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The relationship between firm performance and CEO turnover with CEO entrenchment as a moderator

An empirical study on the Swedish market

Degree Project in Corporate Financial Management – Master Level
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Authors:
Johan Enarsson
Malin Magnusson

Supervisor:
Niclas Andrén

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Authors: Johan Enarsson & Malin Magnusson

Advisor: Niclas Andrén

Key words: CEO turnover, Firm performance, CEO entrenchment, Ownership structure, Corporate governance

Purpose: The aim of this thesis is to explain how prior firm performance affects CEO turnover with the moderating role of CEO entrenchment on the Swedish market.

Theoretical perspectives: The theoretical framework provides different aspects which highlights corporate governance in a Swedish context and the impact of CEO entrenchment from an agency theory perspective. Stewardship theory is provided as an additional theory to get a broader understanding of the relationship between prior firm performance and CEO turnover. The theoretical contribution of the thesis lays in argumentation for the relationship of concepts under study.

Methodology: This study adopts deductive reasoning and employs quantitative analysis by using the non-linear logistic regression model. The dataset is longitudinal, thus all CEO turnovers are included in the analysis. Separate robustness tests are conducted to evaluate forced CEO turnovers and if the main results are affected by the logistic regression structure.

Empirical foundation: All companies listed on Nasdaq OMX Stockholm were included in the original sample during the 1st of January 2012 to 31th December 2014. After adjustments, the final sample consisted of 666 observations, 222 companies and 83 CEO turnovers.

Conclusions: Consistent with previous research our results partly show that there is a significant negative relationship between prior firm performance and CEO turnover, indicating that CEOs delivering poor financial performance will be replaced. However, this classical relationship is not moderated by the aspect of CEO entrenchment on the Swedish market and the thesis suggests explanations to these non-findings. Some of the more interesting findings indicate that instead of playing a moderating role, CEO entrenchment has a direct effect on the CEO turnover outcome.

Acknowledgements

First and foremost we would like to thank our supervisor Niclas Andrén at the Department of Business Administration for his help, expertise and support during this process. We would also like to thank Hugo Lilja at Modular Finance AB for his input and for providing us with valuable data needed to perform this study.

We hope that this study will encourage future scholars to conduct further corporate governance research which includes entrenchment in a Swedish context.

Lund, June 2017

Johan Enarsson

Malin Magnusson

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1. Introduction

In this chapter we will describe the thesis background, problematization, research question and purpose. At the end of this section the outline of the thesis is presented.

1.1. Background

The topic regarding top executives' succession has captured both academic researchers and media's attention over the last decades. From a research point of view, succession has been studied on top management teams (e.g. Krug, Wright & Kroll, 2015; Voussem, Schäffer & Schweizer, 2014; Hu & Leung, 2010; Wiersema & Bantel, 1993), but the majority of the research on top executives has exclusively focused on CEO turnover (e.g. Zhu & Shen, 2016; Jenter & Kanaan, 2015; Fisman, Khurana, Rhodes-Kropf & Yim, 2014; Taylor, 2010). To meet the expectations that boards and shareholders have on the CEO is extremely challenging. According to several papers the CEO turnover frequency has increased rapidly in recent years (Zhu & Shen, 2016; Chen & Hambrick, 2012; Zhang, 2008), and the mean CEO tenure has declined (Favaro, Karlsson & Neilson, 2011; Zhang, 2008).

During 2015 there was a CEO turnover in almost half of the 32 largest listed companies in Sweden, according to a study done by PwC. Comparing this to the global CEO turnover average of 15 percent gives a hint of the movement among Swedish business leaders (Bränström, 2016). A managerial turnover can be due to many different reasons (Voussem, Burchard, Schäffer & Schweizer, 2013). Some turnovers have been due to natural reasons, and others have been forced to leave their position. One example of a forced turnover was when Jan Johansson had to leave SCA after having used the private jet of the company to travel to Formula One races and the World Cup of Football (Isacson, 2015). Another recent CEO succession was when Olof Faxander, the CEO of Sandvik, had to leave following poor stock performance and the lack of meeting the financial goals of the firm (Bränström, 2016; Lucas, 2015).

There is extensive research on how the CEO turnover - as an explanatory variable - affects the company's performance after the turnover as well as the stock market reaction to the turnover. However, the inverse relationship between firm performance and CEO turnover has been studied extensively as well (Dikolli, Mayew & Nanda, 2014; Murphy & Zimmerman,

1993). Selecting a new CEO is an important task since the new CEO is supposed to lead the firm to success but in many cases the new CEO has to leave office within three years due to bad firm performance (Zhang, 2008; Wiersema, 2002). Researchers have habitually found that the probability of managerial turnover increases following poor firm performance (e.g. poor stock performance or inability in generating positive income) (Guo & Masulis, 2015; Dikolli et al., 2014; Kaplan, 1994a; Kaplan, 1994b; Wagner, Pfeffer, & O'reilly, 1984), and these findings are consistent in the American, British, Japanese and German market (Lausten, 2002; Kaplan, 1997).

Furthermore, the relationship above has also been studied with different moderating variables such as firm size, board characteristics (Zhu & Shen, 2016; Jenter & Lewellen, 2014), financial leverage and state ownership of the company (Chun-Sheng, 2009). However, the most common one is CEO duality - meaning that the CEO also serves as the chairman of the board - which creates a greater risk of CEO entrenchment according to agency theory (Krause, Semadeni & Canella, 2014; Sundaramurthy, Mahoney & Mahoney, 1997; Boyd, 1995). This type of research hypothesizes that "more powerful CEOs should be better able to avoid turnover following poor performance than less powerful CEOs" (Krause et al., 2014, p. 266). But intriguingly is, how to capture the relation between prior firm performance and CEO turnover with CEO entrenchment as a moderator in a country with a special corporate governance system and where CEO duality is not allowed?

1.2. Problematization

We focus on CEO turnover decision because it is perhaps one of the most important corporate decisions (Chen, Cheng & Dai, 2013; Huson, Parrino & Starks, 2001). The board of directors will have to make a decision whether to retain the CEO after bad stock performance or accounting performance (Jenter & Kanaan, 2015; Zhang, 2008). Failing to replace a poorly performing CEO is arguably the costliest manifestation according to Shleifer and Vishny (1997). Additionally, CEO turnover has a substantial long term impact on the operating business of the firm as well as the investment and financing decisions (Huson et al., 2001).

This thesis is closely related to studies that examine how the variation in agency conflicts influences CEO turnover decisions. The effectiveness of corporate governance and the power of the CEO has the ability to significantly impact the turnover decision (Krause et al.,

2014; Weisbach, 1988). The US study conducted by Weisbach (1988), states that firm performance and CEO turnover sensitivity is higher for firms with more effective board monitoring. Denis, Denis and Sarin (1997) find that performance–CEO turnover sensitivity is lower in firms with high CEO ownership i.e. high CEO ownership leading to more CEO power and consequently entrenchment (Cheng, Cummins & Lin, 2015). Thus, it would be relevant to investigate if these findings are consistent with another ownership structure setting since it is stated that the ownership structure of Swedish companies is more concentrated and less widely held than in Anglo-American countries such as the US and UK (Jakobsson & Wiberg, 2014; Umans, 2012; Faccio & Lang, 2002; La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1998).

The long stream of research on CEO turnover that investigates this particular relationship is limited to the US, UK and German market (Lausten, 2002; Kaplan, 1997). Since corporate governance in Sweden is claimed to be much different from the US and UK (Ikäheimo, Puttonen & Ratilainen, 2011; Lausten, 2002), it would be interesting to see if qualitatively similar results are found on the performance–CEO turnover relationship. Consequently, the impact of an entrenched CEO and the impact of the special Swedish governance system has yet to be systematically explored. We argue that we will fill this gap by examining how the distinctive characteristics of CEO entrenchment affects the relationship between prior firm performance and CEO turnovers in a Swedish context.

Previous studies on CEO entrenchment and ownership control have extensively focused on CEO duality (e.g. Krause et al., 2014; Abels & Martelli, 2013; Goyal & Park, 2002). However in Sweden, CEO duality is not allowed according to the Swedish Corporate Governance Code (Lausten, 2002). On the other hand, ownership holdings corresponding to approximately 20 percent of the votes is more than sufficient to control a Swedish listed company (Jakobsson & Wiberg, 2014; Morck, Wolfenzon & Yeung, 2005), which could be seen as an alternative view of entrenchment in a Swedish context. Sweden also has the lowest average minimum percentage of shares required to control 20 percent of the firm due to the high percentage of firms issuing dual class shares (Faccio & Lang, 2002). Hence, the level of CEO ownership in Sweden does not need to be particularly high in order to be entrenched as a CEO. The combination of the special Swedish corporate governance system and the unexplored relationship between prior firm performance and CEO turnover in a Swedish context, highlights the marginal contribution of this thesis.

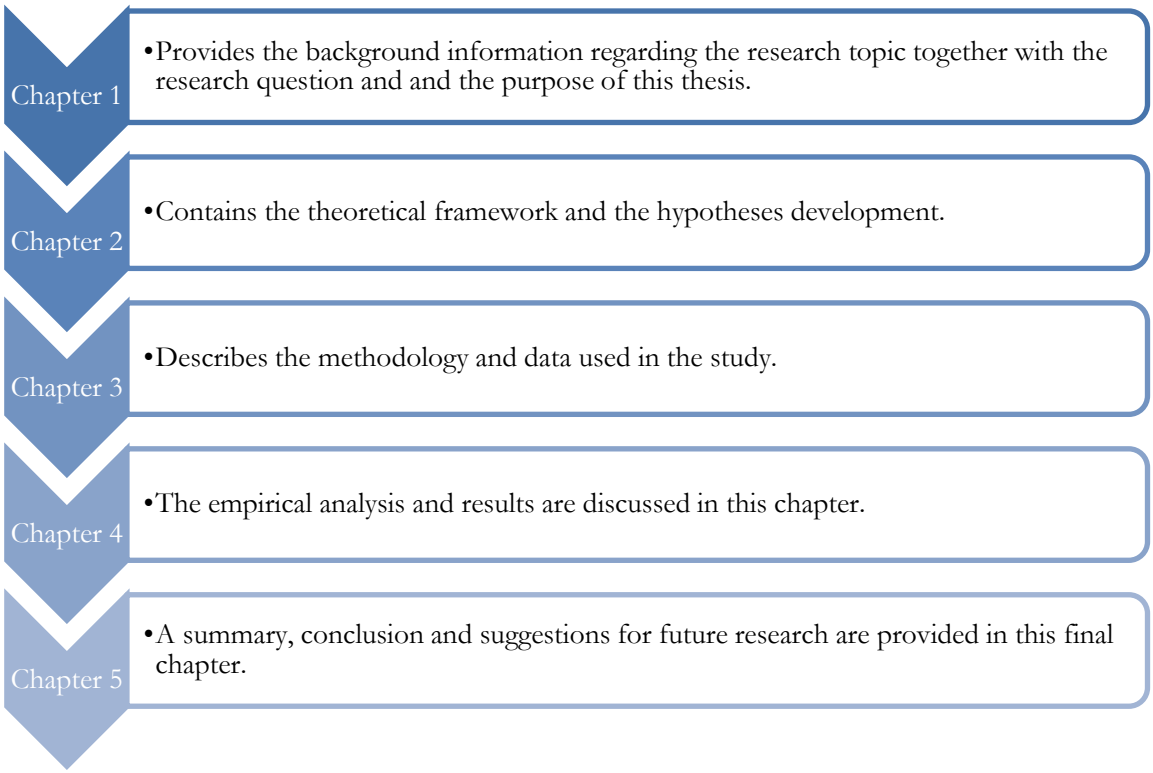
1.3. Research question

How does prior firm performance explain CEO turnover with the moderating role of CEO entrenchment on the Swedish market?

1.4. Purpose

The aim of this thesis is to explain how prior firm performance affects CEO turnover with the moderating role of CEO entrenchment on the Swedish market.

1.5. Thesis outline



2. Literature review

This chapter will describe the theoretical framework used for this thesis to be able to explain how prior firm performance affects CEO turnover with the moderating role of CEO entrenchment on the Swedish market. Thereafter, the development of the hypotheses will be presented as well as additional theories.

2.1. CEO turnover

On the one hand, managerial turnover occurs when a manager for example resigns, retires, dies, is dismissed, or is replaced by other reasons (Messersmith, Lee, Guthrie & Ji, 2014; Furtado & Karan, 1990). On the other hand, managerial turnover could also be a symbolic action made by the board of directors i.e. signaling a firm's commitment to change by taking actions for potential problems within the firm (Voussem et al., 2013; Zhang & Wiersema, 2009). For instance, hiring a new CEO could be to impress the market or bringing the firm a new resource with a new mindset (Chen & Hambrick, 2012). Turnover could also be explained by factors outside the executive managers control (Finkelstein & Hambrick, 1996) e.g. it could be because the firm wants to gain perception of control and lower the uncertainty level (Krug et al., 2015).

Furthermore, CEO turnover could occur due to internal sociological pressure where a powerful CEO tend to influence the composition of the board through promoting directors that are demographically similar to them (i.e. "similarity-attraction-paradigm") (Umans, 2012; Zajac & Westphal, 1996). A central hypothesis is that homogeneity creates stability (Smith et al., 1994), whereas heterogeneity tend to trigger turnover (Zhu & Shen, 2016; Godthelp & Glunk, 2003). However, regardless of reason - except for death and retirement - the turnover event is 'an attempt to correct a suboptimal match between the manager and the firm (Furtado & Karan, 1990, p. 60).

2.2. Corporate governance in Sweden

The development of the Swedish Corporate Governance Code started in 2003 and the final publication was made in 2004. Instead of being part of the legislation the code is part of the listing rules at Stockholm Stock Exchange, which makes this organization responsible for compliance. The system operates with two executive boards: the board of directors and the board of managers. While the board of managers is responsible for daily operations, the board of directors has the authority to contribute with monitoring of the managers, strategic

planning, and instructions to managers on how to deal with daily operations. Furthermore, executive managers may serve as members of the board of directors and the majority of the directors need to be non-executive. Hence, only a non-executive can be chairman of the board (Hansen, 2006).

At the general meeting shareholders have the opportunity to give instructions to the board of directors on how to control the board of managers. Shareholders also have the obligation to elect at least half of the members on the board of directors, which in turn make decisions by simple majority. These directors may, even though possibly elected for a certain term, be replaced by shareholders without notice and thus preventing owners from a staggered board. The board of directors may also hire and fire managers and thus give shareholders influence over the executive management of the firm (Hansen, 2006).

In the Nordic, the ownership structure is quite different from the Anglo-Saxon structure (Lausten, 2002). The stock ownership of Swedish companies is rather similar to Japan in certain aspects, thus stock ownership is more concentrated than of U.S companies (Umans, 2012; Ikäheimo et al., 2011; Faccio & Lang, 2002). More specifically, the corporate governance system in the US is characterized as market oriented (i.e. ownership is relatively dispersed), whereas the corporate governance system in Sweden as well as Japan and Germany is characterized as relationship-oriented (i.e. ownership is relatively concentrated) (Kaplan, 1994a; Kaplan, 1994b).

In Sweden the average minimum percentage of shares required to control 20 percent of the voting power equals 9,83 percent, which is a lower figure than in any other European country. Furthermore, Sweden also has the highest percentage of firms issuing dual class shares, giving investors the opportunity to control a large portion of the votes by holding a minor share of the capital. Moreover, Swedish firms have applied restrictions on foreign ownership in order to maintain control of the domestic companies within the country (Faccio & Lang, 2002).

La Porta et al. (1998) and Ikäheimo et al. (2011) state that the laws of the Nordic countries belong to the same family in contrast to other countries in Europe. In Sweden, several corporations are connected through relations of ownership, interlocking directorates and financial services. The Swedish industrial economy is dominated by a few business groups

(i.e. the Wallenberg-group and Svenska Handelsbanken-group), which are of special importance since they in some way controlled approximately 50 percent of the stock value of all the firms listed on the Stockholm stock exchange in 1996 (Umans, 2012).

2.3. Theories and hypotheses development

The following section will firstly describe the Agency theory. Secondly, we assess the relevant theoretical literature and develop two hypotheses to be empirically tested. The first hypothesis addresses the relationship between prior firm performance and CEO turnover. The second hypothesis extends the first hypothesis by adding entrenchment as the moderating variable. At last, two additional theories - Stewardship theory and Institutional theory - are explained to highlight alternative views of the relationship and to accomplish transparency.

2.3.1. Agency theory

The main focus of agency theory is the relationship between the principal who deputizes and the agent who performs the task deputized by the principal (Eisenhardt, 1989). Agency theory could perhaps be one of the most common theoretical frameworks utilized in the study of corporate governance and aims to explain two problems which may arise between agents and principals (Eisenhardt, 1989; Fama & Jensen, 1983a). The first problem is called the risk sharing problem which occurs when agents and principals are not equally risk tolerant. The second problem is the misalignment in desires or goals between the agent and principal. Particularly, this issue occurs when there are difficulties for the principal monitoring the effort performed by the agent (Eisenhardt, 1989).

Within corporations the shareholders are the principals, the managers are the agents and the board of directors has a supervisory role in order to ensure that the work performed by the managers is in line with the interest of the shareholders (Jensen & Meckling, 1976). However, this is not always the case, leading to owners suffering from decisions made by the CEO which will reduce their wealth and lead to increasing monitoring costs (Fama & Jensen, 1983b; Jensen & Meckling, 1976). The board is responsible for identifying when the effort performed by the CEO is not sufficient and according to Shleifer and Vishny (1997) failing to replace a poorly performing CEO is arguably one of the costliest manifestations.

In corporate governance research agency theory provides a solid theoretical foundation, suggesting that the CEO and the board should be independent in order to avoid managerial entrenchment (Eisenhardt, 1989; Fama & Jensen, 1983b). Agency theory also puts emphasis on CEO turnover, suggesting that the threat of being replaced will affect the way the CEO runs the firm (Lausten, 2002). According to research by Jensen and Murphy (1990) the likelihood of managers leaving the firm after bad years increases and this threat of dismissal will discipline the managers.

2.3.2. The classical relationship between firm performance and CEO turnover

One approach to assess the quality of corporate governance at the firm level is by analyzing the relationship between firm performance and CEO turnover. A well-functioning corporate governance system will penalize CEOs delivering poor financial performance (González, Guzmán, Pombo & Trujillo, 2015). In the literature, the consequences of turnover in poorly performing firms has been confirmed globally in countries such as America (e.g. Huson et al., 2001), Japan (Kaplan & Minton, 1994), Germany (e.g. Brunello, Graziano & Parigi, 2003; Kaplan, 1994b) and Italy (Renneboog, 2000).

González et al. (2015) state that this corrective governance mechanism applies in closely held family firms as well since family firms are not immune to agency conflicts. As stated before the ownership structure in the Nordic region is special and family corporations could be seen as conventional in Sweden (Umans, 2012; La Porta et al., 1998). Thus, the classical negative relationship between firm performance and CEO turnover could also be true in a Swedish context.

Moreover, corporate governance mechanisms are also affected by the environmental context and the decision whether to replace the CEO is largely a matter of context (Krug et al., 2015; Hambrick & Finkelstein, 1987). An improvement of the association between poor prior firm performance and CEO turnover is possible in countries where strong institutions support law enforcement. That is, CEO turnover is an effective governance mechanism in this context. In contrast, CEO turnover would be unrelated to poor firm performance in countries characterized with weak law enforcement (González et al., 2015; DeFond & Hung, 2004). Sweden could be considered having law enforcement of high rank (European Commission, 2016), together with high ownership concentration with the intention to penalize CEOs generating poor performance, resulting in solving the firm's agency conflict

(Fama & Jensen, 1983a). Hence, we expect to find the classical negative relationship in a Swedish context hypothesized and presented as the following:

H_1: There is a negative relationship between prior firm performance and CEO turnover probability.

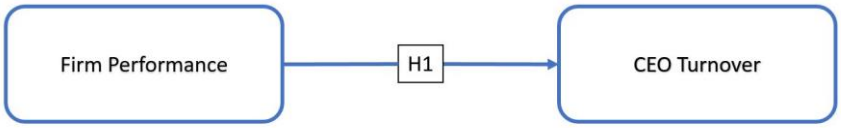


Figure 1. Classical relationship between firm performance and CEO turnover

As hypothesized, CEO turnover often occurs in situations when firms perform poorly, hence, performance could increase after the turnover event (Chen & Hambrick, 2012). However, Khurana and Nohria (2000) argue that the succession itself has no effect since the positive firm performance after the turnover could be due to regression-to-the-mean. According to Chen and Hambrick "CEO replacement under poor performance conditions amounts to ritualistic scapegoating" (2012, p. 226). Important to note in the performance–CEO turnover relationship, is that humans tend to find simple explanations in complex situations where organizational performance is ascribed to the top executive. But these attributions surpass the amount of influence that the CEO really has on firm performance (Meindl, Ehrlich & Dukerich, 1985). Jenter and Kanaan (2015) argue that boards erroneously blame CEOs for performance beyond their control.

2.3.3. Moderating effect of CEO entrenchment

There is increasing literature focus on the link between firm performance and CEO turnover because it provides a crucial measure of the effectiveness with which a firm solves the principal–agent problem. It is the diverging interests between top executives and shareholders, which may result in managerial entrenchment. Entrenchment is a managerial strive to increase power relative owners and directors to reduce the efficiency of corporate governance and increase their discretionary space to further their own interests (Kato & Long, 2006).

One way of measuring entrenchment is by studying the shareholdings of the CEO, which might have an impact on the turnover process (Cheng et al., 2015; Weisbach, 1988). On the

one hand, managerial shareholding can be seen as a way of aligning the interests of shareholders and management and thereby increase the value of the firm. On the other hand, a large CEO ownership can lead to him or her being entrenched and thereby more difficult to remove, which can be exemplified in several ways (Dikolli et al., 2014; Chen & Hambrick, 2012).

A regular view in the literature is that external control pressure is a vital mechanism to the internal monitoring process. An active external control market is more effective when the board is aligned with shareholders' interests (Denis et al., 1997). However, when the CEO has a high equity ownership it can be seen as him or her being more powerful and thus making other managers less likely to conduct internal control (Cheng et al., 2015; Chen & Hambrick, 2012). Furthermore, there is a risk that external control markets will become less efficient and thereby constrain the board of directors internal monitoring process. For example, an external control mechanism can increase pressure on the board of directors to take action against a CEO which is not performing very well. Thus, a higher managerial ownership can restrain external and internal monitoring and thereby increase managerial power (Cheng et al., 2015; Fisman et al., 2014; Denis et al., 1997).

The likelihood of managerial turnover in poorly performing firms increases when managerial ownership decreases and thereby indicate that the second effect mentioned (i.e. large CEO ownership leading to entrenchment) is the strongest (Chen et al., 2015; Denis et al., 1997). The negative relationship between firm performance and CEO turnover is weakened when the CEO is a controlling shareholder, which again indicates that an entrenched and powerful CEO reduces the probability that a CEO turnover occurs (Cheng et al., 2015; Brunello et al., 2003; Chen et al., 2013). With this in consideration, our second hypothesis is the following:

H_2: The negative relationship between prior firm performance and CEO turnover probability will be weakened when the CEO is entrenched.

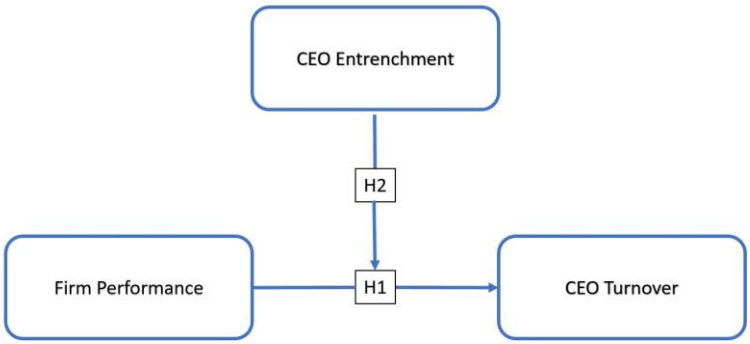


Figure 2. Overview of research model

The verification of the two hypotheses in figure 2 is tested through a logistic regression in order to gain insights regarding how prior firm performance affects CEO turnover with CEO entrenchment as a moderator. The empirical research approach is presented in detail in the methodology chapter.

2.3.4. Alternative theories

It is possible to view the hypothesized relationship from a wider theoretical perspective. In contrast to agency theory, there are other theories which arise from organizational psychology and organizational sociology. The stewardship theory is an alternative view of managerial motivation (Barney, 1990; Donaldson, 1990) and describes the interaction between the principal and the steward-manager in a more humanistic "model of man" compared to agency theory (Madison, Holt, Kellermanns & Ranft, 2016; Corbetta & Salvato, 2004). A summary of differences between the agency and stewardship theory can be found in appendix 1.

In stewardship theory, the organizational role-holders are argued to: (1) be motivated by the need to achieve, (2) gain intrinsic satisfaction through successfully perform defiant work and (3) enforce responsibility and authority, and in that way gain acknowledgement from peers and bosses. Hence, the executive manager fundamentally wants to be a competent steward of the firm's assets (Davis, Schoorman & Donaldson, 1997; Donaldson & Davis, 1991) i.e. the higher the CEOs identification with the firm, the higher the motivation to work towards achieving the goals of the firm (Nüesch, 2016). Ultimately, the theory impersonates the manager as a steward which will align with the firm's and the principal's best of interest and thereby lead to increased firm performance and pro-organizational behavior (Madison et al.,

2016; Zahra, Hayton, Neubaum, Dibrell & Craig, 2008; Davis et al., 1997). According to stewardship theory, the hypothesized relationship between firm performance and CEO turnover may not be moderated by CEO entrenchment since the executive manager would have motivation of being a competent steward and less likely to be entrenched.

Furthermore, many agency and stewardship theorists claim that their theories give a simplified view of humans, arguing that managers are neither completely self-serving nor self-sacrificing (Krause et al., 2014). Given this it is also conceivable to view CEO entrenchment from an institutional perspective. Institutional theory has almost never been applied at entrenchment research and the objective is to broaden the theoretical perspective in order to cover up for the shortcomings held by agency theory and stewardship theory (Krause et al., 2014).

The theory is derived from the statement from Max Weber, saying that there is an 'iron cage' of rationality that management will face (Mintzberg, Ahlstrand & Lampel, 2009) and puts emphasis on the regulations and standards which are established in the institutional environment where the company operates. Political and ideological pressure from other organizations will then lead to the company adapting to these regulations and become a part of the current structure of the institutional environment (Baixauli-Soler & Sanchez-Martin, 2011).

The environment of the firm is complex and consists of key suppliers, consumers, competitors and government agencies (Mintzberg et al, 2009). According to the institutional theory firms are resistant to internal change, tend to be more affected by external forces, and are constrained by a variety of social rules and norms (Hambrick, 2007). Hence from an institutional perspective, the manager has limited influence on what is actually affecting the organization and could perhaps not be held solely responsible for poor financial performance.

3. Methodology

In this chapter, we explicate the methodology to be able to explain how prior firm performance affects CEO turnover with the moderating role of CEO entrenchment on the Swedish market. The chapter is divided in two sections: theoretical method and empirical method.

3.1. Theoretical method

The following section will present the research philosophy and research approach, followed by a critical view of the sources used.

3.1.1. Research philosophy and approach

This thesis is based on a positivistic philosophy and deductive approach since existing theories and research fields in corporate governance are used. Emphasis is on quantifiable observations developing into a statistical analysis where hypotheses are formulated with existing theories, resulting in a law-like generalization (Saunders, Lewis & Thornhill, 2009; Creswell, 2007; Remenyi, Williams, Money & Swartz, 1998).

According to Allwood (2012), the choice of research method should be reasoned in relation to the research context used. The thesis is designed to further explain the relationship between prior firm performance and CEO turnover with the moderating role of CEO entrenchment on the Swedish market. Hence, choosing a quantitative approach is suitable since we want to acquire a non-subjective view on this relationship. In addition, the quantitative method concludes hypotheses which are developed through different theories and is therefore a preferable method to use to answer the research question (Bryman & Bell, 2015; Saunders et al., 2009). Surveys, interviews and other more subjective approaches could for example comprise selection bias and therefore lead to non-significant results (Bryman & Bell, 2015).

3.1.2. Source criticism

According to Saunders et al. (2009) it is crucial to review the literature critically because it provides the foundation of which a study is built upon. A critical view of the literature is essential to be able to develop a thorough insight as well as understanding for previous research, as well as applying it on our own research question (Bryman & Bell, 2015). In the search for scientific articles, we used Google Scholar and the LUB search database generated

by Lund University. We focused on peer-reviewed articles from graded journals listed in the Academic Journal Guide (Association of Business Schools, 2015). This gives us the assurance that the quality of articles used is examined by experts, thus increasing the reliability in our thesis (Denscombe, 2016; Denscombe, 2009).

This study consists of primary data, that is newly collected data which is directly adaptable to the study (Bryman & Bell, 2015). The data regarding CEO turnovers was gathered from financial reports, meaning that it was collected and coded by hand i.e. nobody else did this for us. However, to collect the corporate governance variables a firm called Modular Finance AB was contacted in order to get access to their database Holdings. It was not possible to collect the variables through the database since it was a special order of very specific and precise variables. Consequently, it was necessary to specify all variables in order for Modular Finance AB to collect it for us. Nevertheless, the most preferable way would therefore be to hand collect all the corporate governance variables in order to avoid missing values or errors.

3.2. Empirical method

The following section will present the empirical method of the thesis. Firstly the research time horizon, sample selection and data collection method is explained. Secondly, the model and the operationalization of the different variables (i.e. dependent, independent, moderating and control variables) are presented. Lastly, the different binary response models are displayed and the section will end with a discussion regarding the validity, reliability and generalizability of the study.

3.2.1. Research time horizon

According to Saunders et al. (2009), the time horizon is an important characteristic of a thesis. We limit the research time horizon to only include CEO turnovers which occurred during the sample period 1st of January 2012 to 31th December 2014. The research time horizon should: (1) be representative for current conditions, (2) conduce to a sample large enough to obtain reliable results and (3) be feasible and manageable to hand code during the short time period of the thesis. However, the time horizon regarding prior firm performance had to include year 2011 to account for prior firm performance if a CEO turnover occurred in the beginning of 2012. Additionally, we chose this time horizon since the results could be biased if including the financial crisis in year 2008-2009. In these years there was a negative

GDP development (SCB, 2016), thus we excluded the abnormal fluctuations of the economic cycle.

Furthermore, from July 2016 there are new transparency rules regarding insider transactions carried out by EU which means that it is not allowed to collect information on insider portfolios after this date. Prior to that date, *Finansinspektionen* were obliged to report transactions if insider persons owned securities via Individual Savings Account or other regular security deposits (European Commission, 2014). The CEO in a listed company is by definition an insider person, thus there are no available transactions of the CEO's portfolio after July 2016. Therefore, the time horizon of this study had to be set before the changed EU directive. Moreover, the data collected from Modular Finance AB regarding shares and votes in the company owned by the CEO only includes ownership via Individual Savings Account or other regular security deposits. Thus, the CEO can also hold shares via capital insurance but since this is an indirect ownership these shares are not registered in the database. Therefore, the CEO ownership could be greater than indicated by the data.

3.2.2. Sample selection

The sample included all companies listed on Small-, Mid- and Large Cap on the Swedish Stock exchange. The reason for focusing on Swedish companies is that a similar study has not been applied on the Swedish market before. The firms in the sample selection had to fill the following criteria's: (1) the firm had to be publicly traded during the years analyzed and one year prior to the first year analyzed (i.e. 2012), (2) the financial statements had to be available for the entire period and (3) financial data had to be available for the company. Firms excluded from the sample can be found in appendix 3.

We used a longitudinal dataset to test the different hypotheses affecting CEO turnover since it is often used when studying a particular problem over a specific time spectra (Saunders et al., 2009). We followed the firms regardless of what happened to them since the sample included CEOs leaving before the last year, CEOs hired during the period and CEOs that were present in all three years. By using this longitudinal dataset, we study a more natural stream of CEO turnovers compared to a dataset that uses a cross-section sample of CEO turnovers (Lausten, 2002).

3.2.3. Data collection method

In this thesis, we collected the empirical primary data from different sources which are stated in appendix 2. But firstly, we had to identify all companies listed on Nasdaq OMX Stockholm during the time horizon 2011-2014. Secondly, we had to exclude: (1) outliers and (2) firms not meeting the requirements mentioned in 3.2.2. Sample selection (see appendix 3). The three outliers were excluded because these firms suffered a severe crisis (e.g. scandals, corruption) and could therefore not be seen as representative observations. Thirdly, we had to identify the foreign firms that are traded on the Swedish stock exchange, but are registered abroad (see Appendix 4). For these firms, we had to hand collect supplementary data because of missing values in the original dataset. With regard to observations that were uncertain from a coding aspect, we discussed those specific cases more in depth to arrive at the most accurate objective conclusion. If information or data were not displayed, we always coded it as missing values to avoid incorrect conclusions. More detailed information regarding the specification of different types of variables can be found in 3.2.4. Operationalization.

Furthermore, there are two different possibilities when deciding which turnovers should be included in the dataset; all turnovers or only the forced turnovers. Forced turnovers should be a better proxy for CEO layoff due to weak performance. However, firms tend to announce the firing of the CEO as retirement or 'leave due to personal reasons' in order to make the departure appear less dramatic. This could in turn generate a quite small number of forced turnovers which may not be a veracious measure (Chen et al., 2013). Given this, we included all turnovers in the regressions regardless of turnover reason, and conducted separate sensitivity tests to evaluate the forced CEO turnovers (Chen et al., 2013; Denis et al., 1997; Weisbach, 1988). To summarize, the final sample consisted of 222 companies (see Appendix 5).

3.2.4. Operationalization

A summary of all variables including collection approach is specified in appendix 2. Through operationalization the concepts introduced in the hypotheses are translated into concrete and measurable variables (Saunders et al., 2009; Körner & Wahlgren 2015). Körner and Wahlgren (2015) claim that - when analyzing causation - it is of interest to identify the studied cause and effect. As our study applies a deductive approach, it is important to operationalize the concepts to be able to measure them (Saunders et al., 2009). Thus an operationalization

of the dependent variable, independent variables, moderating variables and control variables is provided in the following section.

3.2.4.1. Dependent variables

CEO turnover: We used CEO turnover as the dependent variable. We followed previous studies (e.g. Chen & Hambrick 2012; Brunello et al., 2003) and created a binary time varying variable that equaled 1 if a CEO turnover occurred during year t, and 0 otherwise.

Forced turnover: CEO turnover can be due to many reasons. A CEO often leaves the position voluntary because of retirement or being appointed to a more attractive position in another company. But the turnover could also be forced because of scandals, poor firm performance or violation of policies, laws or codes of conduct (Guo & Masulis, 2015; Huson, Malatesta & Parrino, 2004). Following prior research, we used one binary time varying variable equal to 1 if the turnover was forced, and 0 otherwise. Further, we used another binary time variable equal to 1 if the turnover was routine, and 0 otherwise (Guo & Masulis, 2015; Jenter & Kanaan, 2015; Voussem et al., 2013; Hazarika, Karpoff & Nahata 2012; Parrino 1997).

To classify the reason of the turnover, we followed the same methodology developed by Parrino (1997) and which is widely used in succession studies today (Jenter & Kanaan, 2015; Guo & Masulis, 2015). Two researchers independently classified CEO turnover, by hand, as forced or routine based on press releases and newspapers articles. We searched for different sources and press releases to find the earliest announcement dates for CEO turnovers and other necessary information to be able to classify the turnovers as correct as possible. Furthermore, a turnover was classified as forced if: (1) news articles were clearly stating that the CEO was fired, (2) the board forced the CEO to resign without any cause stated, (3) there were clear disagreements between the board and the CEO and (4) the CEO made a mistake that lead to the turnover event. Moreover, other CEO turnovers reasons such as retirement, promotions or other personal reasons were classified as routine turnovers (Voussem et al., 2013).

3.2.4.2. Independent variables

Researchers (e.g. Kaplan, 1994a) rely on agency theory arguing that shareholders and board of directors should compensate managers on the basis of a firm's stock price. Hence, stock returns were included as a performance measure in the study. Furthermore, accounting

performance can explain CEO turnover as well, although it is not as precise as stock returns since it consists of more information than historically based accounting performance (Chen et al., 2013; Engel, Hayes & Wang, 2003). However, it is not clearly apparent whether stock returns or earnings are more informative about executive performance (Milgrom & Roberts, 1992). Stock returns also include changes in the market discount rate whereas earnings do not, thus, accounting earnings may provide a better measure of CEO performance (Kaplan, 1994a). For example, a strong relation between CEO turnover and earnings-based performance has been found in previous research (Murphy & Zimmerman, 1993). Taken this into consideration, we followed prior research in measuring firm performance by considering both stock performance and accounting-based performance in the study (Guo & Masulis, 2015; Dikolli et al., 2014; Chen et al., 2013; Lausten, 2002; Huson et al., 2001; Parrino, 1997).

The primary measure of firm performance is accounting returns, specified as the return on assets (ROA) measured as the net profit divided by total assets. To deal with the potential problem of double causality in the performance–CEO turnover relation, a one year lagged value of ROA was used i.e. ROA was measured in the year before the CEO turnover (González et al., 2015; Chen et al., 2013; Umans, 2012; Huson et al., 2001). In addition, the ROA measure was industry-adjusted (IROA) and to estimate IROA we divided the sample into 11 industrial sectors using GICS developed by Standard & Poor's and then calculated each industry's average ROA (Standard & Poor's, 2006). IROA was then measured as the individual ROA for each firm and year minus the average industry ROA (Evans, Nagarajan & Schloetzer, 2010; Kato & Long, 2006; Lausten, 2002; Weisbach, 1988). We use industry adjustments since it is a more precise measure and it helps mitigating econometric problems such as mean-reversion in accounting performance measures (Guo & Masulis, 2015; Huson et al., 2001).

In addition to IROA, we also used stock performance defined as the firm's market-adjusted return over the previous year (Denis et al., 1997). When boards make the CEO turnover decision they tend to adjust for market benchmarks, but not for industry benchmarks and this is the reason for using market-adjusted stock returns (c.f. industry-adjusted stock returns) (Jenter & Kanaan, 2015; Kaplan & Minton, 2011). Previous studies (e.g. Jenter & Kanaan, 2015; Evans et al., 2010) obtain the market-adjusted returns by measuring the difference between a firm's stock return and the CRSP value weighted index (i.e. total market index of

4000 US companies). Hence, we computed the market-adjusted return as the sample firm's stock return taken from DataStream (see Appendix 6) minus the average return of the OMX Stockholm Gross Index (OMXSGI) over the same period. Furthermore, some stock returns are more lagged than others since we used stock performance over the previous year regardless of when the CEO turnover occurred during year t. An alternative approach is to compute returns over four quarters prior to each turnover (Weisbach, 1988). However, we were not able to use this measure since we did not have all announcement dates of the replaced CEOs.

Moreover, we used a profit dummy as an additional performance measure. The dummy variable equaled 1 if the firm reported a profit in the previous year, and 0 otherwise (González et al., 2015; Dikolli et al., 2014; Lausten, 2002; Kaplan, 1994a). From an accounting point of view, a negative profit indicates that the firm has not generated sufficiently high revenues to cover its financial and operating expenses which could be a sign of financial distress and thus influence the turnover probability (Kaplan, 1994a).

3.2.4.3. Moderating variables

To develop different measures of CEO entrenchment in a Swedish context, we were inspired by different authors (e.g. Oxelheim & Clarkson, 2015; Cronqvist, Heyman, Nilsson, Svaleryd & Vlachos, 2009). All variables were collected from the Holding database:

CEO votes: A share of votes exceeding 50 percent generally means complete control over the firm. For Swedish listed companies a reasonable assessment of ownership holdings only has to amount 20-30 percent of the voting rights to have complete control of the firm, which is a common assumption used in research (Jakobsson & Wiberg, 2014; Morck et al., 2005). Taken this into consideration, voting rights is an accurate measurement of CEO entrenchment in Sweden (Cronqvist et al., 2009). CEO votes was measured in line with the study by Cronqvist et. al (2009), as the fraction of the firm's voting rights held by the CEO. A one year lagged value was used i.e. if the turnover occurred in 2012, the CEO voting rights from the end of 2011 were used. The reason for using lagged CEO votes is because of the risk that the CEO could start selling shares when the turnover is approaching.

CEO ownership: Managerial shareholding can be seen as a way of aligning interests of shareholders and management and thereby increase the value of the firm. However, a CEO

with a large equity stake can also lead to him or her being entrenched and thereby more difficult to remove according to Dikolli et al. (2014) and Fisman et al. (2014). Also, CEO ownership has been used in previous studies as a measure of CEO power (e.g. Cheng et al., 2015; Jenter & Kanaan, 2015). The negative relationship between firm performance and CEO turnover is weakened when the CEO is a controlling shareholder, thus indicating a positive relationship between CEO ownership and entrenchment (Brunello et al., 2003). Moreover, CEO ownership is a continuous variable and is defined as the share of the total number of stocks held by the CEO (Denis et al., 1997). One year lagged values were used and the reason is the same as mentioned in the CEO votes paragraph.

CEO on board: A dummy variable equal to 1 for firms where the CEO is a member of the supervisory board, and 0 otherwise. Oxelheim and Clarkson (2015) stated that CEO being a member of the board could lead to an environment of "back scratching" between the CEO and the chairman and hence increase the probability of CEO entrenchment. Being member of the board could give CEOs the ability to influence or mitigate the governance mechanisms in the firm. Taken this into consideration, we assume that the negative relationship between prior firm performance and CEO turnover probability will be weakened if the CEO is a member of the board. As mentioned before, previous research has mainly focused on CEO duality as an entrenchment measure. However, since this is not allowed according to Swedish Code of Corporate Governance (Swedish Corporate Governance Board, 2016) the variable studied is whether the CEO is a member of the board.

If the CEO is dependent of a major owner: This measure has not been used before and is therefore unique for this research because of the special Swedish corporate governance system. A CEO that is dependent of a major shareholder could work on behalf of this major shareholder's interest. We argue that a firm with a CEO who is dependent of a major owner is harder to replace regardless of prior firm performance. The definition of a major owner is explained in the Swedish Code of Corporate Governance which states that major shareholders which directly or indirectly control at least 10 percent of the shares or votes in the company are major owners. Furthermore, independency is a judgement made by the nomination committee before the annual meeting where the direct and indirect relationships with the major owners are considered (Swedish Corporate Governance Board, 2016). Agency theorists argue that independent board members, given their independence, establish a controlling monitoring process and are therefore a vital component within the firm (Fama

& Jensen, 1983b). Nevertheless, this independency could be neutralized if the CEO is a member of the board and dependent of a major owner since the CEO could for instance have influence on the monitoring process.

For example, we argue that if the CEO is a member of the board and dependent of a major shareholder, the probability of the CEO being replaced is low regardless of prior performance as long as the major shareholder is still involved in the firm. The results could be biased by only looking at the ownership of the CEO, hence, we also included the interconnection and dependency aspect between the CEO and a major owner. We used a dummy variable equal to 1 if the CEO is both a member of the board and dependent of a major owner of the firm, and 0 otherwise.

3.2.4.4. Control variables

CEO age: Different studies argue that the age of a CEO plays a major role in CEO turnover decisions (Evans et al., 2010). A natural reason of CEO turnover is due to retirement (Umans, 2012). Older CEOs are also more likely to leave due to health or other reasons (Chen et al., 2013). Therefore, we controlled for age of the departing manager which was defined as the age in years. The data was collected by hand and CEO age was calculated as year t less the CEO birth year (e.g. 2012 firm year - 1950 birth year = 62 years old) (Lausten, 2002).

CEO tenure: According to Chen et al. (2013) the probability of CEO turnover decreases with tenure when CEO age has been controlled for. Thus, indicating that CEOs are becoming more powerful the longer the position is held (Denis et al., 1997; Morck, Shleifer & Vishny, 1988). Lausten (2002) and González et al. (2015) have arrived at the same conclusions and therefore the control variable CEO tenure was added. CEO tenure is defined as the number of years employed as CEO. The data was collected by hand and CEO tenure was calculated as year t less the CEO year of employment.

Board size: We followed prior studies and included board size as a control variable defined as the total number of directors on the board. According to Huson et al. (2001) boards have become more effective and the number of board members is declining. A more streamlined board can operate more efficiently and thereby be more effective in monitoring. Hence, a

reduction in board size could strengthen the negative relationship between firm performance and CEO turnover (Yermack, 1996).

Age of board members: We followed the same approach as Zhu and Chen (2016) when controlling for the average age of focal directors (i.e. director age). Turnover probability could increase when individuals are dissimilar in age (i.e. age heterogeneity) because differences in age between a CEO and the board could indicate difficulties in communication and understanding (Umans, 2012).

Foreign directors: This control variable was added since foreign owners tend to press firms to replace top executives when financial performance is poor. Contrarily, a firm could also appear more permissive towards poor firm performance if foreign directors are involved (Firth, Wong & Yang, 2014). We defined foreign investors as the percentage of board seats occupied by foreigners, which is the same approach used by González et al. (2015).

Ownership structure: A firm who has a high blockholder ownership may strengthen the corporate governance of the firm and consequently weaken the power of the CEO due to better monitoring, which in turn may increase turnover probability (Chen et al., 2013). Given the concentrated ownership structure in Sweden, the largest shareholder tends to be powerful and involved in the firm's daily decision-making which in turn may impact the turnover decision (Kato & Long, 2006; Weisbach, 1988). Therefore, we created two dummies equal to 1 if at least one owner holds at least: (1) 20 percent of the votes in the company and 0 otherwise, and (2) 30 percent of the votes in the company, and 0 otherwise (Denis et al., 1997).

Firm size: Firm size is a traditional control variable and prior research has found that CEO turnover probability is lower for large firms compared to small firms (e.g. Denis et al. 1997; Parrino, 1997). Moreover, firm size was calculated as the natural log of the total assets (Zhu & Chen, 2016; Guo & Masulis, 2015; Voussem et al., 2013; Huson et al., 2001).

Leverage: We used leverage as a control variable because of: (1) the firm's capital structure could be related to managerial entrenchment (Cronqvist et al., 2009; Berger, Ofek & Yermack, 1997) and (2) the firm's debt burden could stimulate managers to increase

performance (Umans, 2012). We defined leverage as the book value of total liabilities divided by the book value of total assets (Cronqvist et al., 2009).

Market-to-book ratio: We included the market-to-book ratio of equity since firms where the CEO is dismissed tend to be smaller than firms with a routine CEO turnover in terms of market value of equity (Jenter & Kanaan, 2015). Market-to-book ratio is defined as the firm's market value of equity divided by the book value of equity (Guo & Masulis, 2015; Voussem et al., 2013).

3.2.5. Binary response models

Most prevail CEO turnover research estimate non-linear models, such as the logit model and the probit model (Guo & Masulis, 2015). These two models are used when estimating dichotomous data and they are appropriate when the dependent variable only can take on two different values (Brooks, 2014; Pallant, 2013; Aldrich & Nelson, 1984). In this study the dependent variable is a dummy variable equal to 1 if there has been a CEO turnover, and 0 if no CEO turnover occurred, thus using a linear regression model is inconvenient (Brooks, 2014). In this thesis, the preferred model to use is the logistic regression model since it is the most adopted model in prior research (e.g. Jenter & Kannan, 2015; Huson et al., 2001; Denis et al., 1997) and it is historically favored due to its simplicity (Brooks, 2014).

The logit and probit model give similar data characterizations and virtually identical results since the densities are very similar (Brooks, 2014; Weisbach, 1988), thus choosing between the two binary response models could be seen as arbitrary. However, the only instance where the models could diverge is when the dataset has unbalanced binary outcomes i.e. when $\mathrm{y_i} = 1$ occurs approximately 10 percent of the time which ultimately is the case for this dataset (Brooks, 2014). We have therefore made additional regressions to test whether the results are affected by the logistic regression structure (see 4.8.1. Probit model).

3.2.6. The logistic regression model

According to Brooks (2014) the logistic regression model could be seen as the cumulative logistic probability distribution function for any random variable z_i:

$$\mathrm{F(z_i)} = \frac{\mathrm{e}^{z_i}}{1 + \mathrm{e}^{z_i}} = \frac{1}{1 + \mathrm{e}^{-z_i}} \tag{3.1}$$

Like any cumulative probability distribution, the logistic function places the value of $F(z_i)$ within the open interval (0,1) based on the value of z_i and $F(z_i)$ is consequently interpreted as a probability (Brooks, 2014). The estimated logistic model would therefore be:

$$P_i = \frac{1}{1 + e^{-(\beta_1 + \beta_2 x_{2i} + \cdots + \beta_k x_{ki} + u_i)}} \tag{3.2}$$

where the probability of $y_i = 1$ is equal to P_i. Standard errors and t-ratios for individual coefficients will be provided by Eviews and are interpreted equivalently as for OLS-regressions. But to be able to interpret the coefficient estimate, it is necessary to calculate the marginal effect (i.e. the derivative of the estimated regression function with regard to the independent variable of interest) (Brooks, 2014). The marginal effects are not generated automatically by Eviews and was consequently calculated manually, where the following formula was used:

$$m_k^{logit} = \beta_k F(z)\big(1 - F(z)\big) \tag{3.3}$$

In a regular linear regression model, it is possible to measure how good the model fit the data (i.e. standard goodness of fit measures such as R^2). In contrast, the logistic regression model in Eviews generates a goodness of fit measure called Pseudo-R^2, reported as McFadden R^2, which is differently interpreted compared to R^2. The higher the value of Pseudo-R^2, the better the fit of the model. It is worth mentioning that the Pseudo-R^2 values are generally lower in comparison to other R^2 measures (Brooks, 2014).

3.2.7. Validity, reliability and generalizability

According to Saunders et al. (2009) validity refers to verifying that the measurement used in the study actually measures what it is intended to. To maintain validity, one should get approximately the same results regardless of which alternative measurement that is used (Bryman & Bell, 2015). For this reason, alternative measures (e.g. forced CEO turnover) were developed for robustness checks and to increase the validity of the thesis. Also, the methodology used is mainly based on previous studies in the field of corporate governance which increases the validity further. However, we recognize that the variables we use to capture CEO entrenchment in the Swedish context might not capture managerial

entrenchment in the same way as it does in well-established US studies, thus implying a lower level of validity in this respect.

Moreover, reliability refers to the consistency of a measure of a concept (Bryman & Bell, 2015). Regarding the reliability, there could be potential problem with incorrect values in the data since this thesis is based on data derived from several data sources. However, the data collected from databases such as DataStream and ORBIS is considered reliable, but we recognize that errors and differences between different databases (e.g. Bloomberg) could occur.

Secondly, we argue that there is an increased reliability since the empirical method is well described and should without difficulty being replicated by future researcher. Thirdly, some of the variables are based on subjective observations (e.g. turnover reason, foreign directors) and therefore an inter-reliability measure was estimated to increase the reliability of the study (Collin Smith, Umans, Broberg & Tagesson, 2013; Pallant, 2013). A random sample of ten firms from each rater was exchanged with the other rater, who in turn independently performed a similar coding of these ten firms. The result of the inter-rater reliability was 90 percent i.e. two observations out of twenty were dissimilar[1].

External validity refers to the degree which the results are generalized in other contexts and the major issue is whether the sample could be an estimate of the whole population (Bryman & Bell, 2015). We argue that our thesis could be generalized to both similar markets and other non-listed firms in Sweden since the impact of CEO turnover and managerial entrenchment has been established in previous studies across several countries with different types of governance systems.

[1] 2 dissimilar codes out of 20, leading to 2/20=0,1. Which gives us an overall inter-rater reliability of 1-0,1=0,90 (90%).

4. Empirical results and analysis

This chapter presents the outcomes of the two hypotheses tested. Firstly, the descriptive statistics will be discussed, followed by a summary of different validity tests conducted and transformations made of the data. Thereafter we will present the regression models, regression analysis and the empirical findings. To conclude, two robustness tests are shortly described and analyzed.

4.1. Descriptive statistics

The results of the descriptive statistics are presented in table 1. The final sample includes 222 companies with a total of 666 observations during the three-year period. There was a total of 83 CEO turnovers identified, whereof 15 were forced turnovers and 59 were routine turnovers (and the remaining were missing values). Furthermore, the average CEO of our sample is 51 years old, has 7 years of tenure as a CEO and holds 4 percent of the company's votes. Also, the CEO is a member of the supervisory board in one third of the observations which could indicate a possibility of CEO entrenchment in these cases since there could occur "back scratching" in this type of environment (Oxelheim & Clarkson, 2015).

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
CEO turnover	663	0	1	0,125	0,331	2,270	3,164
Routine turnover	666	0	1	0,089	0,284	2,902	6,443
Forced turnover	666	0	1	0,023	0,148	6,451	39,730
ROA industry-adjusted	666	-132,140	155,570	0,000	17,641	-1,528	24,430
Profit dummy	666	0	1	0,780	0,415	-1,350	-0,178
Stock return market-adjusted	656	-1,149	6,181	0,022	0,504	4,571	46,355
CEO age	666	30	69	51,270	6,780	-0,106	-0,151
CEO tenure	663	0	33	6,810	6,382	1,761	3,264
FirmSize	646	17	29	21,800	2,193	0,467	0,100
Leverage	648	0,000	0,900	0,212	0,187	0,746	-0,025
Market-to-book ratio	621	-56,260	175,860	2,652	7,820	17,099	393,823
Boardsize	663	1	12	5,590	1,664	0,397	1,083
Avgerage Age of Board	655	45	71	57,390	4,414	0,031	0,067
Foreign directors	660	0,000	1,000	0,180	0,244	1,400	1,267
Ownership dummy 20%	660	0	1	0,430	0,495	0,301	-1,915
Ownership dummy 30%	660	0	1	0,200	0,403	1,480	0,191
CEO on board	663	0	1	0,320	0,468	0,752	-1,438
CEO dependent of major owner	660	0	1	0,110	0,308	2,565	4,591
CEO ownership	660	0,000	0,712	0,030	0,080	4,765	25,764
CEO votes	660	0,000	0,827	0,040	0,113	4,354	20,589

Table 1. Descriptive statistics

Moreover, the average board size is 5,59 with the minimum of 1 and a maximum of 12 and the average age of board members is 57,39 years indicating a higher average age than the average CEO age. Differences in age between a CEO and the board (i.e. age heterogeneity)

could increase turnover probability (Umans, 2012). However, the dataset implies a relative homogenous age interval between the average CEO and the average board and thus potentially mitigating turnover probability. In addition, 43 percent of the observations have an owner holding a minimum of 20 percent of the firm's voting rights and 20 percent of the observations have an owner holding a minimum of 30 percent of the firm's voting rights.

The first independent variable - industry-adjusted ROA - ranges from a minimum value of -132,140 percent to a maximum of 155,57 percent and the distribution of the observations is leptokurtic and negatively skewed (Brooks, 2014). The distribution of the second independent variable - market-adjusted stock return - is also leptokurtic but positively skewed. Moreover, the market-to-book ratio has the overall worst fit with plenty of outliers. How these variables were further adjusted is presented in the following section.

4.2. Normality

To test if the observations in the dataset are normally distributed a Bera-Jarque test was conducted. The test examines the degree of skewness, which is equal to zero if the residuals are normally distributed around its mean. The test also accounts for kurtosis, which is equal to three if the sample is normally distributed. Kurtosis is a measure of the distributions 'tailedness' and how peaked the mean of the dataset is (Brooks, 2014). The conclusion of the Bera-Jarque test was that the residual series of the dataset were not normally distributed and thus a number of adjustments were necessary (see Appendix 7).

The variables market-to-book ratio and market-adjusted stock returns were not normally distributed and thus both variables were transformed by taking the natural logarithm to smooth outliers and increase the validity of the data (Johnson & Wichern, 2007).

The variables industry-adjusted ROA, CEO votes and CEO ownership were winsorized at the 1st and 99th percentile to reduce the impact of outliers. The approach follows previous treatment of outliers by Chen et al. (2013) and transforms the values above the 99th percentile down to the 99th percentile and values below the 1st percentile up to the 1st percentile. When making these adjustments the assumption is made that the winsorization will achieve robust statistics (Ghosh & Vogt, 2012). However, we are aware of the plausible undervaluation of outliers which might occur. The reason for not transforming these variables (i.e. taking the natural logarithm) was the occurrence of negative values and values equal to zero which

would lead to several missing values and thus lower quality of the data. Finally - in line with the Central Limit Theorem - non-normality is of less importance and should not affect the validity of our regressions because of the large sample size (Brooks, 2014).

4.3. Heteroscedasticity

The statistical test of significance in the regressions can be invalid and wrong conclusions can be made if heteroscedasticity is present in the dataset. Therefore, taking the logarithm rescales the data, leading to a more constant variance which in turn can overcome heteroscedasticity. Also, in Eviews the Huber/Whites robust covariance is used to ensure standard errors estimates are robust to heteroscedasticity (Brooks, 2014). Following prior research, standard errors are adjusted for year clustering (González et al., 2015; Chen, et al., 2013; Chen & Hambrick, 2012; Greene, 2003).

4.4. Endogeneity

When dealing with financial data a common problem that could occur is endogeneity which means that one or several independent variables are correlated with the error term (Brooks, 2014). In order to avoid any endogeneity and double causality in firm performance and CEO turnover, we used lagged values of the performance measures in the logistic regressions (González et al., 2015). The performance measures are expected to be exogenous when using lagged values. However, it is important to highlight that using lagged performance variables does not necessarily resolve the potential problem of endogeneity and double causality. Nevertheless, previous research (e.g. Chen et al., 2015) concluded that endogeneity would not be a concern if this approach is used.

4.5. Multicollinearity

The logistic regression model does not make assumptions concerning the distribution of scores for the predictor variables. The model is sensitive to high correlations among the predictor variables, hence, the importance of doing a correlation matrix is vital. The correlation matrix in appendix 8 indicates that the variables with a correlation coefficient exceeding 0,8 and thus indicating near multicollinearity are CEO Votes and CEO ownership. Therefore, these two variables were analyzed in separate regressions (see 4.6. Regression models).

Furthermore the ownership dummy variables have the second largest observed correlation

(0,586), but it is not sufficiently correlated to be indicating near multicollinearity. However, in Sweden 20 percent ownership is enough to have control and the two ownership dummy variables are quite similar, hence the 20 percent dummy variable was used in the regressions. Based on lower correlations between remaining variables in the correlation matrix no further tests were necessary.

4.6. Regression models

This section presents the specification of the different regression models performed. The first regression model has ROA as a performance measure and the second regression model has stock return as a performance measure. Apart from the performance measure the aggradation is the exact same for the two regression models.

4.6.1. Regressions using ROA as performance measure

We followed prior studies when formulating the different regressions (Chen et al., 2013; Denis et al., 1997). The performance measure (i.e. independent variable) is industry-adjusted ROA and the profit dummy variable, followed by all control variables. The aim of the first regression is to test whether there is a negative relationship between prior firm performance and CEO turnover probability (H_1):

$$\Pr(\text{CEO turnover} = 1) = \alpha_0 + \beta_1 \text{ROA} + \beta_2 \text{D\_Profit} + \beta_{3-11} \text{Control Variables} \quad (1)$$

The aim of the second regression is to test whether the negative relationship between prior firm performance and CEO turnover probability will be weakened when the CEO is entrenched (H_2). We conduct two separate regressions for the second hypothesis where CEO votes and CEO ownership are distinguished since they are highly correlated:

$$\begin{aligned}&\Pr(\text{CEO turnover} = 1)\\&= \alpha_0 + \beta_1 \text{ROA} + \beta_2 \text{ROA} * \text{CEOvotes} + \beta_3 \text{ROA} * \text{CEOboard} + \beta_4 \text{ROA} * \text{CEOdependent} + \beta_5 \text{CEOvotes}\\&+ \beta_6 \text{CEOboard} + \beta_7 \text{CEOdependent} + \beta_{8-16} \text{Control Variables} \quad (2a)\end{aligned}$$

$$\begin{aligned}&\Pr(\text{CEO turnover} = 1)\\&= \alpha_0 + \beta_1 \text{ROA} + \beta_2 \text{ROA} * \text{CEOownership} + \beta_3 \text{ROA} * \text{CEOboard} + \beta_4 \text{ROA} * \text{CEOdependent}\\&+ \beta_5 \text{CEOownership} + \beta_6 \text{CEOboard} + \beta_7 \text{CEOdependent} + \beta_{8-16} \text{Control Variables} \quad (2b)\end{aligned}$$

4.6.2. Regressions using stock return as performance measure

We followed the exact same structure when formulating the second regression model, but now using market-adjusted stock return as performance measure (the abbreviation is SR in the formula). Hence, the three regression formulas are:

$$\Pr(\text{CEO turnover} = 1) = \alpha_0 + \beta_1 \text{SR} + \beta_2 \text{D\_Profit} + \beta_{3-11} \text{Control Variables} \quad (1)$$

$$\Pr(\text{CEO turnover} = 1) = \alpha_0 + \beta_1 \text{SR} + \beta_2 \text{SR} * \text{CEOvotes} + \beta_3 \text{SR} * \text{CEOboard} + \beta_4 \text{SR} * \text{CEOdependent} + \beta_5 \text{CEOvotes} + \beta_6 \text{CEOboard} + \beta_7 \text{CEOdependent} + \beta_{8-16} \text{Control Variables} \quad (2a)$$

$$\Pr(\text{CEO turnover} = 1) = \alpha_0 + \beta_1 \text{SR} + \beta_2 \text{SR} * \text{CEOownership} + \beta_3 \text{SR} * \text{CEOboard} + \beta_4 \text{SR} * \text{CEOdependent} + \beta_5 \text{CEOownership} + \beta_6 \text{CEOboard} + \beta_7 \text{CEOdependent} + \beta_{8-16} \text{Control Variables} \quad (2b)$$

4.7. Regression analysis

This section provides the main result of the logistic regressions divided in the two hypotheses. The section also includes a discussion which is connected to previous research and the theoretical framework. As mentioned before, the independent variables - industry-adjusted ROA and market-adjusted stock return - are measured in the year before the CEO turnover (González et al., 2015; Denis et al., 1997). Also, to reduce the impact of outliers, we winsorized ROA at the 1st and 99th percentile (Guo & Masulis, 2015; Fisman et al., 2014). The standard errors are adjusted to year clustering (González et al., 2015; Chen et al., 2013; Chen & Hambrick, 2012; Greene, 2003). The marginal effect, Pseudo R^2 and the percentage correctly predicted will not be further analyzed if the variable is not significant.

4.7.1. The classical relationship between firm performance and CEO turnover

The regression result of the classical relationship is presented in table 2. We find modest support for H_1 in the first logistic regression equation, where industry-adjusted ROA is the performance measure. The logistic regression predicts 87,27 percent correctly with a McFadden R^2 of 0,11. ROA is significant at the 5 percent level and the marginal effect is negative as predicted, thus a one unit increase in ROA decreases the probability of CEO turnover by 0,23 percent. The profit dummy - used as an additional performance measure - is also significant, but at the 10 percent level and only if ROA is used as the original performance measure. If a firm is making a profit in year t, the likelihood of being replaced

as a CEO decreases by 5,86 percent the following year. In line with previous research, the overall result indicates that the probability of the CEO being replaced is higher after a period with poor firm performance in terms of industry-adjusted ROA and profit dummies (González et al., 2015; Brunello et al., 2003; Huson et al., 2001; Dennis et al., 1997; Kaplan, 1994b).

H1

Dependent variable: CEO turnover		**Performance = ROA**			**Performance = Stock return**		
Variables	**Predicted sign**	**Coefficient**	**Marginal effects**	**Standard errors**	**Coefficient**	**Marginal effects**	**Standard errors**
C		1,226787		2,234475	0,333187		2.164920
Industry-adjusted ROA	-	-0,024975*	-0,002310	0,011909			
Market-adjusted stock return	-				-0,121020	-0,011707	0,301985
Profit dummy	-	-0,633293†	-0,058574	0,397294	-0,169944	-0,016440	0,349327
CEO age	+	0,080793***	0,007473	0,020687	0,082160***	0,007948	0,020716
Tenure	-	-0,054068**	-0,005001	0,019908	-0,048087**	-0,004652	0,019952
Board size	-	-0,067898	-0,006280	0,099453	-0,054551	-0,005277	0,101292
Average age of board members		-0,031937	-0,002954	0,028266	-0,031751	-0,003072	0,028051
Foreign directors	+/-	-1,126098†	-0,104155	0,662813	-1,013844†	-0,098076	0,64933
Ownership dummy 20%	+	-0,029800	-0,002756	0,263019	-0,009823	-0,000950	0,263082
Firmsize	-	-0,188849*	-0,017467	0,088744	-0,169616†	-0,016408	0,086857
Leverage	+/-	0,419382	0,038789	0,888835	0,143437	0,013876	0,88334
Logarithmic market to book ratio	-	-0,563843**	-0,052151	0,183674	-0,563709**	-0,054532	0,186763
Number of observations			n=597			n=589	
Precentage correctly predicted			87,27%			86,93%	
McFadden R-squared			0,112315			0,101482	

*** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10

Table 2. The regression result of the classical relationship

When market-adjusted stock return is the performance measure, we find no statistical significance to support H_1. The result in table 2 shows that there is a negative relationship between firm performance and CEO turnover in terms of stock returns, but not statistically significant. The logistic regression predicts 86,93 percent correctly with a McFadden R^2 of 0,10 which is lower than of the logistic regression using ROA as a performance measure.

The classical relationship between prior firm performance and CEO turnover can partly be supported on the Swedish market. Some of the results indicate that Swedish listed firms have a well-functioning governance system, which solves the agency conflict by replacing CEOs which perform poorly since two out of three performance measures are significant[2]. A possible explanation regarding the insignificance of market-adjusted stock return could be that investments of Swedish shareholders may have a more long-term focus because of a more concentrated ownership structure (Jakobsson & Wiberg, 2014; Umans, 2012; Faccio

[2] Note that the profit dummy is only significant when industry-adjusted ROA is used as performance measure.

& Lang, 2002; La Porta et al., 1998). Thus, investors in Sweden could be more tolerant against poor stock performance and accept declining stock returns in relation to investors from other Anglo-American countries with dispersed ownership.

The result could potentially be explained by applying the stewardship theory on the non-findings between prior firm performance and CEO turnover when market-adjusted stock returns is used as performance measure. If we consider alternative theories such as stewardship theory, the firm and the shareholders could see the CEO as a good steward who works towards increased firm performance and shareholder value. Hence, not replacing the CEO since he or she wants to be a competent steward at any level (Madison et al., 2016; Davis et al., 1997; Donaldson & Davis, 1991; Barney, 1990). In addition, stock performance could arguably include noise which will have a negative impact of the share price and therefore not be related to the actual performance of the CEO. On the contrary, this argument could also result in boards making an incorrect decision of replacing the CEO and to have a ritualistic scapegoat during periods of poor firm performance (Jenter & Kanaan, 2015; Chen & Hambrick, 2012; Meindl et al., 1985).

The findings in table 2 regarding the control variables are consistent with prior research, except for the 20 percent ownership dummy variable. The coefficients and significance levels are equivalent for the two performance measures, except for firm size where the significance level differ between the models ($p<0,05$ and $p<0,10$). Furthermore, the positive coefficient on CEO age is significant at the 0,1 percent level suggesting that CEO turnover probability is higher for a firm with an older CEO (Chen et al., 2013). The marginal effect of the CEO age parameter implies that an increase in age of the CEO by one year would increase probability of turnover by 0,74 when using ROA as performance measure, holding everything else equal. Moreover, CEO tenure is significant at the 1 percent level indicating a 0,5 percent decrease in CEO turnover probability for each additional year the position is held by the CEO which is in line with the predictions made (González et al., 2015; Chen et al., 2013; Lausten, 2002; Denis et al., 1997).

Consistent with that a higher share of foreign directors are more tolerant towards poor firm performance (Firth et al., 2014), we find statistical significance ($p<0,10$) that a higher percentage of board seats occupied by foreigners are less likely to replace the CEO. Swedish firms have also applied restrictions to foreign ownership in order to maintain control of the

domestic firms (Faccio & Lang, 2002), which could lead to a tendency of having a smaller share of foreign director's present at boards (c.f. other countries). This could in turn explain the high marginal effect of having a foreign director on the board in Swedish firms. Further, the negative coefficient on firm size suggests that turnover probability is lower for large firms, supporting evidence from Denis et al. (2013) and Parrino (1997). Finally, market-to-book ratio is significant at the 1 percent level and the marginal effect is negative as predicted, indicating that larger firms in terms of market value of equity are less likely to replace the CEO (Jenter & Kanaan, 2015).

4.7.2. The moderating effect of CEO entrenchment

In the second regression found in table 3, the moderating effect of CEO entrenchment has been added to the model in order to determine if the negative relationship between prior firm performance and CEO turnover will be weakened when the CEO is entrenched. Firstly, we conducted regressions using all moderating variables together (i.e. CEO on board, CEO votes, CEO ownership and CEO dependent of a major owner) which are presented in appendix 9. The latter variable - CEO dependent of a major owner - is frequently insignificant indicating that the negative relationship between prior firm performance and CEO turnover is not moderated by the dependency between the CEO and a major shareholder. This could be due to the sample being too small or the dependency of a major shareholder not being a proper measure of CEO entrenchment. Therefore, this variable was excluded from table 3.

H2A

Dependent variable: CEO turnover		**Performance = ROA**			**Performance = Stock return**		
Variables	**Predicted sign**	**Coefficient**	**Marginal effects**	**Standard errors**	**Coefficient**	**Marginal effects**	**Standard errors**
C		-0,227504		2,296372	-0,735128		2,2040
Market-adjusted stock returns	-				-0,209926	-0,014099	0,340314
Industry-adjusted ROA	-	-0,007559	-0,000480	0,00866			
Market-adjusted stock returns * CEO Votes	+				-8,177249	-0,549212	11,065410
Industry-adjusted ROA * CEO Votes	+	0,100059	0,006350	0,279677			
CEO Votes	-	-6,992836**	-0,443789	2,396406	-7,267254***	-0,488093	2,331919
Market-adjusted stock returns * CEO on board	+				0,965649	0,064856	0,928407
Industry-adjusted ROA * CEO on board	+	0,060871*	0,003863	0,036563			
CEO on board	-	-1,711226***	-0,108600	0,488455	-1,547958***	-0,103966	0,463033
CEO age	+	0,089931***	0,005707	0,021055	0,089582***	0,006017	0,020684
Tenure	-	-0,020950	-0,001330	0,025656	-0,014732	-0,000989	0,023932
Board size	-	-0,064065	-0,004066	0,10201	-0,050082	-0,003364	0,102144
Average age of board members		-0,017147	-0,001088	0,029488	-0,022364	-0,001502	0,028880
Foreign directors	+/-	-1,008290	-0,063989	0,68326	-0,976669	-0,065596	0,682374
Ownership dummy 20%	+	-0,000729	-0,000046	0,267789	0,007925	0,000532	0,268417
Firm size	-	-0,192411*	-0,012211	0,095782	-0,158674†	-0,010657	0,089498
Leverage	+/-	0,148633	0,009433	0,92806	-0,075206	-0,005051	0,914794
Logarithmic market to book ratio	-	-0,654603***	-0,041543	0,186071	-0,594381**	-0,039921	0,188778
Number of observations			n=597			n=589	
Precentage correctly predicted			87,10%			86,76%	
McFadden R-squared			0,167629			0,160979	

*** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10

Table 3. First regression result with CEO entrenchment as a moderator

The major difference from the first regression is that industry-adjusted ROA is no longer significant and neither is the control variable CEO tenure. The change in statistical significance could be a result of adding CEO entrenchment variables to the model which might better explain the likelihood of CEO turnover in these particular regressions. The interpretation may consequently be that industry-adjusted ROA captures both the performance effect and the CEO entrenchment effect in the first regression. Hence, the effect of adding CEO entrenchment could be superior the effect originally generated by ROA, leading to insignificance in the second regression. When the moderators are added in the second regression they capture the effect of entrenchment and are therefore a more adequate measure of entrenchment since ROA now is insignificant. Furthermore, we still find the same predicted negative relationship between the performance measures and CEO turnover. The two logistic regressions predict 87,10 and 86,76 percent respectively with a McFadden R^2 of 0,168 and 0,161.

According to the regression result in table 3, CEO votes has no moderating effect of the negative relationship between firm performance and CEO turnover regardless of performance measure used. On the other hand, the result indicates a significant direct effect between CEO votes and CEO turnover. The direct effect is significant at the 1 percent level and the marginal effect indicates that an increase of CEO votes with one percent reduces the probability of CEO turnover with 44 percent when the performance measure is defined as industry-adjusted ROA. When the performance measure is defined as market-adjusted stock returns the corresponding figure amounts to 48,8 percent. This is in line with prior studies indicating that CEOs are more entrenched when they hold a larger share of voting rights in the firm (Cheng et al., 2015; Cronqvist et al., 2009), thus have more power and in turn have the ability to minimize the probability of being replaced.

The results in table 3 also suggests that the negative relationship between prior firm performance and CEO turnover is weakened when the CEO is a member of the supervisory board, using ROA as performance measure. The coefficient of the interaction term is significant at the 5 percent level and the marginal effect is equal to 0,39 percent. This is in line with the statement by Oxelheim and Clarkson (2015) that the CEO being a member of the board could lead to an environment of "back scratching" between the CEO and the chairman of the board, which in turn decreases the probability of turnover during poor firm performance. CEO being a member of the board could also have a direct effect on the

probability of CEO turnover, which is significant at the 0,1 percent level for both performance measures.

As in the classical relationship between prior firm performance and CEO turnover, we consistently include a number of control variables which may be related to the effectiveness of the internal control systems of the firm (Denis et al., 1997). Again CEO age (p<0,001), firm size (p<0,10) and market-to-book ratio (p<0,01) are statistically significant.

H2B

Dependent variable: CEO turnover		Performance = ROA			Performance = Stock return		
Variables	**Predicted sign**	**Coefficient**	**Marginal effects**	**Standard errors**	**Coefficient**	**Marginal effects**	**Standard errors**
C		-0,249252	-0,0160	2,286947	-0,718432		2,193171
Market-adjusted stock returns	-				-0,223016	-0,0153	0,354775
Industry-adjusted ROA	-	-0,008104	-0,0005	0,008864			
Market-adjusted stock returns * CEO Ownershij	+				-5,430098	-0,3724	16,55197
Industry-adjusted ROA * CEO Ownership	+	-0,021290	-0,0014	0,404294			
CEO Ownership	-	-10,71247**	-0,6877	3,782436	-10,83105**	-0,7427	3,805805
Market-adjusted stock returns * CEO on board	+				0,833518	0,0572	0,961447
Industry-adjusted ROA * CEO on board	+	0,058369†	0,0037	0,037696			
CEO on board	-	-1,693377***	-0,1087	0,487642	-1,523760***	-0,1045	0,460803
CEO age	+	0,087184***	0,0056	0,021012	0,087008***	0,0060	0,020816
Tenure	-	-0,016734	-0,0011	0,025341	-0,011474	-0,0008	0,023852
Board size	-	-0,067370	-0,0043	0,102524	-0,052464	-0,0036	0,102770
Average age of board members		-0,017461	-0,0011	0,029561	-0,021776	-0,0015	0,28998
Foreign directors	+/-	-0,988056	-0,0634	0,678236	-0,971826	-0,0666	0,78631
Ownership dummy 20%	+	-0,032649	-0,0021	0,266228	-0,028572	-0,0020	0,267237
Firm size	-	-0,184525†	-0,0118	0,094798	-0,154900†	-0,0106	0,088851
Leverage	+/-	0,257872	0,0166	0,932699	0,044071	0,0030	0,922485
Market-to-book ratio	-	-0,634418***	-0,0407	0,183927	-0,583776**	-0,0400	0,186421
Number of observations			n=597			n=589	
Precentage correctly predicted			87,27%			87,10%	
McFadden R-squared			0,164683			0,157955	

*** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10

Table 4. Second regression result with CEO entrenchment as a moderator

In the third regression found in table 4, we include CEO ownership - measured as the total fraction of the shares held by the CEO of the firm - as the moderating variable instead of CEO votes. The two regression models have a percentage correctly predicted of 87,27 and 87,10 percent and a McFadden R^2 of 0,165 and 0,158 respectively. The result in table 4 indicates that CEO ownership does not have a moderating effect on the negative relationship between prior firm performance and CEO turnover since the coefficient is neither positive nor significant. One possible explanation for the insignificant coefficient estimate for the interaction term could be due to managers having an indirect ownership of shares in a capital insurance. Thus, actually holding a greater portion of shares than indicated in the dataset which in turn not captures the true moderating effect of CEO ownership.

On the other hand, managerial ownership does have an impact on the unconditional likelihood of turnover at the 1 percent level. The marginal effect of the CEO ownership coefficient indicates that a one unit increase in shares held by the CEO would decrease the probability of turnover by 68,8 percent (and even higher when the performance measure is market-adjusted stock return). These results on the Swedish market are consistent with previous research that a CEO with a large equity stake is more likely to be entrenched and in turn harder to replace (Cheng et al., 2015; Dikolli et al., 2014; Fisman et al., 2014).

CEO on board has a significant moderating effect of the negative performance–CEO turnover relationship at the 10 percent level. However, this result is only significant when ROA is used as a performance measure and not when stock return is used as performance measure. In Sweden, it could be possible that a CEO who is a member of the supervisory board arguably could inhibit internal control and thereby prevent the board from conducting effective monitoring efforts, hence not solving for the agency conflict (Fisman et al., 2014; Denis et al., 1997). The findings in table 4 also indicate a 0,1 percent statistically significant direct negative relationship between CEO on board and CEO turnover for both performance measures.

To conclude, we have found mixed results regarding the moderating effect of CEO entrenchment where the results differ between the different moderating and independent variables used and consequently we cannot find support for H_2. Some results (i.e. interaction term with CEO on board) show a significant moderating effect on the classical relationship between prior firm performance and CEO turnover. Other results (i.e. interaction term with CEO votes and CEO ownership) indicate that CEO entrenchment does not have a moderating effect of the classical relationship. The non-findings regarding the interaction terms of CEO ownership and CEO votes could go in line with stewardship theory, saying that the CEO has the motivation of being a good steward and is therefore less likely to be entrenched. Hence, the negative relationship between firm performance and CEO turnover is not affected by either the ownership stake or the fraction of votes held by the CEO.

4.8. Robustness checks

In this section, we provide two additional analyses to check the robustness of our results.

4.8.1. Probit model

The probit model is applied as an additional binary response model to determine if the choice of model affects the results of the regressions. The probit model was only applied in those regressions relevant (see Appendix 10). The regression results of the probit model indicate very limited differences considering coefficients, p-values, standard errors and McFadden R^2. However, the absolute values of the coefficients and the standard errors are slightly larger for the logit model. This could be due to the logit model using the cumulative logistic distribution while the probit model using the cumulative normal distribution (Brooks, 2014).

The p-values of the independent variables are not changing in any of the five regressions in appendix 10. However, there is a marginally change in statistical significance in three cases which could be the result of the largely unbalanced dataset of binary outcomes in those three specific cases (Brooks, 2014). Further, when comparing McFadden R^2 we can barely distinguish any differences between the models. To conclude, the results from the probit models are arguably similar to our main results from the logit models, indicating that the models are robust and not affecting the main result.

4.8.2. Forced CEO turnover

All CEO turnovers were included in the main analysis regardless of turnover reason, which is in line with previous research (e.g. Chen et al., 2013; Denis et al., 1997; Weisbach, 1988). Therefore, additional tests have been performed where alternative definitions of CEO turnover were applied (Chen et al., 2013). The results of the most interesting regressions are presented in appendix 11. We used forced CEO turnover as the dependent variable in both regressions. In line with Chen et al. (2013), forced CEO turnover tend to occur infrequently which is also the case for this Swedish dataset (a total of 15 observations of forced turnovers were identified).

For these newly specified regression models we again expect to find the same statistical significant predicted coefficients for the control variables and the interaction terms between the performance measure and the different entrenchment variables. However, the results from the regressions show that three control variables (i.e. CEO age, tenure and market-to-book ratio) have different statistical significance levels depending on the dependent variable used. When using forced CEO turnover as the dependent variable, CEO age seems not to have a significant effect since age arguably not has to be related to the dismissal. Further,

CEO tenure has a negative relationship with forced CEO turnover at the 1 percent significance level (c.f. the insignificance when including all turnovers).

One notable difference is that the regression using forced CEO turnover has a higher McFadden R^2 implying that the same number of variables have a better fit in the model that uses forced CEO turnover as the dependent variable. To summarize, the negative relationship between firm performance and CEO turnover seems unaffected by the different interaction terms of CEO entrenchment when using this robustness test, thus indicating no major implications on the main result.

5. Thesis conclusion

This final chapter presents a summary of the main results, findings and non-findings of this thesis. Concluding with suggestions of future research.

5.1. Discussion and conclusion

The aim of this study is to explain how prior firm performance affects CEO turnover with the moderating role of CEO entrenchment on the Swedish market. We examine this relationship in conjunction by a logistic regression and we conduct two additional robustness checks to test if the results from the main regressions hold. We conduct this study on the Swedish market partly because the relationship between prior firm performance and CEO turnover is unexplored in a Swedish context, and partly because of the uniqueness of the Swedish governance system and ownership structure.

In the first hypothesis, we expect to find a negative relationship between prior firm performance and the probability of CEO turnover. The results with industry-adjusted ROA as performance measure are supporting the hypothesis and provides a significant negative relationship to CEO turnover. The profit dummy is also significant when the performance measure is defined as industry-adjusted ROA. On contrary, there is no support for the first hypothesis when using market-adjusted stock return as a performance measure.

In the second hypothesis, we expect to find that the negative relationship between prior firm performance and CEO turnover will be weakened when the CEO is entrenched. The results are mixed regarding the interaction terms, where we only find a significant moderating effect if the CEO is a member of the board. Hence, indicating that the CEO could be entrenched serving as a member of the board and consequently reduce the probability of being replaced under poor financial performance. Conclusively, the result suggests that CEOs in Swedish listed firms could somehow extract managerial power being a member of the board. However, the non-findings regarding the moderating effect of CEO ownership and CEO votes suggests the opposite and could be an indication of a well-functioning corporate governance system in Sweden where the CEO is replaced if the firm is performing poorly. Some of the interesting findings of the thesis is that - instead of playing a moderating role - CEO ownership and CEO votes has a direct effect on CEO turnover.

The results also imply that the Swedish corporate governance system is not a system where the CEO takes advantage of holding a large share of the votes in order to remain within the firm after poor financial performance. From a theoretical perspective, the stewardship theory could provide a plausible explanation of the results, stating that the CEO is a good steward working towards increased firm performance and shareholder value. Furthermore, the concentrated ownership structure including the two dominating business groups in Sweden could be seen as controlling and with a lot of decisiveness leading to a successful internal monitoring process. Hence, the opportunity for the CEO to be entrenched is relatively limited even though Sweden has a system with dual class shares resulting in an opportunity to control a relatively large portion of the votes by holding a minor share of the capital.

To summarize, we have found very limited results of CEO entrenchment on the Swedish market in this study. The Swedish corporate governance system with concentrated ownership appears to be well-functioning, leaving relatively limited room for the CEO to extract private benefits at the expense of the shareholders of the firm. Furthermore, the argumentation of relationships explained and the results of the thesis contribute to a better understanding of agency conflicts within Swedish listed firms by highlighting the distinction between the Swedish corporate governance system in comparison to other countries. However, no similar study has previously analyzed this relationship in a Swedish context. Therefore, we as authors hope that this thesis will inspire other scholars to improve our model and to continue exploring different aspects of CEO entrenchment on the Swedish market.

5.2. Future Research

Future research could be conducted on a larger scale, for example by including First North listed companies. Moreover, an alternative approach when conducting the econometric model could be to measure firm performance by computing returns over four quarters prior to each turnover. Alternatively, the independent variable could be measured by additional performance measures or by using a two or three year lagged value of ROA in order to get a longer estimation window. Hence, include a more long-term perspective on the relationship studied. All these possible suggestions were considered, but not executed due to time constraint. The model could also be tested in other Nordic countries, hence, get a broader comprehension of different corporate governance aspects between countries and the effect on CEO turnover.

The moderating variable could possibly be conducted differently since the measure of CEO entrenchment is one out of many possible proxies. The entrenchment variable could for instance be measured as CEO Excess Votes defined as the portion of the CEOs votes minus the portion of cash flow rights (Cronqvist et al., 2009; Villalonga & Amit, 2006).

References

Abels, P.B. & Martelli, J.T. (2013). CEO duality: how many hats are too many?. *Corporate Governance: The international journal of business in society*, 13(2): 135-147.

Aldrich, J.H. & Nelson, F.D. (1984). *Linear Probability, Logit, and Probit Models.* (1 ed.) Beverly Hills: Sage.

Allwood, C.M. (2012). The distinction between qualitative and quantitative research methods is problematic. *Quality & Quantity*, 46(5): 1417-1429.

Association of business schools. (2015). *Academic journal guide 2015*. Retrieved 2017-03-21, from: http://www.dit.ie/media/library/journals/ABS%20Journal%20Ranking.pdf.

Baixauli-Soler, J.S. & Sanchez-Marin, G. (2011). Organizational governance and TMT pay level adjustment. *Journal of Business Research*, 64(8): 862-870.

Barney, J.B. (1990). The debate between traditional management theory and organizational economics: substantive differences or intergroup conflict?. *Academy of Management Review*, 15: 382-393.

Berger, P.G., Ofek, E. & Yermack, D.L. (1997). Managerial entrenchment and capital structure decisions. *Journal of Finance*, 52: 1411-1438.

Boyd, B.K. (1995). CEO Duality and Firm Performance: A Contingency Model. *Strategic Management Journal,* 16(4): 301-312.

Brooks, C. (2014) *Introductory Econometrics for Finance*. (3 ed.) Cambridge: Cambridge University Press.

Brunello, G., Graziano, C., & Parigi, B. (2003). CEO turnover in insider-dominated boards: The Italian case. *Journal of Banking & Finance*, 27: 1027-1051.

Bryman, A. & Bell, E. (2015). *Business research methods*. (4 ed.) Oxford: Oxford University Press.

Bränström, S.L. (2016, 3rd of May). Aktieägare förlorar när vd-karusellen går i spinn. *Svenska Dagbladet*. Retrieved 2017-03-31, from: https://www.svd.se.

Chen, X., Cheng, Q. & Dai, Z. (2013). Family Ownership and CEO Turnovers. *Contemporary Accounting Research*, 30(3): 1166-1190.

Cheng, J., Cummins, J.D. & Lin, T. (2015). Organizational Form, Ownership Structure, And CEO Turnover: Evidence From The Property–Casualty Insurance Industry. *The Journal of Risk and Insurance*, 84(1): 95-126.

Chen, G.L. & Hambrick, D.C. (2012). CEO replacement in turnaround situations: executive (mis)fit and its performance implications. *Organization Science*, 23(1): 225-243.

Chun-Sheng, Y. (2009). A Study of the Effect of Managerial Entrenchment on CEO Turnover in Chinese Listed Companies. *International Conference on Management Science & Engineering 16th*, September 14-16.

Collin, S-O, Smith, E., Umans, T., Broberg, P. & Tagesson, T. (2013). Mechanisms of corporate governance going international: Testing its performance effects in the Swedish economy. *Baltic Journal of Management*, 8(1): 79-101.

Corbetta, G. & Salvato, C. (2004). Self-serving or selfactualizing? Models of man and agency costs in different types of family firms: A commentary on "Comparing the agency costs of family and non-family firms: Conceptual issues and exploratory evidence." *Entrepreneurship: Theory & Practice*, 28: 355-362.

Cronqvist, H., Heyman, F., Nilsson, M., Svaleryd, H. & Vlachos, J. (2009). Do Entrenched Managers Pay Their Workers More?. *The Journal of Finance*, 64(1): 309-339.

Davis, J.H., Schoorman, F.D. & Donaldson, R. (1997). Toward a stewardship theory of management. *Academy of Management Review*, 22(1): 20-47.

DeFond, M. & Hung, M. (2004). Investor protection and corporate governance: Evidence from worldwide CEO turnover. *Journal of Accounting Research*, 42: 269-312.

Denis, D.J., Denis, D.K. & Sarin, A. (1997). Ownership structure and top executive turnover. *Journal of Financial Economics*, 45(2): 193-221.

Denscombe, M. (2016). *Forskningshandboken: För småskaliga forskningsprojekt inom samhällsvetenskaperna*. (3 ed.) Lund: Studentlitteratur AB.

Denscombe, M. (2009). *Ground Rules for Social Research: Guidelines for Good Practice*. (2 ed.) New York: Open University Press.

Dikolli, S.S., Mayew, W.J. & Nanda, D. (2014). CEO tenure and the performance-turnover relation. *Review of Account Studies*, 19(1): 281-327.

Donaldson, L. (1990). The ethereal hand: organizational economics and management theory. *Academy of Management Review*, 15: 369-381.

Donaldson, L. & Davis, J.H. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management*, 16(1): 49-64.

Eisenhardt, K.M. (1989). Agency Theory: An Assessment and Review. *The Academy of Management Review*, 14(1): 57-74.

Engel, E., Hayes, R. & Wang, X. (2003). CEO turnover and properties of accounting information. *Journal of Accounting and Economics*, 36(1-3): 197-226.

European Commission. (2014). No 596/2014 Supplementing Regulation of the European Parliament and of the Council.

European Commission. (2016). *The 2016 EU Justice Scoreboard*. Retrieved 2017-05-09, from: http://ec.europa.eu/justice/effective-justice/files/justice_scoreboard_2016_en.pdf.

Evans, J.H, Nagarajan, N.J. & Schloetzer, J.D. (2010). CEO Turnover and Retention Light: Retaining Former CEOs on the Board. *Journal of Accounting Research*, 48(5): 1015-1047.

Faccio, M. & Lang, L.H.P. (2002). The ultimate ownership of western European corporations. *Journal of Financial Economics*, 65(3): 365-395.

Fama, E. & Jensen, M.C (1983a). Agency problems and residual claims. *Journal of Law and Economics*, 26: 327-349.

Fama, E.F. & Jensen, M.C. (1983b). Separation of Ownership and Control. *The Journal of Law and Economics*, 26(2): 301-325.

Favaro, K., Karlsson, P. & Neilson G.L. (2011). CEO succession in 2010: the four types of CEOs. *Strategy+Business* 63: 39-50.

Finkelstein, S. & Hambrick, D.C. (1996). *Strategic leadership: top executives and their effects on organizations*. St. Paul: West Publishing Company.

Firth, M., Wong, S.M.L. & Yang, Y. (2014). The double-edged sword of CEO/chairperson duality in corporatized state-owned firms: evidence from top management turnover in China. *Journal of Management and Governance*, 18(1): 207-244.

Fisman, R.J., Khurana, R., Rhodes-Kropf, M. & Yim, S. (2014). Governance and CEO Turnover: Do Something or Do the Right Thing?. *Management Science*, 60(2): 319-337.

Furtado, E.P.H. & Karan, V. (1990). Causes, consequences, and shareholder wealth effects of management turnover: A review of the empirical evidence. *Financial Management*, 19(2): 60-75.

Ghosh, D. & Vogt, A. (2012). *Outliers: An Evaluation of Methodologies*. Retrieved 2017-05-10, from: http://ww2.amstat.org/sections/srms/Proceedings/y2012/files/304068_72402.pdf.

Godthelp, M. & Glunk, U. (2003). Turnover at the Top: Demographic Diversity as a Determinant of Executive Turnover in The Netherlands. *European Management Journal*, 21(5): 614-625.

González, M., Guzmán, A., Pombo, C. & Trujillo, M. (2015). The Role of Family Involvement on CEO Turnover: Evidence from Colombian Family Firms. *Corporate Governance: An International Review*, 23(3): 266-284.

Goyal, V.K. & Park, C.W. (2002). Board leadership structure and CEO turnover. *Journal of Corporate Finance*, 8: 49-66.

Greene, W. H. (2003). *Econometric Analysis*. (6 ed.) Prentice Hall: Upper Saddle River.

Guo, L. & Masulis, R.W. (2015) Board Structure and Monitoring: New Evidence from CEO turnovers. *Review of Financial Studies*, 28(10): 2770-2811.

Hambrick, D.C. (2007). Upper echelons theory: An update. *Academy of Management Review*, 32(2): 334-343.

Hambrick, D. C. & Finkelstein, S. (1987). Managerial Discretion: A bridge between polar views of organizational outcomes. *Research in Organizational Behavior*, (9): 369-406.

Hansen, J.L. (2006). Catching up with the crowd - but going where? The new codes on corporate governance in the Nordic countries. *International Journal of Disclosure and Governance*, 3(3): 213-232.

Hazarika, S., Karpoff, J.M. & Nahata, R. (2012). Internal corporate governance, CEO turnover, and earnings management. *Journal of Financial Economics,* 104: 44-69.

Hu, F. & Leung, S.C.M. (2010). Top management turnover, firm performance and government control: evidence from china's listed state-owned enterprises. *The International Journal of Accounting*, 47(2): 235-262.

Huson, M.R., Malatesta, P.H. & Parrino, R. (2004). Managerial succession and firm performance. *Journal of Financial Economics,* 74: 237-75.

Huson, M., Parrino, R. & Starks, L. (2001). Internal monitoring mechanisms and CEO turnover: A long-term perspective. *The Journal of Finance*, 56(6): 2265-97.

Ikäheimo, S., Puttonen, V. & Ratilainen, T. (2011). External corporate governance and performance: evidence from the Nordic countries. *The European Journal of Finance*, 17(5-6): 427-450.

Isacson, T. (2015, 10th of February). SCA:s VD Jan Johansson sparkas med omedelbar verkan. *Svenska Dagbladet.* Retrieved 2017-03-31, from: https://www.svd.se.

Jensen, M. & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4): 305-360.

Jensen, M.C. & Murphy, K.J. (1990). Performance Pay and Top-Management Incentives. *Journal of Political Economy*, 98(2): 225-264.

Jenter, D. & Kanaan, F. (2015). CEO Turnover and Relative Performance Evaluation. *The Journal of Finance*, 70(5): 2155-2184.

Jenter, D. & Lewellen, K. (2014). *Performance-induced CEO turnover*. Working paper, Stanford University, NBER and Tuck School at Dartmouth.

Johnson, R.A. & Wichern, D.W. (2007). *Applied Multivariate Statistical Analysis*. (6 ed.) Boston: Pearson Education Inc.

Kaplan, S. (1994a). Top Executive Rewards and Firm Performance: A Comparison of Japan and the U.S. *Journal of Political Economy*, 102(3): 510-546.

Kaplan, S. (1994b). Top Executives, Turnover, and Firm Performance in Germany. Journal of Law, *Economics & Organization*, 10(1): 142-159.

Kaplan, S. (1997). Corporate governance and corporate performance: a comparison of Germany, Japan and the US. *Journal of Applied Corporate Finance,* 9: 86-93.

Kaplan, S. & Minton, B. (1994). Appointments of outsiders to Japanese boards: Determinants and implication for managers. *Journal of Financial Economics*, 36: 225-258.

Kaplan, S. & Minton, B. (2011). How has CEO turnover changed?. *International Review of Finance*, 12: 57-87.

Kato, T. & Long, C. (2006). CEO Turnover, firm performance, and enterprise reform in China: Evidence from micro data. *Journal of Comparative Economics* 34(4): 796-817.

Khurana, R. & Nohria, N. (2000). *The performance consequences of CEO turnover*. Working paper, MIT Sloan School of Management, Boston.

Krause, R. Semadeni, M. & Canella JR, A.A. (2014). CEO Duality: A Review and Research Agenda. *Journal of Management*, 40(1): 256-286.

Krug, J. A., Wright, P. & Kroll, M. J. (2015). Top Management turnover following mergers and acquisitions: Solid research to date but still much to be learned. *The Academy of Management Perspectives*, 3015(1): 30-46.

La Porta, R., Lopez-de-Silanes, A., Shleifer, A. & Vishny, R. (1998). Law and finance. *Journal of Political Economy*, 106: 1113-1155.

Lausten, M. (2002). CEO turnover, firm performance and corporate governance: Empirical evidence on Danish firms. *International Journal of Industrial Organization,* 20(3): 391-414.

Lucas, D. (2015, 10th of August). Sandviks vd Olof Faxander får sparken. *DN.ekonomi.* Retrieved: 2017-04-03, from:
http://www.dn.se/ekonomi/sandviks-vd-olof-faxander-far-sparken/

Madison, K., Holt, D.T., Kellermanns, F.W. & Ranft, A.L. (2016). Viewing Family Firm Behavior and Governance Through the Lens of Agency and Stewardship Theories. *Family Business Review*, 29(1): 65-93.

Meindl, J.R., Ehrlich, S.B., Dukerich, J.M. (1985). The romance of leadership. *Administrative Science Quarterly*, 30(1): 521-551.

Messersmith, J.G., Lee, J.Y., Guthrie, J.P. & Ji, Y.Y. (2014). Turnover at the Top: Executive Team Departures and Firm Performance. *Organization Science*, 25(3): 776-793.

Milgrom, P. & Roberts, J. (1992). *Economics, Organization, and Management*. New Jersey: Prentice-Hall.

Mintzberg, H., Ahlstrand, B. & Lampel, J.B. (2009). *Strategy Safari: Your Complete Guide Through the Wilds of Strategic Management*. (2 ed.) Harlow: Financial Times Prentice Hall.

Morck, R.K., Shleifer, A. & Vishny. R. (1988). Management ownership and market valuation: an empirical analysis. *Journal of Financial Economics*, (20): 293-316.

Morck, R.K., Wolfenzon, D. & Yeung, B. (2005), Corporate Governance, Economic Entrenchment, and Growth. *Journal of Economic Literature*, 43(3): 655-720.

Murphy, K.J. & Zimmerman, J.L. (1993). Financial performance surrounding CEO turnover. *Journal of Accounting & Economics*, 16(1–3): 273–315.

Nüesch, S. (2016). Dual-class shares, external financing needs, and firm performance. *Journal of Management and Governance*, 20(3): 525-551.

Oxelheim, L. & Clarkson, K. (2015). Cronyism and the Determinants of Chairman Compensation. *Journal of Business Ethics*, 131(1): 69-87.

Pallant, J. (2013). *The SPSS Survival Manual: A Step by Step Guide to Data Analysis Using IBM Spss*. (5 ed.) Buckingham: Open University Press.

Parrino, R. (1997). CEO turnover and outside succession: A cross-sectional analysis. *Journal of Financial Economics*, 46(2): 165-197.

Renneboog, L. (2000). Ownership, managerial control and the governance of companies listed on the Brussels Stock Exchange. *Journal of Banking & Finance*, 24: 1959-1995.

Remenyi, D., Williams, B., Money, A. & Swartz, E. (1998). *Doing Research in Business and Management: An Introduction to Process and Method*. Sage: London.

Saunders, M., Lewis, P. & Thornhill, A. (2009). *Research methods for business students*. Edinburgh: Pearson Education Limited.

SCB. (2016). *BNP från användningssidan (ENS2010), försörjningsbalans efter användning år 1980-2015*. Retrieved 2017-04-13, from: http://www.scb.se.

Shleifer, A. & Vishny, R. (1997). A survey of corporate governance. *The Journal of Finance*, 52(2): 737-83.

Smith, K.G., Smith, K.A., O'Bannon, D.P., Olian, J.D., Sims H.P. & Scully, J. (1994). Top management team demography and process: The role of social integration and communication. *Administrative Science Quarterly*, 39: 412-438.

Standard & Poor's. (2006). *Global Industry Classification Standard (GICS®)*. Retrieved 2017-04-03, from: http://www.unm.edu/~maj/Security%20Analysis/GICS.pdf.

Sundaramurthy, C., Mahoney, J.M., & Mahoney, J.T. (1997). Board structure, antitakeover provisions, and stockholder wealth. *Strategic Management Journal*, 18: 231-245.

Swedish Corporate Governance Board. (2016). *The Swedish Corporate Governance Code*. Retrieved 2017-03-23, from: http://www.corporategovernanceboard.se/UserFiles/Archive/496/The_Swedish_Corporate_Governance_Code_1_December_2016.pdf.

Taylor, L.A. (2010). Why Are CEOs Rarely Fired? Evidence from Structural Estimation. *The Journal of Finance*, 65(6): 2051-2087.

Umans, T. (2012). *The bottom line of cultural diversity at the top: the top management team's cultural diversity and its influence on organisational outcomes*. (Doctoral, 125). Lund: Lund Institute of Economic Research.

Villalonga, B. & Amit, R. (2006). How do family ownership, control and management affect firm value?. *Journal of Financial Economics*, 80: 385-417.

Voussem, B.A., Burchard, C.H., Schäffer, U. & Schweizer, D. (2013). Sudden top management turnovers and their effects on capital markets: Evidence from a country with low managerial discretion. *Corporate Governance in mittelständischen Unternehmen*, 2: 149-184.

Voussem, B.A., Schäffer, U. & Schweizer, D. (2014). Top management turnover under the influence of activist investors. *Journal Management and Governance*, 19(3): 709-739.

Wagner, W.G., Pfeffer, J. & O'reilly, C.A. (1984). Organizational demography and turnover in top-management groups. *Administrative Science Quarterly*, 29(1): 74-92.

Weisbach, M. (1988). Outside directors and CEO turnover. *Journal of Financial Economics* 20(1-2): 431-60.

Wiersema, M.F. (2002). Holes at the top: why CEO firings backfire. *Harvard Business Review,* 80(12): 70-75.

Wiersema, M.F. & Bantel, K.A. (1993). Top management team turnover as an adaptation mechanism: The role of the environment. *Strategic Management Journal*, 14: 485-504.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, 40: 185-211.

Zahra, S.A., Hayton, J.C., Neubaum, D.O., Dibrell, C. & Craig, J. (2008). Culture of family commitment and strategic flexibility: The moderating effect of stewardship. *Entrepreneurship: Theory & Practice*, 32: 1035-1054.

Zajac, E.J. & Westphal, J.D. (1996). Who shall succeed? How CEO/Board preferences and power affect the choice of new CEOs. *Academy of Management Journal*, 39: 64-90.

Zhang, Y. (2008). Information asymmetry and the dismissal of newly appointed CEOs: An empirical investigation. *Strategic Management Journal*, 29(8): 859-872.

Zhang, Y. & Wiersema, M.F. (2009). Stock market reaction to CEO certification: the signaling role of CEO background. *Strategic Management Journal*, 30: 693-710.

Zhu, D.H. & Shen, W. (2016). Why do some outside successions fare better than others? The role of outside CEOs prior experience with board diversity. *Strategic Journal Management*, 37: 2695-2708.

Appendix

Appendix 1: Summary of Agency and Stewardship Theories

	Agency theory	Stewardship theory
Foundational work	Jensen and Meckling (1976)	Davis et al. (1997)
Relationship	Based on the principal-manager relationship: describes the individual-level agent behaviors and the firm-level agency governance mechanisms that are implemented in response	Based on the principal-manager relationship: Describes the individual-level steward behaviors and the firm-level stewardship governance mechanisms that are implemented in response
Assumption	Economic model of man	Humanistic model of man
Behavior	Opportunistic: Individual/self-serving	Pro-organizational: Collective/other-serving
Governance	Monitoring and incentive systems: mechanisms to curb opportunistic behavior by aligning the interests of the manager with those of the principal	Trust systems: Mechanisms to encourage cooperation and involvement to facilitate the natural alignment of interests between the manager and principal
Outcome	Pro-organizational outcomes; Firm performance by way of cost minimization	Pro-organizational outcomes; Firm performance by way of wealth maximization

(Madison et al., 2016, p. 67)

Appendix 2: Summary of variables

Description of Variables		
CEO turnover variables:		
CEO turnover	Hand Collected from financial reports	Dummy variable equal to 1 when there is a change in CEO for each firm and for each year, and 0 otherwise
Forced CEO turnover	Hand Collected from press releases etc.	Dummy variable equal to 1 if forced turnover, and 0 otherwise + dummy variable equal to 1 if routine turnover, 0 otherwise
Performance variables:		
ROA	Retrieved from DataStream	Net income divided by total assets
ROA industry-adjusted	Retrieved from DataStream	The company's annual return less the average return of the industry for all firms belonging to defined industrial categories
Profit dummy	Hand Collected from financial reports	Dummy variable equal to 1 when the firm i reported profit in the year t, and 0 otherwise.
Stock return market-adjusted	Retrieved from DataStream	Return index minus the average return of OMX Stockholm Price Index over the same period
CEO entrenchment variables:		
CEO_board	Holdings Database	Dummy variable equal to 1 if the CEO is also a member of the supervisory board, and 0 otherwise
CEO_Dep_Own	Holdings Database	Dummy variable equal to 1 if the CEO is both a member of the board and dependent of a major owner, and 0 otherwise
CEO_ownership	Holdings Database	The precentage of ownership held by the CEO 1 year before turnover announcment date
CEO_votes	Holdings Database	The precentage of votes held by the CEO 1 year before turnover announcment date
CEO characteristics variables:		
Age departing CEO	Hand Collected from financial reports	The age in years at the announcement date
Tenure	Hand Collected from financial reports	The total number of years spent working as a CEO for the company
Firm characteristics variables:		
FirmSize	Retrieved from ORBIS	The natural logarithm of total assets
Leverage	Retrieved from DataStream	The sum of total liabilities divided by total assets (book value)
Market-to-book ratio	Retrieved from ORBIS	The market value of equity divided by the book value of equity
Corporate governance variables:		
Boardsize	Holdings Database	The total number of directors on the board at year end
Avgerage Age of Board	Holdings Database	The average age of the total number of directors of the board at year-end
Foreign directors	Holdings Database	Percentage of board seats occupied by foreigners at year-end
Own_20_Dummy	Holdings Database	Dummy variable equal to 1 if at least one owner holds >20% of the firm's votes, and 0 otherwise
Own_30_Dummy	Holdings Database	Dummy variable equal to 1 if at least one owner holds >30% of the firm's votes, and 0 otherwise
Industry categories:		
Industrial		
Daily Goods		
Utilities		
Materials		
Healthcare		
Household		
Telecom		
Financial		
Technology		
Energy		

Appendix 3: Excluded firms

Excluded firms				
Africa Oil Corp (Canada)	Bufab Holding AB	Geveko AB	Platzer Fastigheter Holding AB	Stockwik Förvaltning AB
AllTele	Com Hem Holding AB	KABE AB	Proffice AB	Stora Enso Oyj
Arcam AB	C-RAD AB	Lucara Diamond Corp (Canada)	Recipharm AB	TeliaSonera AB
Arctic Paper S.A. (Poland)	Creades AB	Lundin Mining Corporation SDB (Canada)	Rejlers AB	Thule Group AB
Aspiro	Cybercom Group AB	Munksjö Oyj (Finland)	Sagax AB	Transcom WorldWide AB
Attendo	D. Carnegie & Co AB	NGEx Resources Inc (Canada)	Scandi Standard AB	Transmode AB
Bactiguard Holding AB	Eltel AB	NP3 Fastigheter AB	SEMAFO Inc. (Canada)	Tribona AB
Besqab AB	eWork Scandinavia AB	PA Resources AB	Shelton Petroleum AB	

Appendix 4: Foreign registered firms

Foreign firms				
ABB (Switzerland)	Cavotec SA (Switzerland)	Millicom International Cellular S.A. SDB (Luxembourg)	Tieto Oyj (Finland)	Vostok New Ventures Ltd (Bermuda)
AstraZeneca (GB)	EnQuest PLC (UK)	Oriflame Holding AG (Switzerland)	Trigon Agri A/S (Denmark)	
Black Pearl Resources Inc. (Canada)	Etrion Corp. (Switzerland)	Rezidor Hotel Group AB (Belgium)	Unibet Group PLC (Malta)	

Appendix 5: Final sample of firms

All included firms						
AAK AB	Black Earth Farming Ltd.	Endomines AB	I.A.R Systems Group AB	Millicom International Cellular S.A. SDB	Poolia AB	Swedish Match AB
ABB (Switzerland)	Black Pearl Resources Inc.	Enea AB	ICA Gruppen AB	Moberg Pharma AB	Precise Biometrics AB	Swedish Orphan Biovitrium AB
Acando AB	Boliden AB	Eniro AB	Image Systems AB	Modern Times Group AB	Prevas AB	Swedol AB
Active Biotech AB	Bong AB	Enquest plc (UK)	Industrial & Financial Systems AB	MQ Holding AB	Pricer AB	Svenska Cellulosa AB
Addnode Group AB	Boule Diagnostics AB	Eolus Vind AB	Industrivärlden AB	MSC Konsult AB	Proact IT Group AB	Svenska Handelsbanken
Addtech AB	BTS Group AB	Episurf Medical AB	Indutrade AB	Multiq International AB	Probi AB	Svolder AB
Alfa Laval AB	Bulten AB	Ericsson	Intellecta AB	Mycronic AB	Profilgruppen AB	Systemair AB
Allenex AB	Bure Equity AB	Etrion Corp. (Switzerland)	Intrum Justitia AB	NAXS Nordic Access Buyout Fund AB	Qliro Group AB	Tele2 AB
Anoto Group AB	Byggmax Group AB	Fabege AB	Investor AB	NCC AB	Ratos AB	Tethys Oil AB
Arise AB	Castellum AB	Fagerhult AB	ITAB Shop Concept AB	Nederman Holding AB	RaySearch Laboratories	Tieto Oyj (Finland)
Assa Abloy AB	Catena AB	Fast Partner AB	JM AB	Net Insight AB	Rezidor Hotel Group AB	Traction AB
AstraZeneca PLC (GB)	Cavotec SA (Switzerland)	Fastighets AB Balder	Kappahl AB	NetEnt AB	RNB Retail and Brands AB	TradeDoubler AB
Atlas Copco AB	CellaVision AB	Feelgood Svenska AB	Karo Bio AB	New Wave Group AB	Rottneros AB	Trelleborg AB
Atrium Ljungberg AB	Clas Ohlson AB	Fenix Outdoor International AG	Karolinska Development AB	NIBE Industrier AB	SAAB AB	Trigon Agri A/S (Denmark)
Autoliv Inc. SDB	Cloetta AB	Fingerprint Cards AB	Kinnevik Investment AB	Nobia AB	Sandvik AB	Unibet Group Plc (Malta)
Avanza Bank Holding AB	Concentric AB	FormPipe Software AB	Klövern AB	Nolato AB	SAS AB	Uniflex AB
Avega Group AB	Concordia Maritime AB	G5 Entertainment AB	Knowit AB	Nordea Bank AB	Seamless Distribution AB	VBG Group AB
Axfood AB	Consilium AB	Getinge AB	Kungsleden AB	Nordic Mines AB	Sectra AB	Venue Retail Group AB
Axis AB	Corem Property Group AB	GHP Specialty Care AB	Lagercrantz Group AB	Nordic Service Partners Holding AB	Securitas AB	Victoria Park AB
B&B Tools AB	CTT Systems AB	Gunnebo AB	Latour Investment AB	Nordnet AB	Semcon AB	Viking Supply Ships AB
BE Group AB	Dedicare AB	Haldex AB	Lindab International AB	NOTE AB	Sensys Gatso Group AB	Vitec Software Group AB
Beijer Alma AB	DGC One AB	Havsfrun Investment AB	Loomis AB	Novestra AB	SinterCast AB	Vitrolife AB
Beijer Electronics AB	Diös Fastigheter AB	Heba Fastighets AB	Lundbergföretagen AB	Novotek AB	SEB	Volvo AB
Beijer Ref AB	Doro AB	Hemtex AB	Lundin Petroleum AB	Oasmia Pharmaceutical AB	Skanska AB	Vostok New Ventures Ltd
Bergs Timber AB	Duni AB	Hennes & Mauritz AB	Malmbergs Elektriska AB	Odd Molly International AB	SKF AB	Wallenstam AB
Betsson AB	Duroc AB	Hexagon AB	Meda AB	OEM International AB	SkiStar AB	Wihlborgs Fastigheter AB
Bilia AB	East Capital Explorer AB	Hexpol AB	Medivir AB	Opcon AB	Softronic AB	XANO Industri AB
BillerudKorsnäs AB	Elanders AB	HiQ International AB	Mekonomen AB	Opus Group AB	SSAB AB	ÅF AB
BioGaia AB	Electra Gruppen AB	HMS Networks AB	Melker Schörling AB	Orexo AB	Studsvik AB	Öresund Investment AB
Bioinvent International AB	Electrolux AB	Holmen AB	Micro Systemation AB	Oriflame Holding AG (Switzerland)	Sweco AB	
Biotage AB	Elekta AB	Hufvudstaden AB	Midsona AB	Ortivus AB	Swedbank AB	
Björn Borg AB	Elos Medtech AB	Husqvarna AB	Midway Holding AB	Peab AB	Svedbergs i Dalstorp AB	

Appendix 6: Specification of Return Index

$$RI_t = RI_{t-1} \times \frac{P_t + A_t + NC_t + CP_t}{P_{t-1} + A_{t-1} + NC_{t-1}}$$

Where:

RI = Total Return

P = Clean Price

A = Accrued Interest

NC = Next Coupon. Adjustment made when a bond goes ex-dividend.

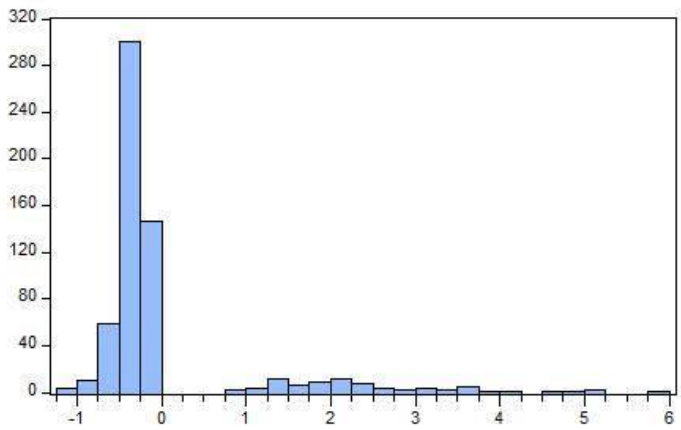
CP = Value of any coupon received on t or since t – 1.

t = Time

t -1 = Time less 1 day

(Taken from DataStream)

Appendix 7: Bera-Jarque test



Series: Standardized Residuals
Sample 2012 2014
Observations 596

Mean	3.85e-05
Median	-0.294777
Maximum	5.805422
Minimum	-1.141977
Std. Dev.	0.999150
Skewness	2.872207
Kurtosis	11.46062
Jarque-Bera	2597.081
Probability	0.000000

Appendix 8: Correlation matrix

Variables	Mean	St.D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 CEO turnover	0,125	0,331																			
2 Routine turnover	0,089	0,284	0,072																		
3 Forced turnover	0,023	0,148	0,035	-0,047																	
4 ROA industry-adjusted	0,000	17,641	0,042	0,071	-0,062																
5 Profit dummy	0,780	0,415	-0,096*	0,000	-0,139**	0,516**															
6 Stock return market-adjusted	0,022	0,504	-0,077*	-0,051	-0,036	0,167**	0,130**														
7 CEO age	51,270	6,780	0,132**	0,120**	-0,005	0,076	0,070	-0,006													
8 CEO tenure	6,810	6,382	-0,040	-0,007	-0,091*	0,180**	0,134**	0,045	0,366**												
9 FirmSize	21,800	2,193	-0,173	-0,035	-0,077	0,169**	0,336**	0,030	0,139**	-0,031											
10 Leverage	0,212	0,187	0,011	-0,020	-0,007	-0,044	0,078*	-0,104**	0,088*	-0,019	0,399**										
11 Market-to-book ratio	2,652	7,820	-0,032	-0,038	0,022	0,018	0,004	0,041	-0,018	0,008	-0,031	-0,024									
12 Boardsize	5,590	1,664	-0,089*	-0,046	-0,078*	0,160**	0,240**	0,070	0,085*	-0,063	0,523**	0,079*	0,041								
13 Average Age of Board	57,390	4,414	-0,034	-0,050	0,004	0,011	-0,006	-0,059	0,135**	0,105**	0,105**	0,082*	-0,011	0,085*							
14 Foreign directors	0,180	0,244	-0,053	-0,031	-0,017	-0,017	-0,056	0,019	-0,062	-0,072	0,116**	-0,040	0,043	0,139**	0,013						
15 Own_20_Dummy	0,430	0,495	0,005	-0,014	-0,003	-0,025	-0,027	-0,012	0,049	0,138**	-0,016	-0,024	-0,018	-0,119**	0,037	-0,139**					
16 Own_30_Dummy	0,200	0,403	0,001	-0,013	-0,002	0,006	0,002	-0,027	0,084*	0,154**	0,047	0,016	-0,037	-0,009	-0,011	-0,103**	0,586**				
17 CEO_board	0,320	0,468	-0,193**	-0,020	-0,011	0,082*	0,129**	0,029	0,122**	0,191**	0,239**	0,052	-0,016	0,126**	0,117**	0,054	-0,043	0,011			
18 CEO_Dep_Own	0,110	0,308	-0,102**	-0,022	-0,008	0,052	0,051	0,061	0,078*	0,242**	0,012	-0,066	-0,006	-0,079*	0,077	-0,045	0,072	0,034	0,496**		
19 CEO_ownership	0,030	0,080	-0,084	-0,079*	-0,041	-0,004	-0,032	0,007	0,142**	0,518**	-0,126**	0,013	-0,024	-0,123**	0,120**	-0,016	0,160**	0,057	0,128**	0,184**	
20 CEO_votes	0,040	0,113	-0,084*	-0,073	-0,044	0,004	-0,041	-0,016	0,113**	0,454**	-0,192**	-0,058	-0,028	-0,151**	0,106**	-0,024	0,170**	0,050	0,146**	0,271**	0,825**

Note: ** p<.01; * p<.05; c. can not be commputed because at least one of the variables is constant

Appendix 9: Regressions using all interaction terms

H2A

Dependent variable: CEO turnover		Performance = ROA			Performance = Stock return		
Variables	**Predicted sign**	**Coefficient**	**p-value**	**Standard errors**	**Coefficient**	**p-value**	**Standard errors**
C		-0,244971	0,9157	2,314312	-0,754292	0,7322	2,203955
Market-adjusted stock returns	-				-0,205087	0,542800	0,337013
Industry-adjusted ROA	-	-0,007418	0,392600	0,008677			
Market-adjusted stock returns * CEO Votes	+				-8,973723	0,321500	9,051871
Industry-adjusted ROA * CEO Votes	+	0,131611	0,670800	0,309602			
CEO Votes	-	-6,980398**	0,004200	2,437888	-7,310899***	0,000900	2,202421
Market-adjusted stock returns * CEO on board	+				0,462583	0,557500	0,788685
Industry-adjusted ROA * CEO on board	+	0,077210	0,239100	0,065581			
CEO on board	-	-1,714638**	0,005900	0,622582	-1,457939**	0,006500	0,53597
Market-adjusted stock returns * CEO dependent	+				1,045651	0,548400	1,742218
Industry-adjusted ROA * CEO dependent	+	-0,031326	0,685900	0,077456			
CEO dependent	-	-0,053080	0,955000	0,941407	-0,272579	0,769800	0,931438
CEO age	+	0,090148***	0,000000	0,021144	0,090241***	0,000000	0,020843
Tenure	-	-0,021448	0,411400	0,026109	-0,013779	0,571700	0,024361
Board size	-	-0,063052	0,536600	0,102028	-0,051697	0,611200	0,101693
Average age of board members		-0,016395	0,585800	0,030086	-0,022828	0,432000	0,029052
Foreign directors	+/-	-1,036787	0,126300	0,67819	-0,994568	0,147600	0,686751
Ownership dummy 20%	+	0,001505	0,995500	0,269084	0,003767	0,989000	0,272317
Firm size	-	-0,194291*	0,043200	0,096113	-0,157452†	0,077200	0,089086
Leverage	+/-	0,164086	0,860800	0,93547	-0,120899	0,896100	0,925487
Logarithmic market to book ratio	-	-0,652672***	0,000500	0,188362	-0,603143**	0,001700	0,192311
Number of observations			n=597			n=589	
McFadden R-squared			0,167969			0,161537	

*** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10

H2B

Dependent variable: CEO turnover		Performance = ROA			Performance = Stock return		
Variables	**Predicted sign**	**Coefficient**	**p-value**	**Standard errors**	**Coefficient**	**p-value**	**Standard errors**
C		-0,263914	0,9088	2,303413	-0,740500	0,7356	2,1931
Market-adjusted stock returns	-				-0,214622	0,538300	0,348739
Industry-adjusted ROA	-	-0,007993	0,366500	0,00885			
Market-adjusted stock returns * CEO Ownership	+				-6,866078	0,641300	14,738380
Industry-adjusted ROA * CEO Ownership	+	0,005930	0,988400	0,407115			
CEO Ownership	-	-10,66550**	0,004500	3,754674	-10,79627**	0,003300	3,674303
Market-adjusted stock returns * CEO on board	+				0,412014	0,605400	0,797574
Industry-adjusted ROA * CEO on board	+	0,076414	0,240500	0,065097			
CEO on board	-	-1,712228**	0,006100	0,624106	-1,454495**	0,006700	0,536184
Market-adjusted stock returns * CEO dependent	+				0,906683	0,630700	1,886042
Industry-adjusted ROA * CEO dependent	+	-0,033667	0,643600	0,072755			
CEO dependent	-	-0,014572	0,987700	0,948371	-0,221953	0,812700	0,936967
CEO age	+	0,087416***	0,000000	0,021089	0,087490***	0,000000	0,020900
Tenure	-	-0,017284	0,501300	0,025701	-0,010736	0,658200	0,024270
Board size	-	-0,065976	0,520100	0,102564	-0,053951	0,597500	0,102175
Average age of board members		-0,016747	0,577400	0,030055	-0,022290	0,444800	0,029173
Foreign directors	+/-	-1,015916	0,131700	0,673944	-0,982449	0,149200	0,681084
Ownership dummy 20%	+	-0,030124	0,910500	0,267842	-0,031144	0,908700	0,271641
Firm size	-	-0,186578†	0,050100	0,095251	-0,153160†	0,083500	0,088489
Leverage	+/-	0,273160	0,771200	0,939179	0,005827	0,995000	0,930872
Logarithmic market to book ratio	-	-0,632020***	0,000700	0,186065	-0,590109**	0,001900	0,189580
Number of observations			n=597			n=589	
McFadden R-squared			0,165040			0,158337	

*** p < 0.001; ** p < 0.01; * p < 0.05; † p < 0.10

Appendix 10: Probit models

Dependent Variable: TURNOVER
Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)
Date: 05/09/17 Time: 14:09
Sample: 2012 2014
Included observations: 597
Convergence achieved after 6 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.226787	2.234475	0.549027	0.5830
I_ROA_99	-0.024975	0.011909	2.097199	0.0360
PROFIT_DUMMY	-0.633293	0.397294	-1.594013	0.1109
CEO_AGE	0.080793	0.020687	3.905563	0.0001
TENURE	-0.054068	0.019908	-2.715943	0.0066
BOARDSIZE	-0.067898	0.099453	-0.682715	0.4948
AVG_AGE_BOARD	-0.031937	0.028266	-1.129867	0.2585
FOREIGN_DIRECTORS	-1.126098	0.662813	-1.698968	0.0893
OWN_20_DUMMY	-0.029800	0.263019	-0.113299	0.9098
FIRMSIZE	-0.188849	0.088744	-2.128015	0.0333
LAGGED_LEV	0.419382	0.888835	0.471833	0.6370
MARKET_TO_BOOK_LN	-0.563843	0.183674	-3.069806	0.0021
NUM2013	0.275787	0.302375	0.912068	0.3617
NUM2014	-0.141193	0.336206	-0.419960	0.6745

McFadden R-squared	0.112315	Mean dependent var	0.128978
S.D. dependent var	0.335457	S.E. of regression	0.321454
Akaike info criterion	0.729424	Sum squared resid	60.24293
Schwarz criterion	0.832417	Log likelihood	-203.7329
Hannan-Quinn criter.	0.769526	Deviance	407.4659
Restr. deviance	459.0210	Restr. log likelihood	-229.5105
LR statistic	51.55516	Avg. log likelihood	-0.341261
Prob(LR statistic)	0.000002		

Obs with Dep=0	520	Total obs	597
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)
Date: 05/09/17 Time: 14:44
Sample: 2012 2014
Included observations: 597
Convergence achieved after 6 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.573158	1.186920	0.482895	0.6292
I_ROA_99	-0.012626	0.006118	2.063654	0.0391
PROFIT_DUMMY	-0.355525	0.214456	-1.657795	0.0974
CEO_AGE	0.044002	0.011162	3.942173	0.0001
TENURE	-0.029115	0.010588	-2.749902	0.0060
BOARDSIZE	-0.033898	0.052781	-0.642243	0.5207
AVG_AGE_BOARD	-0.017238	0.015226	-1.132154	0.2576
FOREIGN_DIRECTORS	-0.517882	0.326693	-1.585223	0.1129
OWN_20_DUMMY	-0.003294	0.141059	-0.023352	0.9814
FIRMSIZE	-0.103065	0.046410	-2.220754	0.0264
LAGGED_LEV	0.245410	0.469267	0.522966	0.6010
MARKET_TO_BOOK_LN	-0.299294	0.097682	-3.063947	0.0022
NUM2013	0.128779	0.163201	0.789084	0.4301
NUM2014	-0.085388	0.176355	-0.484182	0.6283

McFadden R-squared	0.110917	Mean dependent var	0.128978
S.D. dependent var	0.335457	S.E. of regression	0.321775
Akaike info criterion	0.730499	Sum squared resid	60.36323
Schwarz criterion	0.833492	Log likelihood	-204.0540
Hannan-Quinn criter.	0.770601	Deviance	408.1079
Restr. deviance	459.0210	Restr. log likelihood	-229.5105
LR statistic	50.91310	Avg. log likelihood	-0.341799
Prob(LR statistic)	0.000002		

Obs with Dep=0	520	Total obs	597
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)
Date: 05/09/17 Time: 15:50
Sample: 2012 2014
Included observations: 597
Convergence achieved after 7 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.227504	2.296372	-0.099071	0.9211
I_ROA_99	-0.007559	0.008660	0.872922	0.3827
I_ROA_99*CEO_VOTES_99	0.100059	0.279677	0.357768	0.7205
CEO_VOTES_99	-6.992836	2.396406	-2.918051	0.0035
I_ROA_99*CEO_BOARD	0.060871	0.036563	1.664825	0.0959
CEO_BOARD	-1.711226	0.488455	-3.503345	0.0005
CEO_AGE	0.089931	0.021055	4.271205	0.0000
TENURE	-0.020950	0.025656	-0.816573	0.4142
BOARDSIZE	-0.064065	0.102010	-0.628024	0.5300
AVG_AGE_BOARD	-0.017147	0.029488	-0.581507	0.5609
FOREIGN_DIRECTORS	-1.008290	0.683260	-1.475705	0.1400
OWN_20_DUMMY	-0.000729	0.267789	-0.002721	0.9978
FIRMSIZE	-0.192411	0.095782	-2.008839	0.0446
LAGGED_LEV	0.148633	0.928060	0.160154	0.8728
MARKET_TO_BOOK_LN	-0.654603	0.186071	-3.518034	0.0004
NUM2013	0.231602	0.314112	0.737322	0.4609
NUM2014	-0.146784	0.344685	-0.425850	0.6702

McFadden R-squared	0.167629	Mean dependent var	0.128978
S.D. dependent var	0.335457	S.E. of regression	0.315526
Akaike info criterion	0.696944	Sum squared resid	57.74299
Schwarz criterion	0.822007	Log likelihood	-191.0379
Hannan-Quinn criter.	0.745640	Deviance	382.0759
Restr. deviance	459.0210	Restr. log likelihood	-229.5105
LR statistic	76.94518	Avg. log likelihood	-0.319997
Prob(LR statistic)	0.000000		

Obs with Dep=0	520	Total obs	597
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)
Date: 05/09/17 Time: 15:52
Sample: 2012 2014
Included observations: 597
Convergence achieved after 7 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.252947	1.249699	-0.202406	0.8396
I_ROA_99	-0.003303	0.004756	0.694522	0.4874
I_ROA_99*CEO_VOTES_99	0.091871	0.152495	0.602451	0.5469
CEO_VOTES_99	-3.835631	1.296319	-2.958863	0.0031
I_ROA_99*CEO_BOARD	0.037232	0.020323	1.831983	0.0670
CEO_BOARD	-0.889581	0.223112	-3.987151	0.0001
CEO_AGE	0.049840	0.011387	4.376781	0.0000
TENURE	-0.010369	0.013750	-0.754120	0.4508
BOARDSIZE	-0.030233	0.054776	-0.551934	0.5810
AVG_AGE_BOARD	-0.007654	0.016075	-0.476117	0.6340
FOREIGN_DIRECTORS	-0.461225	0.345962	-1.333165	0.1825
OWN_20_DUMMY	0.006171	0.145342	0.042461	0.9661
FIRMSIZE	-0.110834	0.049534	-2.237545	0.0253
LAGGED_LEV	0.163606	0.488373	0.335003	0.7376
MARKET_TO_BOOK_LN	-0.349864	0.100640	-3.476387	0.0005
NUM2013	0.102732	0.169690	0.605407	0.5449
NUM2014	-0.098563	0.182442	-0.540244	0.5890

McFadden R-squared	0.167003	Mean dependent var	0.128978
S.D. dependent var	0.335457	S.E. of regression	0.315946
Akaike info criterion	0.697426	Sum squared resid	57.89679
Schwarz criterion	0.822489	Log likelihood	-191.1816
Hannan-Quinn criter.	0.746121	Deviance	382.3633
Restr. deviance	459.0210	Restr. log likelihood	-229.5105
LR statistic	76.65777	Avg. log likelihood	-0.320237
Prob(LR statistic)	0.000000		

Obs with Dep=0	520	Total obs	597
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)
Date: 05/09/17 Time: 15:45
Sample: 2012 2014
Included observations: 597
Convergence achieved after 7 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.249252	2.286947	-0.108989	0.9132
I_ROA_99	-0.008104	0.008864	0.914274	0.3606
I_ROA_99*CEO_OWNERSHIP_99	-0.021290	0.404294	-0.052660	0.9580
CEO_OWNERSHIP_99	-10.71247	3.782436	-2.832161	0.0046
I_ROA_99*CEO_BOARD	0.058369	0.037696	1.548395	0.1215
CEO_BOARD	-1.693377	0.487642	-3.472585	0.0005
CEO_AGE	0.087184	0.021012	4.149143	0.0000
TENURE	-0.016734	0.025341	-0.660346	0.5090
BOARDSIZE	-0.067370	0.102524	-0.657114	0.5111
AVG_AGE_BOARD	-0.017461	0.029561	-0.590688	0.5547
FOREIGN_DIRECTORS	-0.988056	0.678236	-1.456802	0.1452
OWN_20_DUMMY	-0.032649	0.266228	-0.122636	0.9024
FIRMSIZE	-0.184524	0.094798	-1.946488	0.0516
LAGGED_LEV	0.257872	0.932699	0.276479	0.7822
MARKET_TO_BOOK_LN	-0.634418	0.183927	-3.449285	0.0006
NUM2013	0.222942	0.312716	0.712921	0.4759
NUM2014	-0.155778	0.345283	-0.451160	0.6519

McFadden R-squared	0.164683	Mean dependent var	0.128978
S.D. dependent var	0.335457	S.E. of regression	0.316159
Akaike info criterion	0.699210	Sum squared resid	57.97485
Schwarz criterion	0.824273	Log likelihood	-191.7141
Hannan-Quinn criter.	0.747905	Deviance	383.4282
Restr. deviance	459.0210	Restr. log likelihood	-229.5105
LR statistic	75.59288	Avg. log likelihood	-0.321129
Prob(LR statistic)	0.000000		

Obs with Dep=0	520	Total obs	597
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)
Date: 05/09/17 Time: 15:49
Sample: 2012 2014
Included observations: 597
Convergence achieved after 6 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.230045	1.244619	-0.184832	0.8534
I_ROA_99	-0.003707	0.004828	0.767769	0.4426
I_ROA_99*CEO_OWNERSHIP_99	0.004273	0.205838	0.020757	0.9834
CEO_OWNERSHIP_99	-5.827747	1.935704	-3.010660	0.0026
I_ROA_99*CEO_BOARD	0.035984	0.020585	1.748009	0.0805
CEO_BOARD	-0.881542	0.222453	-3.962827	0.0001
CEO_AGE	0.048252	0.011392	4.235437	0.0000
TENURE	-0.007255	0.013569	-0.534676	0.5929
BOARDSIZE	-0.031253	0.055190	-0.566283	0.5712
AVG_AGE_BOARD	-0.008245	0.016129	-0.511163	0.6092
FOREIGN_DIRECTORS	-0.465281	0.343890	-1.352993	0.1761
OWN_20_DUMMY	-0.007370	0.144539	-0.050992	0.9593
FIRMSIZE	-0.107086	0.049273	-2.173327	0.0298
LAGGED_LEV	0.207150	0.489873	0.422865	0.6724
MARKET_TO_BOOK_LN	-0.342056	0.099926	-3.423109	0.0006
NUM2013	0.101882	0.169103	0.602487	0.5468
NUM2014	-0.104062	0.182642	-0.569760	0.5688

McFadden R-squared	0.164576	Mean dependent var	0.128978
S.D. dependent var	0.335457	S.E. of regression	0.316533
Akaike info criterion	0.699292	Sum squared resid	58.11187
Schwarz criterion	0.824355	Log likelihood	-191.7387
Hannan-Quinn criter.	0.747987	Deviance	383.4773
Restr. deviance	459.0210	Restr. log likelihood	-229.5105
LR statistic	75.54370	Avg. log likelihood	-0.321170
Prob(LR statistic)	0.000000		

Obs with Dep=0	520	Total obs	597
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)
Date: 05/14/17 Time: 16:26
Sample: 2012 2014
Included observations: 589
Convergence achieved after 7 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.735128	2.204032	-0.333538	0.7387
RI_ADJ	-0.209926	0.340314	-0.616861	0.5373
RI_ADJ*CEO_VOTES_99	-8.177249	11.06541	-0.738992	0.4599
CEO_VOTES_99	-7.267254	2.331919	-3.116427	0.0018
RI_ADJ*CEO_BOARD	0.965649	0.928407	1.040114	0.2983
CEO_BOARD	-1.547958	0.463033	-3.343086	0.0008
CEO_AGE	0.089582	0.020684	4.331074	0.0000
TENURE	-0.014732	0.023932	-0.615569	0.5382
BOARDSIZE	-0.050082	0.102144	-0.490309	0.6239
AVG_AGE_BOARD	-0.022364	0.028880	-0.774395	0.4387
FOREIGN_DIRECTORS	-0.976669	0.682374	-1.431280	0.1523
OWN_20_DUMMY	0.007925	0.268417	0.029523	0.9764
FIRMSIZE	-0.158674	0.089498	-1.772938	0.0762
LAGGED_LEV	-0.075206	0.914794	-0.082211	0.9345
MARKET_TO_BOOK_LN	-0.594381	0.188778	-3.148575	0.0016
NUM2013	0.200533	0.313785	0.639079	0.5228
NUM2014	-0.108854	0.346936	-0.313757	0.7537

McFadden R-squared	0.160979	Mean dependent var	0.130730
S.D. dependent var	0.337391	S.E. of regression	0.318029
Akaike info criterion	0.708423	Sum squared resid	57.85363
Schwarz criterion	0.834795	Log likelihood	-191.6304
Hannan-Quinn criter.	0.757657	Deviance	383.2609
Restr. deviance	456.7956	Restr. log likelihood	-228.3978
LR statistic	73.53472	Avg. log likelihood	-0.325349
Prob(LR statistic)	0.000000		

Obs with Dep=0	512	Total obs	589
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)
Date: 05/14/17 Time: 16:28
Sample: 2012 2014
Included observations: 589
Convergence achieved after 6 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.593808	1.227851	-0.483616	0.6287
RI_ADJ	-0.153046	0.186141	-0.822200	0.4110
RI_ADJ*CEO_VOTES_99	-3.364030	4.863538	-0.691684	0.4891
CEO_VOTES_99	-3.623994	1.096508	-3.305033	0.0009
RI_ADJ*CEO_BOARD	0.497531	0.451914	1.100940	0.2709
CEO_BOARD	-0.761667	0.209478	-3.636020	0.0003
CEO_AGE	0.049674	0.011174	4.445423	0.0000
TENURE	-0.006744	0.012682	-0.531776	0.5949
BOARDSIZE	-0.023175	0.055023	-0.421188	0.6736
AVG_AGE_BOARD	-0.010199	0.015970	-0.638641	0.5231
FOREIGN_DIRECTORS	-0.424394	0.350800	-1.209788	0.2264
OWN_20_DUMMY	0.011711	0.144881	0.080834	0.9356
FIRMSIZE	-0.090720	0.046831	-1.937184	0.0527
LAGGED_LEV	0.016384	0.479245	0.034188	0.9727
MARKET_TO_BOOK_LN	-0.308179	0.103700	-2.971842	0.0030
NUM2013	0.080802	0.169447	0.476857	0.6335
NUM2014	-0.065088	0.184202	-0.353352	0.7238

McFadden R-squared	0.158721	Mean dependent var	0.130730
S.D. dependent var	0.337391	S.E. of regression	0.318505
Akaike info criterion	0.710174	Sum squared resid	58.02693
Schwarz criterion	0.836547	Log likelihood	-192.1463
Hannan-Quinn criter.	0.759409	Deviance	384.2927
Restr. deviance	456.7956	Restr. log likelihood	-228.3978
LR statistic	72.50294	Avg. log likelihood	-0.326225
Prob(LR statistic)	0.000000		

Obs with Dep=0	512	Total obs	589
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)
Date: 05/11/17 Time: 15:10
Sample: 2012 2014
Included observations: 589
Convergence achieved after 8 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.718432	2.193171	-0.327577	0.7432
RI_ADJ	-0.223016	0.354775	-0.628612	0.5296
RI_ADJ*CEO_OWNERSHIP_99	-5.430098	16.55197	-0.328063	0.7429
CEO_OWNERSHIP_99	-10.83105	3.805805	-2.845929	0.0044
RI_ADJ*CEO_BOARD	0.833518	0.961447	0.866942	0.3860
CEO_BOARD	-1.523760	0.460803	-3.306746	0.0009
CEO_AGE	0.087008	0.020816	4.179885	0.0000
TENURE	-0.011474	0.023852	-0.481069	0.6305
BOARDSIZE	-0.052464	0.102770	-0.510498	0.6097
AVG_AGE_BOARD	-0.021776	0.028998	-0.750925	0.4527
FOREIGN_DIRECTORS	-0.971826	0.678631	-1.432038	0.1521
OWN_20_DUMMY	-0.028572	0.267237	-0.106916	0.9149
FIRMSIZE	-0.154900	0.088851	-1.743362	0.0813
LAGGED_LEV	0.044071	0.922485	0.047775	0.9619
MARKET_TO_BOOK_LN	-0.583776	0.186421	-3.131485	0.0017
NUM2013	0.188379	0.314322	0.599319	0.5490
NUM2014	-0.129567	0.345021	-0.375533	0.7073

McFadden R-squared	0.157955	Mean dependent var	0.130730
S.D. dependent var	0.337391	S.E. of regression	0.318917
Akaike info criterion	0.710768	Sum squared resid	58.17701
Schwarz criterion	0.837140	Log likelihood	-192.3211
Hannan-Quinn criter.	0.760003	Deviance	384.6422
Restr. deviance	456.7956	Restr. log likelihood	-228.3978
LR statistic	72.15337	Avg. log likelihood	-0.326521
Prob(LR statistic)	0.000000		

Obs with Dep=0	512	Total obs	589
Obs with Dep=1	77		

Dependent Variable: TURNOVER
Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)
Date: 05/11/17 Time: 15:14
Sample: 2012 2014
Included observations: 589
Convergence achieved after 7 iterations
Coefficient covariance computed using the Huber-White method

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.541391	1.215319	-0.445472	0.6560
RI_ADJ	-0.156893	0.190975	-0.821536	0.4113
RI_ADJ*CEO_OWNERSHIP_99	-1.881966	6.619964	-0.284286	0.7762
CEO_OWNERSHIP_99	-5.743373	1.907992	-3.010166	0.0026
RI_ADJ*CEO_BOARD	0.450910	0.452007	0.997574	0.3185
CEO_BOARD	-0.758356	0.208750	-3.632839	0.0003
CEO_AGE	0.048195	0.011244	4.286328	0.0000
TENURE	-0.004539	0.012777	-0.355262	0.7224
BOARDSIZE	-0.023561	0.055367	-0.425544	0.6704
AVG_AGE_BOARD	-0.010086	0.016023	-0.629473	0.5290
FOREIGN_DIRECTORS	-0.442791	0.346970	-1.276167	0.2019
OWN_20_DUMMY	-0.003512	0.144390	-0.024326	0.9806
FIRMSIZE	-0.089971	0.046626	-1.929626	0.0537
LAGGED_LEV	0.067428	0.481567	0.140018	0.8886
MARKET_TO_BOOK_LN	-0.308834	0.101912	-3.030391	0.0024
NUM2013	0.080937	0.169669	0.477027	0.6333
NUM2014	-0.077868	0.183111	-0.425248	0.6707

McFadden R-squared	0.156930	Mean dependent var	0.130730
S.D. dependent var	0.337391	S.E. of regression	0.319264
Akaike info criterion	0.711563	Sum squared resid	58.30377
Schwarz criterion	0.837936	Log likelihood	-192.5554
Hannan-Quinn criter.	0.760798	Deviance	385.1108
Restr. deviance	456.7956	Restr. log likelihood	-228.3978
LR statistic	71.68482	Avg. log likelihood	-0.326919
Prob(LR statistic)	0.000000		

Obs with Dep=0	512	Total obs	589
Obs with Dep=1	77		

Appendix 11: Regression using forced CEO turnovers

Dependent Variable: FORCED

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.617964	2.449895	0.252241	0.8009
RI_ADJ	-0.088301	0.122251	0.722297	0.4701
PROFIT_DUMMY	-0.408180	0.278733	-1.464412	0.1431
CEO_AGE	0.018859	0.016913	1.115089	0.2648
TENURE	-0.094119	0.028980	-3.247736	0.0012
BOARDSIZE	-0.068277	0.099500	-0.686204	0.4926
AVG_AGE_BOARD	-0.005340	0.031396	-0.170085	0.8649
FOREIGN_DIRECTORS	-0.045812	0.508399	-0.090110	0.9282
OWN_20_DUMMY	0.206941	0.233447	0.886458	0.3754
FIRMSIZE	-0.131567	0.078216	-1.682108	0.0925
LAGGED_LEV	0.595858	0.868471	0.686099	0.4927
MARKET_TO_BOOK_LN	-0.123742	0.179529	-0.689260	0.4907
NUM2013	0.723828	0.334266	2.165425	0.0304
NUM2014	0.214164	0.380651	0.562627	0.5737

McFadden R-squared	0.195612	Mean dependent var	0.023649
S.D. dependent var	0.152080	S.E. of regression	0.150078
Akaike info criterion	0.227348	Sum squared resid	13.01856
Schwarz criterion	0.331012	Log likelihood	-53.29505
Hannan-Quinn criter.	0.267727	Deviance	106.5901
Restr. deviance	132.5109	Restr. log likelihood	-66.25543
LR statistic	25.92076	Avg. log likelihood	-0.090025
Prob(LR statistic)	0.017422		

Obs with Dep=0	578	Total obs	592
Obs with Dep=1	14		

Dependent Variable: TURNOVER

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.333187	2.164920	0.153902	0.8777
RI_ADJ	-0.121020	0.301985	-0.400750	0.6886
PROFIT_DUMMY	-0.169944	0.349327	-0.486490	0.6266
CEO_AGE	0.082160	0.020716	3.966103	0.0001
TENURE	-0.048087	0.019952	-2.410153	0.0159
BOARDSIZE	-0.054551	0.101292	-0.538551	0.5902
AVG_AGE_BOARD	-0.031751	0.028051	-1.131903	0.2577
FOREIGN_DIRECTORS	-1.013844	0.649330	-1.561370	0.1184
OWN_20_DUMMY	-0.009823	0.263082	-0.037337	0.9702
FIRMSIZE	-0.169616	0.086857	-1.952817	0.0508
LAGGED_LEV	0.143437	0.883340	0.162381	0.8710
MARKET_TO_BOOK_LN	-0.563709	0.186763	-3.018313	0.0025
NUM2013	0.228106	0.302857	0.753181	0.4513
NUM2014	-0.132567	0.336841	-0.393560	0.6939

McFadden R-squared	0.101482	Mean dependent var	0.130730
S.D. dependent var	0.337391	S.E. of regression	0.326357
Akaike info criterion	0.744379	Sum squared resid	61.24255
Schwarz criterion	0.848450	Log likelihood	-205.2195
Hannan-Quinn criter.	0.784925	Deviance	410.4390
Restr. deviance	456.7956	Restr. log likelihood	-228.3978
LR statistic	46.35664	Avg. log likelihood	-0.348420
Prob(LR statistic)	0.000012		

Obs with Dep=0	512	Total obs	589
Obs with Dep=1	77		

Dependent Variable: FORCED

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.799784	2.558907	0.312549	0.7546
I_ROA_99	-0.001859	0.006507	-0.285725	0.7751
I_ROA_99*CEO_VOTES_99	0.003241	0.247209	0.013109	0.9895
CEO_VOTES_99	-8.243029	3.773502	-2.184451	0.0289
I_ROA_99*CEO_BOARD	0.015240	0.010394	1.466205	0.1426
CEO_BOARD	-0.468639	0.378849	-1.237008	0.2161
CEO_AGE	0.025173	0.017004	1.480384	0.1388
TENURE	-0.094617	0.029561	-3.200744	0.0014
BOARDSIZE	-0.063578	0.101677	-0.625291	0.5318
AVG_AGE_BOARD	0.002656	0.030154	0.088094	0.9298
FOREIGN_DIRECTORS	0.130028	0.530633	0.245042	0.8064
OWN_20_DUMMY	0.224169	0.233664	0.959363	0.3374
FIRMSIZE	-0.185777	0.087841	-2.114931	0.0344
LAGGED_LEV	0.647213	0.967474	0.668972	0.5035
MARKET_TO_BOOK_LN	-0.156581	0.186415	-0.839962	0.4009
NUM2013	0.722416	0.339056	2.130668	0.0331
NUM2014	0.226146	0.373749	0.605074	0.5451

McFadden R-squared	0.212162	Mean dependent var	0.023333
Restr. deviance	132.8912	Restr. log likelihood	-66.44559
LR statistic	28.19441	Avg. log likelihood	-0.087247
Prob(LR statistic)	0.029970		

Obs with Dep=0	586	Total obs	600
Obs with Dep=1	14		

Dependent Variable: TURNOVER

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.252947	1.249699	-0.202406	0.8396
I_ROA_99	-0.003303	0.004756	0.694522	0.4874
I_ROA_99*CEO_VOTES_99	0.091871	0.152495	0.602451	0.5469
CEO_VOTES_99	-3.835631	1.296319	-2.958863	0.0031
I_ROA_99*CEO_BOARD	0.037232	0.020323	1.831983	0.0670
CEO_BOARD	-0.889581	0.223112	-3.987151	0.0001
CEO_AGE	0.049840	0.011387	4.376781	0.0000
TENURE	-0.010369	0.013750	-0.754120	0.4508
BOARDSIZE	-0.030233	0.054776	-0.551934	0.5810
AVG_AGE_BOARD	-0.007654	0.016075	-0.476117	0.6340
FOREIGN_DIRECTORS	-0.461225	0.345962	-1.333165	0.1825
OWN_20_DUMMY	0.006171	0.145342	0.042461	0.9661
FIRMSIZE	-0.110834	0.049534	-2.237545	0.0253
LAGGED_LEV	0.163606	0.488373	0.335003	0.7376
MARKET_TO_BOOK_LN	-0.349864	0.100640	-3.476387	0.0005
NUM2013	0.102732	0.169690	0.605407	0.5449
NUM2014	-0.098563	0.182442	-0.540244	0.5890

McFadden R-squared	0.167003	Mean dependent var	0.128978
Restr. deviance	459.0210	Restr. log likelihood	-229.5105
LR statistic	76.65777	Avg. log likelihood	-0.320237
Prob(LR statistic)	0.000000		

Obs with Dep=0	520	Total obs	597
Obs with Dep=1	77		