholders and their representatives, the board of directors, grow progressively unable to manage all aspects of the corporation and so become obligated to delegate control to senior management with the Chief Executive Officer (CEO) at its top. This setup along with differing incentives of owners and managers could induce serious conflicts of interests, since managers may be motivated by personal benefits such as excessive perk taking and personal compensation rather than the maximization of shareholder value. Moreover, while the board's primary concern is often taken for granted to be maximization of shareholder value, this is not always the case, and shareholders may be left vulnerable to collusion between managers and board members as directors lack sufficient incentive or neutrality to monitor managers.

Corporate governance is a broad term covering a number of mechanisms set to reduce such conflicts of interest between the governing parties of corporations and thus assure investors of the best returns possible. More specifically, a number of rules, processes and institutions govern the relationship between shareholders, directors and managers with the intention of aligning their incentives. These governance mechanisms can be either external in nature and be exercised by markets through takeovers and competition, or internal exercised through mechanisms such as ownership structure, the supervisory role of concentrated shareholders, the enforcement of managerial incentive contracts and the control enacted by the board of directors. Two core corporate governance mechanisms legally backed in Sweden today are shareholders' power to replace the board of directors as well as to help set the guidelines for top management, and the board of director's role in monitoring, replacing as well as compensating top management (Gispert, 2008).

However, in light of the recent financial crisis and several corporate scandals such as the one associated with e.g. the Swedish investment bank HQ, corporate governance has been questioned regarding its real life practicality and efficiency. CEOs and senior managers have amongst others been criticized for excessive compensation and perk-taking, and many boards of directors have been accused of subsidizing these conditions as well as failing to take appropriate action in order to mitigate risks as red flags appear. More specifically, many boards seem to have failed to replace managers at appropriate times, and shareholders seem to have equally failed in exercising their power to replace the board of directors as well as in holding them personally accountable for financial losses at times of apparent neglect (Business & Finance, 2008).

The realization that corporate governance mechanisms at times have failed to deliver so severely awakened our interest in researching their efficiency in dealing with more general daily operations and less severe instances of malpractice. We became especially curious to determine whether corporate governance mechanisms function as well as theory suggests at times of poor company performance. Since performance must be viewed as the CEO's ultimate responsibility, failure to perform should induce the board to replace him. Similarly, poor performance should install dissatisfaction among a company's shareholders, perhaps inducing them to replace the board or parts of it at the annual shareholders' meeting.

Subsequently, we aim to use this thesis to examine both whether corporate boards are efficient in replacing the CEOs at times of poor performance as well as if shareholders are efficient in replacing the Chairman of the Board ("COB") during equally bad times, and thereby answer whether some of the most fundamental corporate governance mechanisms work efficiently in practice. More specifically, we use Swedish data from 1997-2008 covering 220 number of listed firms in order to investigate if there is an empirical relation between firm performance and CEO/COB turnover using both stock price returns decomposed into market-, industry and firm-specific components in addition to Return on Equity (ROE) as performance measures. Thereafter, we examine whether those relationships enhance or weaken with firm size and the presence of a large principal shareholder.

Our key findings include:

- Same year firm specific stock price performance has a negative correlation with the probability of CEO and COB turnover. That is, a firm that performs poorly in relation to the rest of the industry and the market overall, is more likely to replace its CEO and COB later the same year. This might signal that boards are prone to act quickly in order to avoid criticism at a later stage.
- Firm size appears to have an effect on the probability of CEO turnover following poor same year firm specific stock price performance, where the effect is larger when smaller companies are considered.
- A high ownership stake of the largest shareholder in a company induces a higher probability of CEO turnover following same year poor firm-specific stock price performance compared to firms with a relatively weaker ownership.
- Furthermore, poor firm-specific stock price performance as well as poor industry performance have negative effects on COB turnover when considering same year

performance. However, general market performance also has a negative relation with turnover when applying a one year time lag between performance and turnover.

- There is no noticeable difference between large and small companies when comparing stock price performance effects on COB turnover with a zero year lag, even though turnover is more negatively correlated with firm specific stock price performance when using a one year time lag.
- A high ownership stake of the largest shareholder in a company have no statistically significant effect on the probability of COB turnover following poor firm specific performance, but conversely a relatively weaker ownership stake of the principal share owner show a larger negative correlation between firm specific stock price performance and COB turnover.

To the best of our knowledge, no research covering the performance-turnover relationship has been previously conducted on Swedish listed companies. By using both an accounting measure such as Return on Equity (ROE) as well as stock price performance decomposed into market-, industry- and firm specific components, we also divert from a majority of previous research which tend to focus solely on one performance measure alone (usually firm-specific stock performance). We believe that the use of several measures makes our contribution particularly well founded, especially since it has been previously suggested that ambiguous results related to our topic may in fact be more related to confusion as to which performance measure that should be used rather than related to actual results (Puffer and Weintrop, 1991). Additionally, the fact that we investigate both CEO and COB turnover in the same thesis further contributes to the wide coverage of our thesis.

It should also be mentioned that despite the great public attention directed towards corporate boards during recent years, relatively little is known about the dynamics of their compositions. We particularly struggled with finding previous research regarding the effect of performance on COB turnover, and so we are especially pleased to contribute in expanding this area of research. Last but not least, we provide a highly up-to-date contribution on the thesis topic, which is important since results may have changed in line with society.

The rest of this paper is structured as follows. Section 2 reviews related literature, both in regards to corporate governance theory in order to better understand the background of this thesis, as well as previous research on the relationship between performance and CEO/COB turnover and the impact of firm size and ownership stake of the principal shareholder on those relations. Based on this literature, we subsequently develop our hypotheses in section 3. Section 4

describes the data sources, variables and methodology of our empirical testing methods. Section 5 presents our results followed by an analysis of their implications. Section 6 provides a reflection on the limitations of our research and methodology as well as suggestions for future research. In section 7, we conclude and provide some final thoughts on our topic. References are finally listed in section 8.

2. Review of related literature

2.1 Corporate governance and its weaknesses

Ever since society started organizing itself into corporations, the issue of ensuring that power is harnessed for the accurate and agreed upon purpose has been prevalent. The organizational setup of companies make them susceptible to agency problems, where the principal (the shareholder) fails to motivate their agents (managers and board directors) to adequately work in their favour. These problems can only arise when information asymmetries exist, that is- top executives have information that the shareholders do not have which gives them the opportunity to enrich themselves at the investors' expense (Heath.J & Norman. W, 2004).

Corporate governance is a collection of mechanisms intended to resolve these concerns and ensure that shareholders receive the highest returns possible. More specifically, it can be described as “the system by which business corporations are directed and controlled” and which helps specify the allocation of rights and tasks among a corporation's stakeholders, the most important being the corporate management board, the firm's managers as well as its shareholders (UTS Centre for Corporate Governance, 2011).

Economic theory has long emphasized the importance of corporate management boards as part of the governance structure in larger corporations working in favour of shareholders' rights and goals. Its responsibility includes monitoring a company's financial and operational management as well a performance, thereby trying to ensure a collective attempt towards fulfilling its strategic objectives (Student Loans Company, 2011). Further, the board's responsibilities of recruiting, compensating as well as replacing senior management when needed, are intended to align the incentives of managers and shareholders and thus resolve potential conflicts between the two parties. Thereby, theory suggests that the existence of corporate boards reduces transaction costs associated with the separation of ownership and control, which helps explain why Swedish listed companies today are obliged to be organized under a board of directors (D. Baysinger & N. Butler, 1985).

However, although the board of directors is often assumed to work in the best interest of the shareholders, reality leaves investors vulnerable to collusion between board directors and senior managers as board representatives may lack sufficient incentive or objectivity to properly monitor management (M. Puffer & B. Weintrop, 1991). Therefore, Swedish shareholders' voting rights during the annual meeting may be viewed as an additional and important corporate governance tool. More specifically, shareholders are directly in charge of recruiting as well as replacing corporate board members in case they have failed to meet expectations. The annual shareholders meeting is also a forum where shareholders can participate in setting guidelines regarding management compensation and recruiting (Heath.J & Norman. W, 2004).

Theory thus suggests that in a perfect world, corporate governance mechanisms such as the ones mentioned above will ensure that corporate boards and senior management make decisions that are beneficial to shareholders. If they fail to do so, causing their companies to subsequently perform relatively poorly, the corporate board should exercise the governance mechanism of replacing inadequate senior management members. Shareholders may likewise decide to replace all or part of the board (Heath.J & Norman. W, 2004).

However, there are several issues with today's corporate governance structure that have caused reality to differ from theory on several occasions. There are a number of factors that get in the way of shareholders exercising effective discipline on managerial and board performance. First of all, there is the already mentioned information asymmetry between the groups, making it costly for shareholders to acquire necessary information in order to assess the reasons behind poor company performance. There are also abundant opportunities for managers and board directors of trying to disguise their role in poor performance or their otherwise neglecting behaviour. Furthermore, the often diffuse ownership of publically traded companies gives rise to a free-rider problem since keeping an eye on managers and directors requires resources such as time and energy while company performance is a collective good. Thus, when ownership is diffuse, shareholders may find it too costly to bother scrutinizing their investments and rather have incentive of trying to free-ride on other shareholders' efforts. The result may be a generally insufficient shareholder participation and governance leaving room for greater agency conflicts (Heath.J & Norman. W, 2004).

In light of several large corporate scandals during the last decades, it is today commonly understood that there are weaknesses in the corporate governance structure and that serious agency problems may arise between management, the board and shareholders. Some of the worst examples include RJR Nabisco during the 1980s where management wasted billions of

company resources on a fleet of private jets with accessible pilots, a private hangar to service the fleet in addition to a grandiose building intended for the sole purpose of serving as a waiting lounge. In the famous example of Enron, the matter was rather an issue of direct transfer of company assets into the private bank accounts of senior executives (Heath.J & Norman. W, 2004). A very recent Swedish example is the HQ Bank scandal, where both the board and the CEO acted irresponsibly in managing risk and severely overestimated the value of its trading portfolio at the ultimate expense of the shareholders (Ring, 2011). Many are those who have questioned how shareholders could be so severely misled during these scandals when corporate governance mechanisms were set in place to prevent such frauds from happening.

It is in light of such apparent governance flaws that we awakened our ambition to explore whether corporate governance has failed to deliver only during particular occasions of conscious and severe company official entrenchment or if certain mechanisms also commonly fail to deliver during more typical but less desirable company events such as poor performance. Thus, we decided to explore whether various measures of poor company performance in fact lead to higher CEO and COB turnover, or if boards and shareholders fail to effectively exercise their obligations and power. Overall, results should give an indication as to whether the organization of public companies and modern corporate governance mechanisms work as well as they are intended to do in a majority of cases, or if different setups could potentially be desirable in order to adequately protect shareholders. Below, previous research related to the performance-CEO relation is described which will help us formulate our hypotheses in section 3.

2.2 Performance and CEO turnover

CEO turnover is a subject that has been carefully researched using a variety of performance measures, turnover measures, and econometric models. The regular consensus is that the performance-turnover relationship is negative however fairly weak.

More specifically, McEachern studied 96 randomly selected Fortune 500 companies of 1972 and discovered that CEO tenures were longer in superior performing firms. Conversely, firms face higher probabilities of replacing their CEOs after more than four subsequent years of declining profits (McEachern, 1977).

Coughlan and Schmidt used prior stock performance as a performance measure and showed that it was inversely related to turnover for those CEOs who had not yet reached 64 years of age. When the sample companies were ranked according to stock performance, the probability of

CEO turnover for the bottom performing 1% was seven times higher compared to that of CEOs of the top performing 1% companies (Coughlan and Schmidt, 1985).

After having studied 29 conglomerates during the time period 1970-1975, Benston discovered that senior managers were more likely to leave companies whose stock rates were falling (Benston, 1985). A similar conclusion was drawn by Warner, Watts and Wruck when analysing 351 manager changes in a sample of 269 companies between 1962 and 1980. By ranking firms according to stock performance, the authors illustrated that the lowest performing 10% had a 1.5 times higher probability of CEO turnover compared to the top 10% of the sample firms (Warner, Watts and Wruck, 1988).

Using a sample from the 1980s, Morck, Shleifer and Vishny showed that internal CEO turnover was related to industry-adjusted company performance while hostile takeover induced turnover was related to industry performance. The authors' analysis of their results was that corporate boards worked efficiently at responding to poor performance in relation to industry performance, but that they lack similar efficiency in responding to poor industry performance. Rather, the hostile takeover market is activated when weak industry performance induces a need for restructuring (Morck, Shleifer & Vishny, 1989).

Puffer and Weintrop argued that the inconsistency in results of previous research regarding the relationship between corporate performance and CEO turnover could be potentially linked to ambiguity as to which measure of corporate performance that boards of directors preferably use when evaluating CEO performance. After studying a sample of 408 CEOs the authors found that turnover tends to occur when annual earnings per share fell below expectations. In contrast, other security return measures and historical accounting ratios showed not to predict CEO turnover (Puffer and Weintrop, 1991).

A study by Kaplan from 1994 compared the relationship between performance and CEO/top management turnover in Japan with the U.S. He found that the relationships in the two countries were rather similar. Turnover showed to be negatively related to stock performance, sales and earnings in both countries, although Japanese companies were especially sensitive in regards to low earnings (Kaplan, 1994).

Kaplan and Minton amongst others looked at how CEO turnover varied with performance between 1992 and 2005 in large U.S. companies and found that internal turnover (board initiated turnover) was related to three different performance measures, namely firm performance relative to the industry, industry performance relative to the stock market and lastly the performance of

the overall stock market. Furthermore, the relationship strengthened after 1997 in regards to all three performance measures. Thus, the authors concluded that boards started becoming more efficient in responding to poor performance around the same time period that heavy criticism against board efficiency first started to be voiced (Kaplan & Minton, 2006).

Jenter and Lewellen's study on U.S. firms between 1992-2005 showed that CEOs are aggressively fired at times of poor company stock performance, and more so than prior studies suggest. They also found that this is even more the case for companies with "strong" corporate boards, defined as smaller boards with high member ownership and a majority of independent board members (Jenter & Lewellen, 2010).

To sum up, it can be said that most research seems to express a significant negative relation between company performance and CEO turnover, although most studies have focused solely on company-specific stock returns as a performance measure and the strength of the relation vary considerably according to study. Thus, previous research conveys the notion that governance issues such as agency conflicts do not generally corrupt board directors in replacing CEOs who fail to perform satisfactory. The results of previous studies should somewhat indicate the direction of our own results since we are not aware of any major structural governance differences between Sweden and the countries previously researched that would cause results to differ. Conversely, there are reasons to suspect that boards may have become better at monitoring and replacing the CEO during recent years considering the increased scrutiny that has become after several scandals have surfaced.

Below, we move on to present previous research regarding the performance-COB relationship, which will further help us formulate our hypotheses in section 3.

2.3 Performance & Chairman of the Board turnover

In the absence of a well-functioning takeover market, shareholders are reliant on the board's incentives as well as capacity to monitor senior management in a firm. However, shareholders are still vulnerable to a possible collusion between managers and the board of directors (Waelchli, 2008). Despite the great interest in corporate boards during recent years, few studies have attempted to answer the question of who watches the watcher. There is little literature exploring the empirical relationship between company performance and COB turnover and we have subsequently only been able to identify a few relevant studies on this topic.

A study by Waelchli explored the causes and consequences of board turnover from a sample of 239 listed Swiss companies during the years of 1995-2005. The authors found a negative and

significant relation between company performance and COB turnover. They also found that COB turnover as well as turnover for the rest of the board is significantly higher in cases when the CEO steps down. By categorizing the sampled COB turnover occasions as either “voluntary” or “involuntary”, the author subsequently revealed an even stronger link between poor performance and involuntary COB turnover (Waelchli, 2008).

An additional American study performed research with the main focus of answering how ownership structure affects the probability of top executive turnover. By analysing 1,394 firms during 1985-1988, the authors found a significant negative relation between stock price performance and director turnover which weakened with higher managerial ownership stakes (Denis, Denis and Sarin, 1997).

A study performed on Spanish companies between 1989 and 1995 indicated that bad performance, both when using accounting profits as well as stock returns as performance measures, caused higher board member turnover. The author subsequently argued that his study proved the existence of a corporate governance mechanism that allows shareholders to replace board members as they become aware of unsatisfactory performance (Gispert, 1998).

Although these studies are rather few, they do indicate that shareholders in fact exercise their power to replace board members as they learn about poor company performance and that the occurrence of agency conflicts and free-rider problems do not generally interfere with this mechanism. Moreover, there is no major reason why these results should be different from Sweden’s, and thus we expect our own results to follow in a similar direction.

Below, we provide theory as well as previous research on the impact of firm size and owner concentration on the performance-CEO/COB relations, which will further help guide our predictions in section 3.

2.4 Impact of firm size on turnover

Several decades ago, Grusky argued that larger firms often inhibit more bureaucracy which makes top management turnover less unsettling for them. Thus, he suggested that that firm size should be positively related to both CEO and COB turnover (Grusky, 1961).

Furthermore, top managers as well as board members tend to be highly visible and subsequently prone to receiving offers from competing firms. There is also reason to suspect that political struggles for leadership will be greater the bigger a firm is, since larger firms offer more resources as well as more power and perks for their leaders. The fact that larger firms are more visible also

make them more vulnerable to external interests and pressures, subsequently putting top managers of larger firms under even more pressure and scrutiny. All these factors add to the hypothesis that firm size should be positively related to turnover (Harrison, Torres and Kukalis, 1988).

These theories have been somewhat supported in empirical research, although only a few research studies have been able to illustrate a clear firm size effect. It can also be said that the effect of firm size on board turnover has been less researched compared to the effect of firm size on CEO turnover.

James and Soref discovered a positive relationship between firm size and CEO layoffs (James and Soref, 1981), as did Cain et al in 1977 and Grusky in 1961 (Cain, Deaton and Tollis, 1977; Grusky, 1961). A study executed by Roberts in 1959 conversely failed to prove a relationship between firm size and CEO tenure (Roberts, 1959). Neither did Pfeffer and Leblebici's study from 1973, although it should be mentioned that their research has been criticized for operationalizing its variables as industry averages, which may have weakened their results.

Another study which considered an indirect indicator of firm size, namely the number of corporate vice-presidents, showed that the number was not related to turnover in the senior management group (Wagner, Pfeffer and O'Reilly, 1984).

A relatively more recent study by Harrison et al showed a firm size effect both in regards to CEO and COB, which makes it one of the scarce papers that consider board turnover in addition to CEO tenure. They concluded that poor performance is more likely to lead to turnover in larger firms compared to smaller. For companies where the CEO and COB roles were occupied by the same person, the manager was more likely to remain on the board after poor performance than to remain the CEO (Harrison, Torres and Kukalis, 1988).

2.5 Ownership concentration & turnover

If one assumes that there exist agency problems within firms, it means that ownership concentration could influence the extent of those problems and thus subsequently affect company performance. Already in the 1930s, Berle and Means argued that corporate ownership tends to get dispersed up until a point where agency costs will arise due to owners' increasing inability and lack of incentive to monitor management (Berle and Means, 1932).

Jensen and Meckling are only a few amongst many who have acknowledged the effects of ownership concentration on corporate governance. They amongst others wrote about how the

misalignment of interests becomes more severe the smaller senior managers' equity stakes are. They also recognized that external investors with high equity stakes have strong incentives to actively engage in their companies' development and monitor senior management in order to try and maximize firm value, which they referred to as the "incentive effect" (Jensen and Meckling, 1976).

Similarly, a study of 60 private and listed Italian companies during the time period of 1988 and 1996 concluded that large and controlling shareholders help lower agency costs by acting as a substitute for the board of directors in monitoring and replacing underperforming CEOs (Brunello, Graziano and Parigi, 2002).

Yet another previously mentioned study by Denis et al reported that the ownership structure of firms significantly affect the probability of top executive turnover. Especially, the presence of so called outside "blockholder" or institutional owners owning a trivial share of a firm at a time increases the probability of top executive turnover as a result of poor performance. Thus, the study suggests that larger external shareholders help reduce the prevalence of entrenched managers (Denis, Denis and Sarin, 1997).

According to the above stated research, there is reason to expect that the presence of a large principal shareholder will lead to higher CEO and COB turnover in Swedish companies that perform poorly, since large shareholders will have incentives to exercise their power to replace these top executives. This result are in line with theory, since a less diffused ownership will reduce the prevalence of a free-rider problem among shareholders and subsequent agency conflicts as higher stake owners have stronger incentive to actively monitor their investments.

Below, we move on to incorporate previous research in conjunction with intuition in order to clearly develop and state our six hypotheses.

3. Hypotheses

As already stated, the aim of this thesis is to investigate whether poor performance leads to higher CEO and COB turnover and if these relations strengthen or weaken with firm size and the presence of a large principal shareholder. These objectives can be divided and formulated into six different hypotheses as illustrated below.

In regards to CEO tenure, it remains the board of director's main responsibility to monitor company performance. Thus, poor performance would intuitively indicate that the CEO has not done a proper job or that someone else could potentially do it better, thereby inducing the board

of directors to replace or undertake changes in the management composition. Replacing the CEO may also act as a way to reinstall investor confidence and prevent shareholder lawsuits after bad performance, even in cases where replacement is a result of scape goating. These intuitions in addition to previous research illustrating the negative relationship between company performance and CEO turnover in section 2.2, lead us to formulate our first hypothesis;

Hypothesis 1: *The relation between company performance and CEO turnover is negative when using stock price returns and Return on Equity as performance measures. That is, CEO turnover is a decreasing function of company performance.*

Secondly, the larger a firm is, the more competition and visibility there will be in regards to the CEO position. Due to greater compensation and perks associated with management positions in larger firms, more key employees will likely fight political struggles in order to obtain the position as company head, and the current CEO will be exposed to larger external pressures and scrutiny from stakeholders and media making the position more vulnerable to replacement. Furthermore, the CEOs of larger firms will be more prone to receiving offers from competing companies due to greater visibility and a smaller supply of people capable of managing such large organizations. Although previous research as depicted in section 2.3 is not entirely unified as to whether there exists a clear cut size effect, the intuitions above still make us formulate our second hypothesis;

Hypothesis 2: *If a company is labelled as large, in our case defined as having an enterprise value exceeding one billion SEK, the relation between firm performance and CEO turnover will be stronger than for a company labelled as small by inhibiting an enterprise value less than one billion SEK. That is, firm size impacts the performance-CEO tenure relation.*

The higher a firm's owner concentration is, the higher owner participation and monitoring of managers will be due to a reduced probability of a free-rider problem amongst shareholders. Larger owners will most likely exercise their greater power to put pressure on the corporate board to act upon poor performance to replace the CEO. The board of directors will also have greater incentive of trying to reinstall the confidence of large shareholders after poor performance by replacing the CEO, since their own positions ultimately depend upon shareholder voting during the annual shareholder meeting. Furthermore, shareholders have the right to vote regarding the possibility of pursuing the board directors' personal accountability for company losses, which should further act as pressure on the board in case of the presence of a large principal shareholder. These intuitive thoughts along with the results of previous research in section 2.5, allow us to formulate the following hypothesis;

Hypothesis 3: *If a company is labelled as having a very high ownership concentration, in our case defined as having a principal shareholder with an ownership stake of 50% or more, the performance-CEO turnover relation will be stronger compared to companies that do not have a principal shareholder with such a high percentage ownership stake.*

In regards to the impact of performance on the Chairman of the Board turnover, it can be said that poor performance should induce shareholders to a higher probability of replacing the chairman due to lost confidence in his ability to monitor management in their favour. However, it seems intuitive that CEO turnover should be higher than COB turnover at times of bad returns, since performance and operations are ultimately regarded as attributable to the CEO. Furthermore, it remains the possibility that board members will not be held accountable for poor performance as long as they replace the CEO. These intuitions are supported by a number of previous research studies as described in section 2.3, which convey the notion that agency conflicts and a possible free-rider problem amongst shareholders do not generally interfere with the governance mechanism that induces shareholders to restructure the composition of their boards after poor performance although the relation may be weaker compared to CEO turnover. Thus, our fourth hypothesis states;

Hypothesis 4: *The relation between company performance and COB turnover is negative when using various constellations of stock performance and Return on Equity as performance measures. That is, COB turnover is a decreasing function of company performance.*

Moreover, our arguments for the intuitive impact of firm size on the performance-COB turnover relation go hand in hand with those of the performance-CEO relation. Larger firms are exposed to larger scrutiny from stakeholders including the media, making the chairman's position more vulnerable to replacement. Furthermore, there should be more compensation and perks associated with holding the COB position in a larger firm compared to a smaller, leading to more talented people to compete for the position. These intuitive thoughts along with one previous research study supporting them in section 2.4, induce us to formulate the following hypothesis;

Hypothesis 5: *If a company is labelled as large, in our case defined as having an enterprise value exceeding one billion SEK, the relation between firm performance and COB turnover will be stronger than for a company labelled as small by inhibiting an enterprise value less than one billion SEK. That is, firm size impacts the performance-COB tenure relation.*

Similarly, we expect the impact of ownership concentration, or specifically a large principal shareholder, on the performance-COB turnover relation to go in line with that of the performance-CEO tenure relation. The existence of larger shareholders intuitively makes them more prone to actively engage in the company's prospects and in monitoring the board as well as management, and so they should be more attentive to replacing the COB during times of poor performance. Thus, larger shareholders should reduce the probability of a free-rider problem amongst shareholders that otherwise allow for greater agency conflicts. These instinctive arguments are also supported empirically in previous research as distinguished in section 2.5, and contribute to the formulation of our sixth and final hypothesis;

Hypothesis 6: *If a company is labelled as having a very high ownership concentration, in our case defined as having a largest shareholder with an ownership stake of 50% or more, the performance-COB turnover relation will be stronger compared to companies that do not have a principal shareholder with such a high percentage ownership stake.*

4. Data sources, variables & methodology

4.1 Data sources

The primary data sources used in this study is Thomson Datastream (henceforth "Datastream"), a database containing stock prices, sector indices, accounting measures on most Swedish listed companies. Additionally, we have used the book series "Owners and Power in Sweden's listed Companies" (Sundin and Sundqvist 1998-2002; Fristedt and Sundqvist, 2003-2009) and "Styrelser och Revisorer i Sveriges börsföretag" (Fristedt, Larsson and Sundqvist, 2005-2010), which contain information on CEO and COB turnover of Swedish listed companies. Moreover, we have retrieved data for all companies listed on the Stockholm Stock Exchange and the Nordic Growth Market for which relevant historical data was also available in Datastream.

The firm sample covers the time period from fiscal-year 1997 to fiscal-year-end 2008. Contingent on the stated criteria our sample subsequently consists of 220 companies. Firm specific annual data was collected from Datastream, including total stock price returns (annual stock price returns plus dividends), returns on equity (net income/opening balance of owners' equity) and enterprise values. Additionally, the MSCI Sweden index was extracted in order to proxy Swedish market returns, as were Thomson Reuters' sector indices in order to proxy industry returns in our thesis. Additionally, the website of Avanza was utilized in order to gather information concerning ownership concentrations and stakes in all relevant companies (Avanza, 2011).

The tables below contain some descriptive statistics of our data:

Table 1: Number of different companies and average ownership stake

Total Companies	220
"Large" companies	121
"Small" companies	99
"Strong owner" companies	31
"Weak owner" companies	189
Average ownership stake	28,3%

Table 2: Number of turnovers and average stock price performance

Year	# Turnovers		Avg. sample stock price performance
	CEO	COB	
1999	21	16	-1,1%
2000	31	27	42,5%
2001	34	32	-4,2%
2002	39	41	-7,8%
2003	39	39	-25,7%
2004	45	44	43,3%
2005	29	31	31,3%
2006	31	37	61,7%
2007	40	28	30,2%
2008	35	27	-4,8%
Total	344	322	16,5%

Below follows a description of our variables and approach to conducting our thesis.

4.2 Methodology

Our dependent variables are CEO turnover and COB turnover respectively. The dependent variable is dichotomous, or a “dummy” variable, which means it can only take on one of two possible values. Thus, the dependent variable equals one if a CEO or a COB is replaced and zero if no turnover takes place during a particular year. The resulting coefficients from the regressions reflect the changes in probability of a turnover, moving the turnover dummy variable from 0 to 1, thereby representing the marginal sensitivities statistically equivalent to the ordinary least square coefficient estimates.

Our independent variables are various decompositions of stock performance in addition to the accounting measure Return on Equity (ROE), calculated by dividing net income by opening

balance of owners' equity. To measure stock performance, three proxies are used. Market performance (r_m) is represented by the annual changes in the MSCI Sweden index. Moreover, relative industry performance equals the discrepancy between the return of the average firm in an industry and the return of the MSCI Sweden index ($r_{ind}-r_m$). Relative firm-specific performance is defined as the industry-adjusted firm stock return, measured as the firm share price return (including dividends) minus the average return of the industry ($r_{firm}-r_{ind}$). Returns are measured on an annual basis at calendar year-end, and CEO/COB turnover will be measured against company performance with a zero-, and a one-year time lag. In order to clarify; the dependent variable *turnover* in year T will be regressed against the independent variable *performance* in year T and T⁻¹.

In regards to ownership concentration and firm size, a company is labelled as being a “strong owner” company if the largest shareholder has an ownership stake equal to or greater than 50%. In those cases, the firms are assigned dummy variables of one; otherwise they are assigned dummy variables of zero. Similarly, we define a company as “large” if it has an enterprise value exceeding one billion SEK. In those instances, the large firms are assigned dummy variables of one, otherwise they are labelled as small and assigned with dummy variables of zero. Thereby, we will obtain a division of results for “large” vs. “small” companies and “strong owner” vs. “weak owner” companies respectively which will serve as basis for analysis. This analysis will also consider a zero- and a one-year time lag.

5. Results & analysis

This section of the paper explores the results of the regressions conducted in this study, with the aim of testing the earlier stated hypotheses and provides a subsequent analysis. An extensive description of the results will initially be presented divided on CEO- and COB turnover respectively. Thereafter follows a more in depth analysis amongst others relating the results to previous research as well as theory, in order to allow the reader to gain a deeper understanding of the researched area and its implications.

5.1 Results

5.1.1 Performance and CEO turnover

Our first hypothesis, which established a negative relationship between performance and CEO turnover, is now tested. After running the first regression with a zero- and one-year time lag

between market, industry and company performance against CEO turnover we retrieve the following results:

Table 3. CEO turnover, 0 and 1 year lag

Variables	0 Year lag			1 Year lag		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	-0.01654	-0.43	0.666	-0.03615	-0.91	0.361
Industry return-Market return	-0.07725	-1.89	0.059	0.04341	0.94	0.348
Firm return - Industry return	-0.05865	-3.56	0.000	-0.01136	-0.50	0.620
Constant	0.19746	18.00	0.000	0.18564	15.37	0.000
Number of Obs.	1484			1267		
F(3, 1480)	4.6			0.97		
Prob > F	0.0330			0.4047		
R-Squared	0.0095			0.0026		

As can be distinguished with a zero year time lag, general stock market return does not have any predictive power on same year CEO turnover since its low t-value of -0.43 does not reach the -1.96 t-value or lower which would imply a statistically significant result. One can also see that the p-value of 0.666 clearly exceeds 0.05, which is another way of concluding the insignificance. Overall industry performance shows a rather high explanatory value with a t-value of -1.89 and a p-value of 0.059, although it is still not considered statistically significant at the 5% level. However, firm specific stock price performance shows a very high correlation in our sample with same year CEO turnover, with a coefficient of -0.059 and t-value of -3.56 making the result highly significant. Interestingly, it seems that CEOs are quickly punished and replaced in instances where the firm performs worse than the industry in general. However, they are not punished for a generally low market performance.

As can be distinguished with the one year time lag, none of the performance components in our sample show any significantly relevant predictive abilities with regards to one year lagged CEO turnover.

In our next regression, return on equity (ROE) is used as the performance measure and is regressed against CEO turnover with a zero and one year time lag:

Table 4. CEO turnover, 0 and 1 year lag (ROE)

Variables	0 Year lag			1 Year lag		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	-0.01130	-1.28	0.199	-0.14647	-1.55	0.120
Constant	0.17953	26.99	0.000	0.11051	17.74	0.000
Number of Obs.	3341			2551		
F(3, 1480)	1.65			2.41		
Prob > F	0.1990			0.1205		
R-Squared	0.0011			0.0035		

Judging by the results it appears as if ROE have some predictive power on same-year CEO turnover although the coefficient must be considered low at a value of -0.01130. The results are, however, considered statistically insignificant at the 5% level with a t-value of -1.28 and a p-value of 0.199, which leaves us unable to draw any clear cut conclusions in regards to the ROE-CEO turnover relationship.

With a one year's time lag, the coefficient and the t-value are lower than with a zero year time lag between ROE and CEO turnover. However, the results are still of rather low significance with a t-value of -1.55 and a p-value of 0.12. A p-value that substantially exceeds 0.05 along with such a small coefficient, force us to conclude that there is only a very weak indicative correlation between ROE at time T^{-1} and CEO turnover at time T in our sample which cannot serve as basis for analysis.

To conclude, we find some support for our first hypothesis expecting a negative relationship between firm performance and CEO turnover, when same year performance is considered. Firm specific stock price performance in year T indeed has a predictive power on CEO turnover in year T at a high statistical significance; although the other tested relationships lack significance.

Moving on, our second hypothesis depicting a stronger relationship between firm performance and CEO turnover for companies labelled as large is tested. In the following two regressions we use zero year time lags; that is, CEO turnover is measured against same-year performance for both "large" and "small" companies. Tables 3 below illustrate the results for large and small companies respectively.

Table 5. CEO turnover in “large” and “small” companies, 0 year lag

Variables	Large			Small		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	0.02230	0.40	0.686	-0.09900	-1.46	0.145
Industry return-Market return	-0.02755	-0.46	0.647	-0.11843	-1.60	0.111
Firm return - Industry return	-0.05972	-2.76	0.006	-0.10959	-3.76	0.000
Constant	0.18477	11.88	0.000	0.21675	11.63	0.000
Number of Obs.	762			509		
F(3, 1480)	2.61			5.73		
Prob > F	0.0503			0.0007		
R-Squared	0.0071			0.0281		

With a zero year time lag our results indicate that CEOs in “small” companies, with an enterprise value less than one billion SEK, face a larger risk of being made redundant after poor firm specific stock price performance, with a coefficient of almost -0.11 compared to -0.06 for CEOs in “large” companies. Both results are highly statistically significant with t-values of -2.76 and -3.76 respectively. However, neither market performance nor sector performance yielded statistically significant results.

Expanding the time lag to one year yielded the following regression results:

Table 6. CEO turnover in “large” and “small” companies, 1 year lag

Variables	Large			Small		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	0.05091	0.89	0.374	-0.10543	-1.57	0.118
Industry return-Market return	0.07962	1.13	0.260	0.02674	0.34	0.736
Firm return - Industry return	-0.01913	-0.74	0.459	-0.04306	-1.19	0.233
Constant	0.16875	9.73	0.000	0.20156	10.14	0.000
Number of Obs.	642			443		
F(3, 1480)	0.81			1.53		
Prob > F	0.4897			0.2063		
R-Squared	0.0041			0.0111		

With a one year time lag our regression results have very weak statistical significance although they indicate that CEOs in “small” companies have a higher risk to be made redundant if firm specific performance is weak than CEOs in “large” companies. The two other performance measures have positive coefficients for large companies, which depicts a positive rather than negative relationship between performance and CEO turnover. This result seems rather counterintuitive, and will be disregarded due to the inherent statistical insignificance.

Moving on, we evaluate the ROE-CEO turnover relationship for “large” and “small” companies respectively yielding the following results in table 5 below:

Table 7. CEO turnover in “large” and “small” companies, 0 year lag (ROE)

Variables	Large			Small		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	-0.00888	-0.88	0.379	-0.01095	-0.81	0.419
Constant	0.15824	14.21	0.000	0.20128	12.65	0.000
Number of Obs.	1072			669		
F(3, 1480)	0.77			0.65		
Prob > F	0.3789			0.4191		
R-Squared	0.0016			0.0014		

With a zero year performance time lag, results are highly insignificant for both types of companies. Thus, we move on by extending the results with a one year performance time lag in table 6 below:

Table 8. CEO turnover in “large” and “small” companies, 1 year lag

Variables	Large			Small		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	-0.00454	-0.63	0.530	-0.02215	-2.56	0.011
Constant	0.15165	12.79	0.000	0.19045	11.46	0.000
Number of Obs.	915			586		
F(3, 1480)	0.39			6.57		
Prob > F	0.5304			0.0106		
R-Squared	0.0005			0.0062		

Interestingly, one can observe that the inverse ROE-CEO turnover relationship is stronger for small companies compared to large when applying a one-year performance time lag. Furthermore, only the results for small companies are highly statistically significant whereas the results for “large” companies show very weak significance.

To conclude, the above stipulated results indicate that our second hypothesis which depicted a steeper negative relationship between performance and CEO turnover for large companies is not supported. Conversely, our results surprisingly suggest that smaller firms have a steeper inverse relationship between certain performance measures and turnover.

Moving on, our third hypothesis depicting a stronger inverse relationship between performance and CEO turnover for firms with a large principal shareholder is tested. In our first two regressions for testing hypothesis 3 we use a zero-year time lag between the performance measures and CEO turnover; one regression for companies with a “strong” owner that have more than 50% ownership, and one regression for companies where the “weak” largest owner have less than 50% ownership:

Table 9. CEO turnover in “strong” and “weak” owner companies, 0 year lag

Variables	Strong			Weak		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	0.08418	0.92	0.356	-0.04149	-0.96	0.335
Industry return-Market return	-0.10098	-1.33	0.185	-0.06760	-1.42	0.155
Firm return - Industry return	-0.12692	-2.14	0.033	-0.05216	-2.99	0.003
Constant	0.16539	6.01	0.000	0.20711	16.84	0.000
Number of Obs.	218			1214		
F(3, 1480)	2.26			3.42		
Prob > F	0.0826			0.0167		
R-Squared	0.0288			0.0084		

The results indicate that the relation between firm specific stock price performance and CEO turnover is stronger in firms with an owner with a large ownership stake ($\beta=-0.12692$) compared with a firm with an owner with a smaller ownership stake ($\beta=-0.516$) in the company, which follows our expectations. The other two performance measures yielded statistically insignificant results with p-values exceeding 0.05 or even 0.1, thereby making an analysis of those results superfluous.

In the following regressions we use a one-year time lag rather than a zero-year lag when evaluating the impact of ownership stakes on the performance-CEO relationship:

Table 10. CEO turnover in “strong” and “weak” owner companies, 1 year lag

Variables	Strong			Weak		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	0.07889	0.76	0.447	-0.04392	-1.01	0.312
Industry return-Market return	0.22180	1.95	0.053	0.01148	0.22	0.822
Firm return - Industry return	-0.01374	-0.17	0.862	-0.00856	-0.34	0.733
Constant	0.15357	5.01	0.000	0.19366	14.37	0.000
Number of Obs.	187			1035		
F(3, 1480)	1.73			0.46		
Prob > F	0.1627			0.7089		
R-Squared	0.0284			0.0015		

None of the regressions above yielded results at statistically significant levels. However, it should be noted that for “strong ownership” companies, it appears as if average industry return has a positive correlation with turnover, which goes against our hypothesis of poor performance being indicative of turnover. The rather strong coefficient of 0.2218 also lies at the border of being statistically significant at the 5% level with a t-value of 1.95 and a corresponding p-value of 0.053.

Moving on, we investigate the difference in the ROE-turnover relation for “strong owner” and “weak owner” companies respectively:

Table 11. CEO turnover in “strong” and “weak” owner companies, 0 year lag (ROE)

Variables	Strong			Weak		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	-0.00151	-0.07	0.947	-0.01150	-1.26	0.209
Constant	0.16209	7.36	0.000	0.17940	18.67	0.000
Number of Obs.	284			1614		
F(3, 1480)	0.34			1.58		
Prob > F	0.9470			0.209		
R-Squared	0.0002			0.0023		

One can conclude that the results for both kinds of companies are statistically insignificant when applying a zero-year performance time lag. Moving on we present the results of a one-year time lag below in table 12:

Table 12. CEO turnover in “strong” and “weak” owner companies, 1 year lag (ROE)

Variables	Strong			Weak		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	-0.09553	-0.84	0.402	-0.01031	-1.21	0.226
Constant	0.17457	6.27	0.000	0.17018	16.75	0.000
Number of Obs.	250			1392		
F(3, 1480)	0.7			1.46		
Prob > F	0.4023			0.2264		
R-Squared	0.0028			0.0022		

Again, we conclude that both tables present statistically insignificant results.

To conclude, our third hypothesis depicting a stronger negative relationship between firm performance and CEO turnover in companies with a strong principal owner is supported when a zero-year time lag between performance and turnover is used. Present poor firm specific performance indeed appears to cause higher CEO turnover in companies with

a large principal shareholder. However, the other performance measures- market return and industry return, fail to affect CEO turnover in either case.

5.1.2 Performance and COB turnover

Our fourth hypothesis, depicting a negative relationship between firm performance and COB turnover, is now tested. A similar set of regressions as in section 7.1.1 are performed where CEO turnover is exchanged for COB turnover. We start off by performing a regression with a zero- and one-year time lag between market, industry and company performance against COB turnover and retrieve the following results:

Table 13. Chairman of the board turnover, 0 and 1 year lag

Variables	0 Year lag			1 Year lag		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	-0.02759	-0.71	0.478	-0.09989	-2.50	0.013
Industry return-Market return	-0.08692	-2.07	0.039	-0.01383	-0.30	0.763
Firm return - Industry return	-0.07798	-4.42	0.000	-0.00856	-0.37	0.708
Constant	0.19626	17.91	0.000	0.19524	15.71	0.000
Number of Obs.	1484			1267		
F(3, 1480)	6.98			2.14		
Prob > F	0.0001			0.0938		
R-Squared	0.0165			0.0055		

With a zero-year time lag results are similar to the regressions involving CEO turnover. The general stock market does not have a predictive power on same-year COB turnover. However, overall industry stock price performance shows a high explanatory value with a coefficient of -0.087, a t-value of -2.07 and a low p-value of 0.039. Firm specific stock price performance similarly shows a very high correlation with same year COB turnover in our sample, with a coefficient of -0.078, a t-value of -4.42 and an even lower p-value of 0.00. In accordance with our previous result for CEO turnover, it is clear that poor firm-specific stock performance during a specific year increases the probability that the COB will be replaced during that same year. Results also indicate that COBs are punished and replaced as a result of poor sector performance. However, shareholders do not appear to punish the chairman for a generally bad stock market performance.

Overall market return at time T^{-1} has a statistically significant correlation with COB turnover at time T with a coefficient of -0.10, a t-value of -2.50 and a low p-value of 0.013. No other stock price performance component has any explanatory value in our sample.

Moving on, we exchange stock price performance for ROE as the performance measure yielding the following results:

Table 14. Chairman of the board turnover, 0 and 1 year lag (ROE)

Variables	0 Year lag			1 Year lag		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	-0.01670	-1.62	0.105	-0.01335	-1.53	0.126
Constant	0.16799	25.90	0.000	0.10561	17.38	0.000
Number of Obs.	3341			2577		
F(3, 1480)	2.64			2.35		
Prob > F	0.1045			0.1256		
R-Squared	0.0026			0.0031		

Judging by the results above with a zero-year time lag it appears as if ROE have some predictive power on same-year COB turnover, clearly in line with our previous CEO turnover regressions. The results are, however, still at a low significance level so we are unable to draw any definite conclusions.

With a one-year time lag, ROE has some inverse explanatory power on COB turnover with a t-value of -1.53, but with an even lower statistical significance than when a zero year time lag. The coefficient is also smaller, leading us unable to draw any straightforward conclusions.

In conclusion, firm specific stock performance as well as sector performance seems to have a predictive power on COB turnover when a zero-year time lag is used. Furthermore, general market stock performance is negatively related to COB turnover with a one-year time lag. Therefore, **our fourth hypothesis depicting a negative relationship between firm performance and COB turnover is supported.** However, ROE fails to illustrate a statistically significant inverse relationship with COB turnover at any time-lag.

Moving on, our fifth hypothesis depicting a stronger negative relationship between performance and COB turnover for companies defined as large is now tested. In the following two regressions we use a zero-year time lag meaning that COB turnover is measured against same-year performance, for both “large” and “small” companies:

Table 15. Chairman of the board turnover in “large” and “small” companies, 0 year lag

Variables	Large			Small		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	-0.04911	-0.90	0.371	0.01913	0.29	0.775
Industry return-Market return	-0.07860	-1.35	0.177	-0.13673	-1.93	0.054
Firm return - Industry return	-0.09076	-3.20	0.001	-0.09560	-3.35	0.001
Constant	0.17038	11.14	0.000	0.22834	12.06	0.000
Number of Obs.	762			509		
F(3, 1480)	3.7			4.19		
Prob > F	0.0116			0.0061		
R-Squared	0.02			0.018		

It appears as if there is no significant difference in probability for a COB of being made redundant due to firm specific performance based on whether he is employed by a “large” or a “small” company. However, poor sector performance is more indicative of COB turnover in smaller companies compared to larger. General market return fails to show any explanatory value in either case.

Moving on, we continue to apply a one-year time lag in the two following regressions:

Table 16. Chairman of the board turnover in “large” and “small” companies, 1 year lag

Variables	Large			Small		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	-0.10816	-1.92	0.055	-0.04447	-0.64	0.523
Industry return-Market return	0.00654	0.10	0.922	-0.09237	-1.22	0.225
Firm return - Industry return	-0.05447	-2.15	0.032	0.02109	0.61	0.545
Constant	0.17476	9.85	0.000	0.22197	10.69	0.000
Number of Obs.	642			443		
F(3, 1480)	3.42			1.34		
Prob > F	0.0171			0.2618		
R-Squared	0.0156			0.0073		

Results indicate that COBs in “large” companies stand a risk to be made redundant if firm specific performance is weak while it would not affect COBs in “small” firms. Interestingly, poor market performance seems indicative of COB turnover in “large” companies, although at a fairly low statistical significance. Conversely for “small” companies, no such relationship is detected.

Moving on, we analyze the effect of using ROE as a performance measures in companies of different sizes, starting with a zero year time lag as depicted below in table 17:

Table 17. Chairman of the board turnover in “large” and “small” firms, 0 year lag (ROE)

Variables	Large			Small		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	-0.00490	-0.67	0.503	-0.03580	-3.88	0.000
Constant	0.13041	12.68	0.000	0.19929	12.62	0.000
Number of Obs.	1072			669		
F(3, 1480)	0.45			15.07		
Prob > F	0.5029			0.0001		
R-Squared	0.0006			0.0145		

Interestingly, only “small” firms show significant results in regards to present time ROE, whereas “large” firms do not. We continue to incorporate a time lag of one year in order to evaluate whether the counterintuitive results remain:

Table 18. Chairman of the board turnover in “large” and “small” firms, 1 year lag (ROE)

Variables	Large			Small		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	-0.00213	-0.38	0.702	-0.02059	-2.26	0.024
Constant	0.12973	11.73	0.000	0.19915	11.77	0.000
Number of Obs.	924			587		
F(3, 1480)	0.15			5.12		
Prob > F	0.7016			0.024		
R-Squared	0.0001			0.0052		

Interestingly, results still show significant only for “small” firms when evaluating one year lagged ROE as a performance measure. The relationship for small firms is however weaker when applying a one-year lag compared to a zero-year lag, which means that present ROE helps explain turnover more than lagged performance.

To conclude, our fifth hypothesis depicting a stronger negative relationship between performance and COB turnover for larger companies is somewhat support in our study.

Our sixth hypothesis depicting a stronger negative relationship between firm performance and COB turnover for companies with a large principal shareholder is now tested. In the following two regressions we use a zero-year time lag between the performance measures and COB turnover:

Table 19. COB turnover in “strong and “weak” owner companies, 0 year lag

Variables	Strong			Weak		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	0.10762	1.11	0.269	-0.03703	-0.87	0.387
Industry return-Market return	-0.00433	-0.04	0.968	-0.11503	-2.48	0.013
Firm return - Industry return	-0.04043	-0.57	0.571	-0.09176	-4.88	0.000
Constant	0.14780	5.57	0.000	0.20055	16.53	0.000
Number of Obs.	218			1214		
F(3, 1480)	0.57			8.86		
Prob > F	0.6351			0.0000		
R-Squared	0.0094			0.0249		

The results indicate that the relation between industry- and firm-specific stock price performance and COB turnover is stronger in firms with a principal owner with a weaker ownership stake compared with a firm with an owner with a strong ownership stake in the company. These results are not in accordance with our sixth hypothesis and appear to be contradictory to corporate governance theory.

We move on to use a one-year time lag in the following regressions:

Table 20. COB turnover in “strong” and “weak” owner companies, 1 year lag

Variables	Strong			Weak		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
Market return	-0.02287	-0.21	0.830	-0.09997	-2.28	0.023
Industry return-Market return	0.07592	0.67	0.506	-0.04687	-0.92	0.358
Firm return - Industry return	-0.03050	-0.44	0.662	-0.01146	-0.45	0.655
Constant	0.15593	4.98	0.000	0.19819	14.43	0.000
Number of Obs.	187			1035		
F(3, 1480)	0.51			1.9		
Prob > F	0.6787			0.1277		
R-Squared	0.0072			0.006		

Overall market return at time T^{-1} has a statistically significant correlation with COB turnover at time T in “weak owner” companies, with a coefficient of -0.10 and a t-value of -2.28. Again, this result suggests that more diverse ownership would lead to higher shareholder discipline and control of the board, which seems clearly counterintuitive. No other stock price performance component holds any explanatory value in our sample.

Moving on, we perform the regressions with a division of strong ownership and weak ownership firms with ROE as the performance measure. With a zero-year performance time lag, the results are as follows in table 21:

Table 21. COB turnover in “strong” and “weak” owner firms, 0 year lag (ROE)

Variables	Strong			Weak		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	0.01261	1.30	0.193	-0.01741	-1.60	0.109
Constant	0.13283	6.60	0.000	0.16405	17.64	0.000
Number of Obs.	284			1614		
F(3, 1480)	1.7			2.57		
Prob > F	0.1930			0.1088		
R-Squared	0.0006			0.0057		

As can be distinguished in the table above, none of the yielded results are statistically significant at the 5% level. Next, we incorporate a one-year performance time lag yielding the following results illustrated in table 22:

Table 22. COB turnover in “strong” and “weak” owner firms, 1 year lag (ROE)

Variables	Strong			Weak		
	Coefficient	t-stat	Pr(T > t)	Coefficient	t-stat	Pr(T > t)
ROE	0.01816	1.97	0.050	-0.00908	-1.13	0.258
Constant	0.13817	6.35	0.000	0.16162	16.29	0.000
Number of Obs.	251			1400		
F(3, 1480)	3.87			1.28		
Prob > F	0.0503			0.2583		
R-Squared	0.0013			0.0018		

When applying a one-year performance time lag, only “strong owner” companies yield a significant result with a positive coefficient of 0.018 and a p-value of 5%. This result appears counterintuitive and clearly contradicts theory as well as our hypothesis which expected an inverse relationship that would be stronger for “strong owner” firms.

To sum up, we conclude that results appear to be contradictory to our sixth hypothesis which depicted a stronger negative relationship between performance and COB turnover for companies with a large principal shareholder. Conversely, companies with a “weak owner” illustrate an inverse relation between performance and COB turnover when zero-year lagged industry- and firm-specific stock returns were used as performance measures. When ROE was applied, the relationship proved to be positive rather than inverse for “strong owner” companies while as “weak owner” companies did not show any significance in this regard.

5.2 Analysis

Starting off with the performance-CEO turnover relationship, we summarize our results in the table below in order to facilitate the comprehension of the analysis:

Table 23. Performance & CEO turnover, summarizing table

	All companies		"Large"		"Small"		"Strong" owner		"Weak" owner	
	obs.	β	obs.	β	obs.	β	obs.	β	obs.	β
$r_{mkt}(T)$	1484	-0.01654	762	0.02230	509	-0.099	218	0.08418	1214	-0.04149
$[r_{ind}-r_m](T)$	1484	-0.07725* ✓	762	-0.02755	509	-0.11843	218	-0.10098	1214	-0.0676
$[r_{firm}-r_{ind}](T)$	1484	-0.05865*** ✓	762	-0.05972*** ✓	509	-0.10959*** ✓	218	-0.12692*** ✓	1214	-0.05216*** ✓
$r_{mkt}(T-1)$	1267	-0.03955	642	0.05091	443	-0.10543	187	0.07889	1035	-0.04341
$[r_{ind}-r_m](T-1)$	1267	0.04341	642	0.07962	443	0.02674	187	0.22180* ✓	1035	0.01148
$[r_{firm}-r_{ind}](T-1)$	1267	-0.01136	642	-0.01913	443	-0.04306	187	-0.01374	1035	-0.00856
ROE _(T)	3341	-0.01130	1072	-0.00888	669	-0.01095	284	-0.00151	1614	-0.01150
ROE _(T-1)	2551	-0.01465	915	-0.00454	586	-0.02215** ✓	250	-0.09553	1392	-0.01031

*** $p \leq 0.01$ ✓
 ** $p \leq 0.05$ ✓
 * $p \leq 0.1$ ✓

When considering the summarized results over all companies in the table above, we note that only firm-specific stock performance at time T is inversely related to CEO turnover. These results are in accordance with Morck, Shleifer & Vishny, (1989). Although not completely statistically significant at the 5% level, sector performance also indicates that it could be negatively related to CEO turnover when studying all companies using a zero year lag. None of the other performance measures, such as ROE, proved statistically significant for any time lags when evaluating all the sample companies in total.

Interestingly, it appears that CEOs are punished for poor firm-specific performance and to some extent sector performance. These results partly support Kaplan & Minton's (2006) findings and illustrate the notion that the corporate governance tool of having the board discipline management may be well-functioning despite the criticism directed at corporate boards during recent years. Indeed, the threat of being replaced as a board member at the annual shareholder meeting and perhaps even held personally accountable for company losses in cases of proven neglect, appears to lead to instant board action during the same year as the poor performance before the annual shareholders meeting takes place in the subsequent year.

Rapid board action appears further intuitive since stock prices incorporate expectations about the future. As stock prices are thought to convey a long-term notion of the prospects of a firm,

poor performance relative competitors should make it a high priority among board representatives to try and break the poor performance outlook as soon as possible by replacing the CEO. Since not all previous studies have illustrated a similar fast action and apparent functioning of the corporate governance system as is seen in this case, it could be that there is a difference between countries or that boards in fact have become more efficient due to increased scrutiny and criticism over recent years. However, since we were unable to distinguish between voluntary and involuntary turnover, it is also possible that some CEOs decide to leave voluntarily when they realize that performance will not be satisfactory, rather than wait for the board to take action.

Assuming that turnover is involuntary, results could also be interpreted as the board being able to distinguish between internal and external factors of performance. Market performance as well as industry performance may be due to macroeconomic- or other external factors that lie outside of the CEO's control and which do not necessarily imply poor management. However, industry-adjusted firm-specific stock performance must be regarded as the CEO's ultimate responsibility which could not be blamed upon a firm's external environment to the same extent. Thus, the results on one hand imply that the board is competent in telling the difference, but also that CEOs are not replaced simply in order to reinstall investor confidence when the market or industry in general have performed badly.

As can be distinguished from the results, there was no significant negative relation between ROE and CEO turnover when analysing all companies in total. This could be due to the fact that it is harder for the board to try and determine what parts of ROE that the CEO has been responsible for contributing to. Moreover, a decreasing ROE should appear sometime after poor management is executed, while stock prices incorporate expectations about the future. Thus, stock price performance precedes ROE performance, perhaps making it a better suited measure of management performance.

In regards to the differences between firms categorized as "large" versus "small" according to our definition, it appears surprising that the negative relationship between present firm-specific stock performance and CEO turnover is steeper for small firms compared to large. Similarly, one year lagged ROE has a significant impact on CEO turnover for "small" companies but not for "large". All other performance measures and time-lags proved statistically insignificant.

These results regarding a size effect not only go against our hypothesis, but also contradict theory as well as some previous research e.g. James and Soreff, (1981), Grusky (1961) and Cain,

Deaton and Tollison (1977). As was described earlier, theory suggests that larger firms are more bureaucratic which makes turnover less destabilizing for them adding to its frequency. Furthermore, the fact that larger companies are exposed to more external scrutiny as well as competition for the CEO position, should naturally add to the occurrence of CEO turnover.

One possible explanation for our surprising and contradicting results could be that smaller firms are likely more vulnerable to poor performance, making it more urgent for the board to replace bad performing CEOs in order to survive. However, previous research has failed to come to this conclusion. Thus, it could also be due to the somewhat vague definition of “large” and “small” applied, since an enterprise value of one billion SEK where we drew the line, could easily be regarded as fairly substantial. Results could potentially have been more in line with theory if the limit for what should be considered a “small” company would have been reduced. We would therefore like to see future research further elaborate on the impact of firm size on the performance-turnover relationship.

The results concerning ownership concentration for “weak owner” and “strong owner” firms, show that the negative relationship between zero year lagged firm-specific performance and CEO turnover is more frequent for companies with a principal shareholder of >50% ownership. This is in line with previous research e.g. Denis, Denis and Sarin (1997), as well as corporate governance theory.

Moving on to analyse the relation between performance and COB turnover, we start off by providing a summarizing table of our results below:

Table 24. Performance & COB turnover, summarizing table

	All companies		"Large"		"Small"		"Strong" owner		"Weak" owner	
	obs.	β	obs.	β	obs.	β	obs.	β	obs.	β
$r_{mkt}(t)$	1484	-0.02759	762	-0.04911	509	0.01913	218	0.10762	1214	-0.03703
$[r_{ind}-r_m](t)$	1484	-0.08692** ✓	762	-0.07860	509	-0.13673** ✓	218	-0.00433	1214	-0.11503*** ✓
$[r_{firm}-r_{ind}](t)$	1484	-0.07798*** ✓	762	-0.09076*** ✓	509	-0.0956*** ✓	218	-0.04043	1214	-0.09176*** ✓
$r_{mkt}(t-1)$	1267	-0.09989** ✓	642	-0.10816** ✓	443	-0.04447	187	-0.02287	1035	-0.09997** ✓
$[r_{ind}-r_m](t-1)$	1267	-0.01383	642	0.00654	443	-0.09237	187	0.07592	1035	-0.04687
$[r_{firm}-r_{ind}](t-1)$	1267	-0.00856	642	-0.05447** ✓	443	0.02109	187	-0.0305	1035	-0.01146
$ROE(t)$	2241	-0.00167	1072	-0.0049	669	0.3580*** ✓	284	0.01261	1614	-0.01741
$ROE(t-1)$	2577	-0.01335	924	-0.00213	587	-0.02059** ✓	251	0.01816** ✓	1400	-0.00908

*** $p \leq 0.01$ ✓
 ** $p \leq 0.05$ ✓
 * $p \leq 0.1$ ✓

When analysing the results above, it is clear that they differ somewhat from the performance-CEO relationship. First of all, stock price performance has a negative relation to the probability of COB turnover in accordance with previous research e.g. Waelchli (2007). However, more performance measures have an impact on COB turnover besides zero-year lagged firm-specific performance when looking at all companies in total. Interestingly, zero-year lagged industry performance, zero-year lagged firm specific stock performance as well as one-year lagged market performance, display highly significant negative relations with COB turnover.

We find it very interesting that the relations are significant between firm-specific/ industry performance and turnover when using a zero-year time lag. To the extent of our knowledge, boards are usually re-elected or replaced based on the previous year's performance since the annual shareholder meeting generally takes place during the spring of the consecutive year. That is; a board member is usually re-elected or replaced during the annual general meeting in year T , most likely based on their performance in year T^{-1} . If this was true, we would expect the correlation between performance and turnover to be stronger in the regression using the one year time lag between performance and turnover than in the zero year time lag regression. This is only the case in our sample for general market performance, which is intriguing and raises the question of how the replacement process is constructed.

One hypothesis close at hand would be that the board member, or in this case the chairman of the board, chooses to resign voluntarily when the firm-specific and industry performance is poor, perhaps fearing that he/she would otherwise be replaced during the following shareholder meeting.

Another theory would be that it is in fact the previous year's market stock performance, which was also significant in our study that causes shareholders to replace the chairman during the later annual meeting. While board members evaluating the CEO appeared capable of distinguishing between internal and external influences on poor performance based on our results, it could be the case that shareholders are less educated and involved causing them to judge the board based on market performance rather than firm-specific performance. It also appears likely that general shareholders act more upon psychological factors and thereby general market sentiment compared to an experienced board of directors. Another reason for board turnover is that new shareholders enter the company and that old ones leave. It would, however, definitely be interesting for future research to dig deeper into the cause of resignations in order to draw more precise conclusions regarding these results.

Further, it appears as if industry specific performance is negatively correlated with COB turnover which might imply that COB:s voluntarily chose to resign by themselves or due to pressure from shareholders to a larger extent following a general decline in the industry.

Another very different line of reasoning would be to argue that good corporate governance does not have to go hand in hand with a negative performance-COB turnover relationship in the first place. Rather, it could be argued that if board members enact their roles of corporate governors and replace bad-performing CEOs, they have in fact executed their obligations correctly and should not be replaced. Thus, the somewhat confusing results could be due to chance rather than being a proof of a corporate governance mechanism that allows shareholders to replace the COB as poor performance occurs. This argument however does not explain why some previous studies in fact have shown a negative performance-COB turnover relation.

When looking at the difference between “large” and “small” firms, one can distinguish that one-year lagged market stock performance and one-year lagged firm-specific stock performance are indicative of COB turnover for large firms. For small firms on the other hand, present sector performance, present ROE and one-year lagged ROE are indicative of turnover. For both small and large firms, same year firm-specific performance is equally predictive of COB turnover contrary to e.g. Harrison, Torres and Kukalis (1988).

The results seem to suggest that “large” and “small” firms evaluate the board based on different performance measures and at different time lags, making it difficult to draw any clear-cut conclusions on the impact of size on the performance-turnover relationship. “Large” firms have more significant performance measures with a one-year lag compared to “small” firms, where a majority of the significant measures have a zero-year lag. The results for large firms regarding the one-year lag seem more intuitive since the chairman is elected during the annual meeting based on the previous year’s results. This would naturally lead to a delay in shareholders replacing the COB if his performance proved unsatisfactory. However, it should be noted that one-year lagged ROE does show significance among small firms while it does not among large.

It appears rather difficult to explain the somewhat higher prevalence of significant zero-year lagged performance measures among “small” firms since it is hard to understand how shareholders could replace the COB based on same year firm-, ROE- and industry performance when the annual meeting is held later. It is also hard to understand why zero-year lagged industry performance has a higher explanatory value on COB turnover compared to zero-year lagged firm-specific stock performance, since industry performance is probably due to external factors

out of the board's and CEO's control while firm-specific performance must be regarded as attributable to management. Again, this could potentially be attributed to shareholders' lack of insight and to the fact that they may be more sensitive to psychological factors and thus general market sentiment. However, most counterintuitive is the fact that the zero-year lagged ROE coefficient is positive, meaning that poor performance should lead to less COB turnover.

Another reason could be that chairmen of smaller companies resign voluntarily the same year as things go bad. However, this does not explain why the relation between present ROE and turnover is positive, which implies that COBs would decide to stay on in case of bad performance. It does neither explain why present industry performance has a higher explanatory value compared to present firm-specific performance amongst small firms, since industry performance is most likely out of the board's and even the CEO's control and thus should not lead to voluntary resignation.

Summing up, it can be said that there is no clear general firm size effect detected in our study which would imply that larger companies would have a higher COB turnover in cases of bad performance compared to small firms. Rather, different firms seem to apply different performance evaluation criteria and results are therefore ambiguous. Thus, previous research and theory which argue the case of an existing size effect that would contribute to higher COB turnover for larger firms, cannot be supported by our study. The vagueness of our results could however potentially be associated with our fairly high set limit for qualifying as a "large" vs. "small" company, which may have interfered with the reasoning of the results. We therefore remain curious and hopeful that future research will elaborate further on the size effect and be able to reach more clear-cut conclusions.

Moving on to analyse the impact of the largest shareholder's ownership stake on the performance-COB turnover relationship, the results are interesting. Only firms defined as having "weak" ownership show any inverse relation between performance and chairman turnover, namely one-year lagged market performance, zero-year lagged industry performance and finally zero-year lagged firm-specific stock price performance. For "strong ownership" firms, zero-year as well as one-year lagged ROE show significant results, however the coefficients are positive rather than negative. These results stand in contrast to our hypothesis. One natural explanation at hand is that the majority shareholder in a company usually appoints the COB which suggests that he/she would not want replace the COB representing his/her interests, which might not be the case in a "weak owner" firm.

Another similar reason could be that some principal owners of the companies in our sample, most likely in smaller companies, sometimes take on the role as COB themselves. Since owners would not be naturally inclined to replace themselves during instances of poor performance, the results of this study appear more logical. Therefore, it would be interesting for future researchers to elaborate on the effects of various more complex ownership constellations than the one applied in this thesis.

However, it remains a possibility that the puzzling results in regards to ownership structure could also be due to our high set criteria of what constitutes a large principal shareholder. It would thus be interesting for future research to elaborate on these limits and definitions and subsequently analyse how results are affected.

Below, we will provide reflections on the limitations of our thesis in general, the data used as well as our methodology, which given our limited time frame could not be enforced.

6. Limitations & suggestions for the future

First and foremost, it would have been potentially desirable to research all members of senior management as well as all members of the board in order to strengthen conclusions. However, given our time frame, an even greater data collection proved unfeasible. We still feel that the CEO and COB enact the ultimate representatives of senior management and the corporate board respectively and therefore help indicate results for the rest of the top executives.

Our dataset does not contain information on whether a CEO or COB turnover was natural or a result of pressure from the board and the shareholders. Therefore, it proved complicated to eliminate such “natural” replacements from the sample resulting from retirement, death or voluntary resignation. We thus assumed that such natural turnovers were evenly distributed across firms in every period. Although not entirely correct, it should be said that conclusions regarding the cause of a replacement would be very difficult to draw in a consistent manner since many top executives that are asked to leave office are allowed to make it appear voluntary. An attempt would also be too time-consuming given our time frame since it would involve scrutinizing news and press releases in order to try and determine subjective ideas on the reason for the resignations. However, if future research would be able to include this kind of information in upcoming studies, one would be able to draw more precise conclusions concerning how corporate governance is played out and conducted in practice.

Furthermore, as has already been mentioned, one could elaborate on what definition of a “large” and a “small” firm respectively that should be applied when performing the regressions in this thesis. A similar and relevant discussion would involve the definition of “strong” vs. “weak” ownership stakes. The question where to draw those lines is inherently difficult to answer, and while it is possible to argue that a firm has a strong influential owner if the largest shareholder in the company has a stake of less than 50%, we simply had to set the criterion somewhere. Similarly, we decided to set the criterion for a “large” company as having an enterprise value exceeding one billion SEK, which we felt was reasonable. We still feel that it would be interesting to further scrutinize the effects of firm size and ownership concentration in future research and elaborate on the impact of various definitions.

Moreover, in quantitative statistical studies one can always argue for an expansion of the sample size in order to retrieve more statistically significant results. We suggest that the sample size and the time frame studied should be expanded in future research related to this subject, although we withhold that the 220 companies included in our sample provide a substantial base sufficient to draw conclusions from.

7. Discussion & conclusion

Given our results it appears as if boards and shareholders are doing an acceptable job monitoring the CEO and the COB and holding them accountable for company performance in Sweden. We also discovered that the corporate governance mechanisms that allow the shareholders and the board to replace the chairman and the CEO respectively are usually executed rather quickly, mostly in the same year as the poor performance takes place. More specifically, same-year firm-specific stock performance proved inversely related to CEO turnover, while as for COBs both same-year firm-specific and industry performance proved explanatory. Thus, instead of tuning in with the extensive criticism directed at corporate governance during recent years, one could argue to the contrary and conclude that it appears to be well-functioning. However, some question marks remain concerning how the response to poor performance could appear so quickly, especially in regards to COB turnover when the annual meeting is held in the consecutive year. There are also question marks in regards to why industry performance and market performance are used as performance measures for COBs when they are most likely external in nature and out of the chairman’s control. Perhaps the confusion in regards to the results in fact stems from the possibility that good governance does not necessarily imply COB turnover after poor performance as long as the board in fact fulfils its responsibility of replacing the CEO.

In regards to the impact of size on the performance-turnover relationships, it can be said that results for both CEOs and COBs are slightly puzzling. The firm size effect that has been frequently illustrated in theory and to some extent in previous research is far from clear-cut in our study. In regards to CEO turnover, small firms conversely seem to have better corporate governance control compared to large, which appears counterintuitive. In regards to COB turnover, results witness of large and small firms appearing to have different performance measures rather than conveying the notion that large firms have a stronger negative performance-turnover relationship. Clearly, one may wonder why these contradictive results appeared and whether they should be interpreted as the demise of previous theory and research or if they should be more linked to our methodology.

Results regarding ownership concentration only agree with intuition when studying the performance-CEO turnover relationship, where “strong-owner” companies show a stronger negative relationship in accordance with corporate governance theory and previous research. For the performance-COB turnover relationship however, “weak owner” firms show a negative relationship for some performance measures where “strong owner” companies do not. Rather, the only performance measure that shows statistical significance for “strong owner” companies, one-year lagged ROE, has a positive coefficient. These results clearly go against both corporate governance theory and previous research, again fuelling the question whether corporate governance theory no longer applies or whether our definitions should be revised.

In conclusion, it can be said that previous research as well as our study in sum convey the notion that there is confusion in regards to how to best evaluate CEOs and COBs, although both shareholders and board members appear to act upon poor performance. Perhaps there should be guidelines set and conveyed to shareholders as well as board members on how to accurately assess representatives in order to strengthen the functionality of corporate governance and eliminate the use of inappropriate performance measures built on irrational grounds such as scape goating, insufficient knowledge and irrational psychological responses to market sentiment.

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