

Cord H. Burchard

**Top management turnover
from a capital market perspective**

An empirical analysis in
a low managerial discretion environment

This dissertation was supported by the Friedrich Naumann Foundation for Freedom with funding from the German Federal Ministry of Education and Research.

Content overview

List of figures	X
List of tables	XI
List of abbreviations	XIII
I. Introduction	1
II. Sudden top management turnovers and their effects on capital markets – Evidence from a country with low managerial discretion	17
III. Disentangling risk dynamics around top management turnovers – The effect of information processing	47
IV. Bad news for announcers, good news for rivals – An examination of transition-period performance effects following top management turnovers	89
V. Discussion	129
References	147
Appendix	162

Table of contents

List of figures	X
List of tables	XI
List of abbreviations	XIII
I. Introduction	1
I.1 Research motivation	1
I.2 Research objectives	6
I.3 Research approach	9
I.3.1. Germany as a context for analyzing low managerial discretion	9
I.3.2. CEOs and CFOs as representatives of top management.....	11
I.3.3. Data collection and methodology	12
I.4 Dissertation structure	15
II. Sudden top management turnovers and their effects on capital markets – Evidence from a country with low managerial discretion	17
II.1 Introduction	18
II.2 Theoretical background	21
II.2.1. Turnover as a measurement context for top manager importance .	22
II.2.2. The role of turnover expectedness.....	25
II.3 Method	27
II.3.1. Data and sample.....	27
II.3.2. Empirical analysis.....	30
II.3.3. Dependent variables	32
II.3.4. Independent variables	33
II.3.5. Control variables.....	33
II.4 Empirical results	35
II.4.1. Analysis of cumulative abnormal returns.....	35
II.4.2. Analysis of the effects of turnover expectedness	37
II.4.3. Regression analyses	39

II.5 Discussion and conclusion.....	43
III. Disentangling risk dynamics around top management turnovers – The effect of information processing.....	47
III.1 Introduction.....	48
III.2 Theoretical background.....	51
III.2.1. Forced versus routine turnovers.....	58
III.2.2. Outsider versus insider successions.....	60
III.3 Method.....	61
III.3.1. Data and sample.....	61
III.3.2. Empirical analysis.....	66
III.3.3. Dependent variables.....	68
III.3.4. Explanatory variables – turnover variables.....	68
III.3.5. Control variables – manager and turnover variables.....	68
III.3.6. Control variables – company variables.....	70
III.4 Empirical results.....	71
III.4.1. Descriptive statistics.....	71
III.4.2. Short-term volatility effects.....	76
III.4.3. Long-term volatility and beta effects.....	78
III.4.4. Regression analyses.....	81
III.5 Discussion and conclusion.....	85
IV. Bad news for announcers, good news for rivals – An examination of transition-period performance effects following top management turnovers.....	89
IV.1 Introduction.....	90
IV.2 Theoretical background.....	94
IV.2.1. Forced versus routine turnovers.....	98
IV.2.2. Outsider versus insider successions.....	99
IV.3 Method.....	101
IV.3.1. Data and sample.....	101
IV.3.2. Construction of the rival portfolio.....	106
IV.3.3. Estimation of valuation effects.....	107

IV.3.4. Dependent variables	108
IV.3.5. Explanatory turnover variables	108
IV.3.6. Control variables – manager and turnover variables	109
IV.3.7. Control variables – intra-industry rival company variables.....	109
IV.4 Empirical results.....	110
IV.4.1. Transition-period valuation effects	110
IV.4.2. Valuation effects for forced versus routine turnovers	113
IV.4.3. Valuation effects for outsider versus insider successions.....	117
IV.4.4. Regression analyses	119
IV.5 Discussion and conclusion.....	125
V. Discussion	129
V.1 Purpose of dissertation	129
V.2 Overview and comparison of key findings	129
V.2.1. Overview of key findings.....	129
V.2.2. Comparison of key findings	132
V.3 Theoretical and practical contributions	136
V.3.1. Theoretical contributions.....	136
V.3.2. Practical contributions.....	138
V.4 Limitations.....	140
V.5 Further research	143
V.6 Conclusion	145
References	147
Appendix	162

List of figures

Figure III-1. Median ratios of firm to market volatility (months)	72
Figure III-2. Median ratios of firm to market volatility (years).....	73
Figure IV-1. BHARs to turnover announcement (entire sample).....	112
Figure IV-2. BHARs to turnover announcement (forced and routine subsamples).....	116
Figure IV-3. BHARs to turnover announcement (outsider and insider subsamples).....	119

List of tables

Table II-1. Composition of turnover cases (January 1998 - December 2008)	29
Table II-2. Turnover expectations.....	30
Table II-3. CARs to turnover announcement (CEO subsample).....	36
Table II-4. CARs to turnover announcement (CFO subsample)	37
Table II-5. CARs to turnover announcement (unexpected subsample).....	38
Table II-6. CARs to turnover announcement (expected subsample).....	39
Table II-7. Regressions on CARs around unexpected and expected turnovers.....	42
Table III-1. Composition of turnover cases (January 1998 - December 2008).....	63
Table III-2. Reasons for CEO or CFO turnover	65
Table III-3. Succession types	66
Table III-4. Turnover expectations	69
Table III-5. Annualized standard deviations (all analyzed periods).....	75
Table III-6. Ratios of firm to market volatility (all analyzed periods)	76
Table III-7. Mean and median differences in ratio of firm to market volatility (event month)	78
Table III-8. Mean and median differences in ratio of firm to market volatility (three years following turnover)	79
Table III-9. Company betas (all analyzed periods).....	80
Table III-10. Mean and median differences in betas	81
Table III-11. Regressions on post- to pre-turnover changes in volatility	83
Table IV-1. Composition of turnover cases (January 1998 - December 2008).....	103
Table IV-2. Reasons for CEO or CFO turnover	105
Table IV-3. Succession types.....	106
Table IV-4. BHARs to turnover announcement (entire sample).....	111
Table IV-5. BHARs to turnover announcement (subsampling forced)	114

Table IV-6. BHARs to turnover announcement (subsample routine)	115
Table IV-7. Differences in mean BHARs after forced versus routine turnovers.....	117
Table IV-8. BHARs to turnover announcement (subsample outsider).....	118
Table IV-9. BHARs to turnover announcement (subsample insider).....	118
Table IV-10. Differences in mean BHARs after outsider versus insider turnovers.....	119
Table IV-11. Regressions on intra-industry rival BHARs for various event windows	124

List of abbreviations

BaFin	German Federal Financial Supervisory Authority
BHAR	Buy-and-hold abnormal returns
CAR	Cumulative abnormal returns
CDAX	German stock market index
CEO	Chief executive officer
CFO	Chief financial officer
DAX	German stock market index
DFTM	Dortmunder Forum Technisches Management
EIASM	European Institute for Advanced Studies in Management
EURAM	European Academy of Management
HHI	Herfindahl-Hirschman Index
IMC	Institute of Management Accounting and Control
MDAX	German stock market index
MSCI	International stock market index
OLS	Ordinary least squares
SIC	Standard industrial classification
VIF	Variance inflation factor
WHU	WHU – Otto Beisheim School of Management

I. Introduction

I.1 Research motivation

The topic of top management turnover has received considerable research attention in the past (for an extensive overview, see Finkelstein, Hambrick, and Cannella, 2009). Researchers have argued that top management turnover is a disruptive event in the life of a corporation (Fredrickson, Hambrick, and Baumrin, 1988; Grusky, 1960; Khurana, 2001; Shen, 2003), which can result in major publicity and visibility (Wiersema and Zhang, 2011). As such, it can substantially affect a company, both internally and externally (Beck and Wiersema, 2011).

In recent years, the rates of top management turnovers have increased in many parts of the world, including the U.S., Japan, France, and Germany (Beck and Wiersema, 2011). Research has simultaneously increased its attempts to better understand the turnover processes, including their circumstances and consequences (Finkelstein, Hambrick, and Cannella, 2009; Giambatista, Rowe, and Riaz, 2005; Kesner and Dalton, 1994; Kesner and Sebor, 1994; Rowe et al., 2005). However, many complex questions remain. Thus, research on top management turnover continues to be highly encouraged (Giambatista, Rowe, and Riaz, 2005) and theoretically relevant (Finkelstein, Hambrick, and Cannella, 2009).

The circumstances of top management turnovers are varied (Finkelstein, Hambrick, and Cannella, 2009). Research has shown that supervisory boards may use several measures before deciding to exchange a top manager (Brickley, 2003; Engel, Hayes, and Wang, 2003; Farrell and Whidbee, 2003; Wiersema and Zhang, 2011). However, “research is abundantly clear” that poor company performance generally tends to precede forced top management departures (Finkelstein, Hambrick, and Cannella, 2009: 168). Studies have shown a negative relationship between performance and dismissal for accounting issues (Murphy and Zimmerman, 1993; Weisbach, 1988), stock prices (Gregory-Smith, Thompson, and Wright, 2009; Warner, Watts, and

Wruck, 1988), and unexpected performance deviations (DeFond and Park, 1999; Farrell and Whidbee, 2003; Puffer and Weintrop, 1991). However, it is important to note that it cannot necessarily be discerned to what extent top managers are responsible for company performance, because scapegoating may also explain some top management dismissals (Boeker, 1992; Khanna and Poulsen, 1995; Ward et al., 2011).

The continuing debate over the possible performance consequences of a top management turnover derives directly from this question of responsibility (Finkelstein, Hambrick, and Cannella, 2009). If top managers are considered responsible for poor firm performance, then their turnover should lead to improved firm results. In this vein, many studies have attempted to establish links between top management turnover and performance consequences, analyzing both accounting performance (see, for example, Bresser et al., 2005; Denis and Denis, 1995; Geiger and North, 2006; Hotchkiss, 1995; Huson, Malatesta, and Parrino, 2004; Karaevli, 2007; Mian, 2001; Shen and Cannella, 2002a) and stock price performance (see, for example, Bonnier and Bruner, 1989; Furtado and Rozeff, 1987; Huson, Malatesta, and Parrino, 2004; Khanna and Poulsen, 1995; Mian, 2001; Reinganum, 1985; Warner, Watts, and Wruck, 1988; Weisbach, 1988).

The overall results of these studies have thus far been mixed. Continuing research, ideally using a consistent methodology and more comprehensive theory on how much influence top managers can have on company performance, is highly recommended (Finkelstein, Hambrick, and Cannella, 2009; Giambatista, Rowe, and Riaz, 2005). Such research may eventually uncover more stable and robust patterns for the links between top management turnover and the resulting company performance.

The theoretical basis for many of the studies on the impact of top managers is upper echelons theory (Hambrick, 2007; Hambrick and Mason, 1984), which posits that managers' values and cognitive framing ultimately influence company performance (Carpenter, Geletkanycz, and Sanders, 2004; Finkelstein, Hambrick, and Cannella, 2009; Hambrick, 2007; Hambrick and Mason, 1984).

However, in order for managers to have any influence, they need freedom to pursue their own actions. Historically, two opposing theoretical views of managers have existed: 1) Managers are able to choose and implement their own strategies, which shape companies (Child, 1972), and 2) managers are much more restricted by environmental forces, cultures, histories, and legitimization (DiMaggio and Powell, 1983; Hannan and Freeman, 1977). Hambrick and Finkelstein (1987) developed the construct of managerial discretion to bridge these opposing views. In its first iteration, managerial discretion was defined as the latitude of actions, which refers to the range of possible actions a manager can choose from when making decisions, e.g., the choice between laying off people or dropping a product line to cut costs. Shen and Cho (2005) later added latitude of objectives to the construct, which refers to the range of goals a manager can choose from. While early studies showed that managerial discretion can differ across companies and industries (Finkelstein and Hambrick, 1990; Hambrick and Abrahamson, 1995), later research found that different countries or national systems also provide differing degrees of managerial discretion (Crossland, 2009; Crossland and Hambrick, 2007, 2011).

In countries with low discretion managers should be more constrained in their decisions than managers in countries with high discretion (Crossland and Hambrick, 2007; Hambrick and Finkelstein, 1987). This should be reflected in many of a corporation's aspects. Compensation is likely to be lower in low discretion countries (Conyon and Murphy, 2000; Finkelstein and Boyd, 1998), and structural and strategic changes should be more incremental (Giambatista, Rowe, and Riaz, 2005). Furthermore, the phenomenon of "superstar" managers should rarely be seen (Chatterjee and Hambrick, 2007; Hayward and Hambrick, 1997; Hayward, Rindova, and Pollock, 2004). Ultimately, top managers are less likely to be able to significantly impact company performance in a low discretion context.

Despite the theoretical importance of this topic, empirical evidence on how national system-based managerial discretion impacts top manager performance is scarce (Finkelstein, Hambrick, and Cannella, 2009). The majority of studies that have analyzed these performance effects were conducted in the U.S., a country with

relatively high managerial discretion. Few studies have analyzed top management influence in single low discretion countries such as China (Li and Tang, 2010), Japan (Kang and Shivdasani, 1995), or Switzerland (Kind and Schläpfer, 2010), and only a very limited number have compared managerial performance impact in a cross-country setting (Crossland, 2009; Crossland and Hambrick, 2007, 2011).

Furthermore, all of these studies were either 1) based in financial research, and thus have not explicitly considered the concept of discretion in their theoretical arguments (Kang and Shivdasani, 1995; Kind and Schläpfer, 2010), or 2) based on management theories, but without considering well-established finance methodologies that incorporate market-based measures to show performance effects (Crossland and Hambrick, 2007, 2011; Li and Tang, 2010). Following Giambatista, Rowe, and Riaz (2005), I argue that the combination of developed management theories with established finance methodology is therefore called for as a valuable method to improve the understanding of managerial importance.

In particular, several aspects of top management turnover consequences in low discretion countries need further theoretical development and empirical testing. A first research gap exists in the knowledge of how capital market participants in a low discretion environment attribute importance to top managers (Crossland, 2010). Crossland and Hambrick (2007, 2011) argue that national systems influence the degree to which managerial decision-making can impact company performance. However, the construct of limited managerial discretion by national systems has not yet been linked to capital market reactions to top management turnovers. It therefore seems useful to further contribute to this theory of how individual top managers and other factors influence stock prices around turnovers in a low discretion country, and also to investigate their impact empirically.

A second research gap exists in the understanding of the risk dynamics around top management turnovers. Researchers recognize that investors and companies are interested in not only the stock price development after a top management turnover, but also in the variation or volatility of stock prices over time. This is because they are considered an indication of how the capital markets view the uncertainty or riskiness

of a company's stock (Cheung and Jackson, 2010; Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011). However, these studies are only early attempts to understand volatility dynamics. They do not distinguish among different sources of uncertainty that could have different effects over the short and long term. They also do not account for the managerial context in which the managers are acting, and very little is known about the changes in systematic risk of a company's stock price that result from strategic changes following a turnover. Thus, research has not yet addressed the risk dynamics around top management turnovers using finer-grained arguments to explore the volatility and beta effects over the short and long term. It would also be useful to present more differentiated management theories to explain these effects in a low discretion context.

Finally, little is known about the time period immediately following a top management turnover. It is generally believed that new top managers need a transition period to become accustomed to a new position, before they can pursue any major strategic changes (Gabarro, 1987; Greiner, Cummings, and Bhambri, 2003; Harris and Helfat, 1997). During this period, the economic impact of the new top manager tends to be limited (Wowak and Hambrick, 2010). At the same time, the relative inability of turnover companies to act could have possible information effects for other companies in the same industry, because it could signal industry-wide effects, or a change in competitive structure (Firth, 1996). The theoretical understanding of the expected performance effects for turnover companies, as well as their intra-industry rivals, during such transition periods remains limited. An empirical analysis could significantly contribute to the understanding of the competitive dynamics of top management turnovers.

Overall, these research gaps show that capital market reactions to top management turnovers in a low discretion environment are not fully understood. This dissertation aims to reduce the identified knowledge gaps in this important field of management research, contributing to each of the issues described above by advancing the theory and providing valuable empirical insights.

I.2 Research objectives

My dissertation addresses the research gaps outlined above by means of three separate research objectives along the main line of interest: the capital market consequences of top management turnovers in a low discretion country. With each objective, I aim to contribute to a better understanding of the importance of top managers in a low discretion context. I describe my individual research objectives, as well as the intended contributions, in more detail next.

The impact top managers can have on companies and company performance is a long-studied topic in management research (see, for example, Finkelstein, Hambrick, and Cannella, 2009; Mackey, 2008, for recent reviews). According to the managerial discretion concept, top managers can only influence company performance to the degree they possess freedom in choosing their goals and actions, which vary by individual, company, and industry (Finkelstein, Hambrick, and Cannella, 2009; Hambrick and Finkelstein, 1987; Shen and Cho, 2005). However, the national system in which managers act is another dimension that can potentially limit managerial discretion (Crossland and Hambrick, 2007).

In low discretion countries, a diverse set of social and economic factors, including corporate governance mechanisms, can limit top managers' actions and their potential performance influence. Accordingly, capital market reactions around top management turnover announcements are less likely to show any material effects attributable to the change in individual top managers (Crossland, 2010).

However, the capital markets are often confronted with numerous different sources of information around turnover announcements. Processing this information can increase investor uncertainty and create possible price effects due to the inherent signaling (Epstein and Schneider, 2008; Zhang and Wiersema, 2009). The information signaling effect should be especially strong and translate into stock price reactions when the news is unexpected (Fama, 1970, 1991; Fama et al., 1969).

My dissertation therefore aims to contribute to prior literature by empirically analyzing the importance capital markets attach to top management turnovers in a low discretion country. This includes the explicit consideration of turnover expectedness, and the inherent information signaling in stock price movements. Thus, my first research objective is:

Research objective 1: *Examine the capital market reactions to top management turnovers in a low discretion country and analyze the effects of turnover expectedness.*

The variation or volatility of stock prices over time is a different aspect of the importance capital markets attach to a top management turnover than absolute stock price development. Volatility changes can have both internal and external effects on a company. On the one hand, investors use volatility as a measure of riskiness that is reflected directly in expected returns (Fleming, Kirby, and Ostdiek, 2001). On the other hand, companies are confronted with a different cost of capital when volatility changes (Bhagat, Brickley, and Loewenstein, 1987; Kalay and Loewenstein, 1985).

Volatility can be considered a reflection of uncertainty that increases in the short-term, when capital market participants are faced with a great deal of information that they need to evaluate (Epstein and Schneider, 2008; Epstein and Turnbull, 1980). However, the increased level of uncertainty can persist over the long run if the information leads to uncertainty over major strategic changes that capital market participants only learn of over time (Zhang and Wiersema, 2009). Such long-term changes could translate into changes in cash flows and systematic risk levels of a company (Ball and Kothari, 1989; Beatty and Zajac, 1987; Chan, 1988; Deutsch, Keil, and Laamanen, 2011).

Prior literature has shown an increase in volatility after top management turnovers in high discretion countries (Cheung and Jackson, 2010; Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011). In these countries managers have been shown to have a higher influence on company decisions and performance than in low discretion countries (Crossland and Hambrick, 2007, 2011). Uncertainty over strategic changes and successor ability is therefore more likely to lead to increased long-term volatility

(Clayton, Hartzell, and Rosenberg, 2005). In a low discretion context in contrast, uncertainty over strategic changes and successor ability should be more limited, and long-term volatility effects and changes in systematic risk should be less likely. Instead, volatility should only increase in the short-term as a result of uncertainty due to information processing. However, the effect of uncertainty to explain short-term volatility effects has thus far not been applied in prior studies.

This dissertation therefore intends particularly to apply the concept of low managerial discretion to top management turnovers in order to show the effects of this additional source of uncertainty on short-term volatility. I seek to contribute to the field of risk dynamics by theoretically and empirically distinguishing between short- and long-term effects, which leads to my second research objective:

Research objective 2: *Examine the short- and long-term volatility and systematic risk consequences of a top management turnover in a low discretion country.*

Top management turnover is generally a disruptive event in the life of a company (Grusky, 1960). Researchers have argued that the new top manager may need time to transition to the new position and company before undertaking major strategic changes (Gabarro, 1987; Giambatista, Rowe, and Riaz, 2005; Hambrick and Fukutomi, 1991). This transition time is therefore often characterized by relative stagnation (Vancil, 1987), and any potential economic effects during this time will be limited (Wowak, Hambrick, and Henderson, 2011).

However, it is important to note that this relative stagnation may be used by intra-industry rivals, who, not facing the same disruptions, may attempt to actively exploit the situation in which the turnover company will be relatively unable to react. The result should be a temporal competitive advantage for intra-industry rivals, which should be reflected in positive abnormal stock price reactions. Thus, in this dissertation, I contribute to the important field of competitive dynamics by exploring the capital market effects following a top management turnover for both the turnover company itself and its intra-industry rivals. Thus, my third research objective is:

Research objective 3: *Examine the capital market consequences of the transition period following a top management turnover for turnover firms and intra-industry rivals.*

I.3 Research approach

I.3.1. Germany as a context for analyzing low managerial discretion

To best follow my research motivation of studying performance effects in a low discretion context, I chose Germany as my country of analysis. The corporate governance and values of the German national system (compared to, for example, the U.S.) provide relatively clear factors that greatly limit individual managerial discretion (Crossland and Hambrick, 2007, 2011). In particular, I identified five factors based on prior research that limit managerial discretion in Germany by means of stronger checks and balances in corporate decision making.

Civil law context. The German civil law system is different from the common law system found in most high discretion countries (Crossland and Hambrick, 2011). It does not focus primarily on shareholder interests, but instead emphasizes the inclusion of all stakeholders (Johnson et al., 2000; La Porta, Lopez-de-Silanes, and Shleifer, 1999). This important difference means that the interests of many groups must be considered by top management in their decision making processes, ideally satisfying a majority of stakeholders while still protecting the weak (La Porta, Lopez-de-Silanes, and Shleifer, 1999; Witt and Redding, 2009). In terms of managerial discretion, the German civil law context provides more goals to choose from than a high discretion country, i.e., a higher latitude of objectives, but it provides fewer possibilities to meet those goals, i.e., a lower latitude of actions (Shen and Cho, 2005).

Two-tiered board system. In Germany, there is a clear delineation between the top management team responsible for day-to-day operations, and the supervisory board that selects and monitors that team. It is not possible for one individual to be a member of both at the same time. Moreover, transfers from a management to a supervisory position (i.e., after retirement) are carefully scrutinized and must be justified. As a

result, the problem of CEO duality, which can lead to less productive board monitoring in other contexts (Finkelstein and D'Aveni, 1994; Quigley and Hambrick, 2012; Tuggle et al., 2010; Weir, Laing, and Wright, 2005), is not seen in Germany. The supervisory board should be able to act independently and more critically judge top management's actions, which again should decrease managerial discretion.

Collective board responsibility. The potential impact of individual top managers in Germany is further limited by the collective responsibility of the entire top management team (§77 Aktiengesetz¹). All decisions must be accepted by other members of the team, which restricts managers' freedom to pursue individual actions and also limits managerial discretion. The potential "narcissism" of top managers is therefore also restricted, and the phenomenon of "superstar" managers is much less likely to occur in Germany (Chatterjee and Hambrick, 2007; Hayward, Rindova, and Pollock, 2004).

Codetermination. In line with the German civil law context, the composition of the supervisory board is also different than that in, for example, the U.S. Board seats are not assigned exclusively based on a percentage of shareholdings; instead, employee representatives are required to be board members. This worker codetermination results in a strong inclusion of employee and union interests in all company decisions, including the selection of top managers, which again limits managerial discretion (Crossland and Hambrick, 2007). Incidentally, and not surprisingly, top management in Germany has been found to dislike these limitations (Witt and Redding, 2009).

Firm crossholdings. Another special case is the presence of strong crossholdings between German companies and banks. This has led to a possible conflict of interest for banks who are both creditors and shareholders (Elsas and Krahen, 2004; Schmidt, 2004). In their shareholder role, banks are strong representatives on German supervisory boards because of the number of board seats (Shen, 2003) and their intense activity (Campa and Hernando, 2008; Franks and Mayer, 1998, 2001; Franks, Mayer, and Wagner, 2006). However, banks may tend to focus more on risk-averse strategies

¹ Stock corporation law.

to recoup their debts, which may result in supervisory board decisions that are less shareholder-oriented (Andres, Betzer, and Van den Bongard, 2011). Although this system is beginning to change, it remained problematic during my analysis period (Dittmann, Maug, and Schneider, 2010), and limits managerial discretion in terms of latitude of actions.

In summary, I argue that top managers' abilities are clearly limited in Germany, thus providing an ideal setting in which to analyze performance effects in a relatively low discretion country.

I.3.2. CEOs and CFOs as representatives of top management

Past studies on the performance effects of top managers usually focused only on the CEO (Crossland, 2009; Crossland and Hambrick, 2007, 2011; Davidson, Worrell, and Dutia, 1993; Furtado and Rozeff, 1987; Huson, Malatesta, and Parrino, 2004; Reinganum, 1985; Warner, Watts, and Wruck, 1988; Weisbach, 1988; Worrell et al., 1986). This was reasonable, because the CEO is often considered the single most important individual in a company (Mackey, 2008). However, the field of upper echelons research has called for an extension of the top management team beyond the CEO (Hambrick, 2007; Hambrick and Mason, 1984).

I chose to use both CEOs and CFOs as representatives of top management here, because I consider these two positions to be the relevant subgroup when analyzing my research questions on the influence of top managers on company performance (Jackson, 1992). CEOs and CFOs together are generally the two individual top managers with the most influence on a firm's financial situation (Jiang, Petroni, and Wang, 2010). Indeed, they are sometimes even viewed jointly as the firm's strategic leaders (Arthaud-Day et al., 2006).

Early research on CFOs focused on their educational background, career paths, and job functions (Baker and Phillips, 1999; Baxter and Chua, 2008; Collier and Wilson, 1994; Zorn, 2004). Some articles also specifically analyzed CFO turnover (Arthaud-Day et al., 2006; Geiger and North, 2006; Menon and Williams, 2008; Mian, 2001). Recent research, especially in finance- and capital market-related studies, has further

emphasized the importance of CFOs, particularly because of their specialized knowledge of financial decision making (Chava and Purnanandam, 2010; Gore, Matsunaga, and Yeung, 2011; Jiang, Petroni, and Wang, 2010; Li, Sun, and Ettredge, 2010), and their strong interactions with capital markets, including the acquisition of financial resources (Mian, 2001).

Thus, by using both CEOs and CFOs as relevant representatives of the top management team, I follow the call in upper echelons research to extend research beyond the CEO to other team members (Hambrick, 2007; Jackson, 1992). I also follow the call in finance research to deepen the understanding of capital market reactions, specifically to CFO turnover (Mian, 2001).

I.3.3. Data collection and methodology

As the underlying sample for my dissertation project, I chose the largest German companies, those listed on the DAX and MDAX indices. Using this set of companies is advantageous because any information asymmetry between capital market participants and the companies should be comparatively lower, as larger companies tend to be covered more intensely by analysts (Bhushan, 1989; Helwege, Pirinsky, and Stulz, 2007). Furthermore, because I relied on newspaper articles to classify turnovers, larger companies also have the advantage of better data availability. Finally, larger companies are generally assumed to have well-established turnover processes in place (Holden and Subrahmanyam, 2002; Vancil, 1987).

My analysis includes all companies that were part of either index for at least one year during the January 1998 to December 2008 period. I base this starting date on data availability, as I need both financial information and relevant newspaper articles for turnover classification. The end date is based on the methodological requirement of a sufficient period of stock market performance after the turnover in order to measure long-term valuation effects.

My sample of top management turnovers is built upon a proprietary database of the *IMC – Institute of Management Accounting and Control*.² This database contains a first list of CEO and CFO turnovers, as well as a set of newspaper articles for background information. I validated the existing data by conducting numerous spot tests for different data points. However, in order to fit the data to my particular research objectives, many extensions and adaptations were necessary. For example, in order to adapt the sample to capital market requirements, I added the dates of ad hoc announcements of top management turnovers, in addition to the effective dates of management changes. Furthermore, I faced the challenge of classifying the turnovers as either forced or routine, and unexpected or expected.

In contrast to the U.S., where studies using turnover classifications are often based on a single source of information, such as *The Wall Street Journal* (Farrell and Whidbee, 2003; Parrino, 1997; Weisbach, 1988), Germany does not have one sole complete source. I therefore followed a process that is common in Germany (Bresser and Thiele, 2008; Bresser et al., 2005; Zander et al., 2009), as well as in other non-U.S. studies (Cheung and Jackson, 2010), where I classified turnovers based on newspaper articles from several varied sources.

Similarly to prior studies (Farrell and Whidbee, 2003; Parrino, 1997; Zander et al., 2009), I classify a turnover as “forced” when 1) it was clearly stated as a dismissal without any further explanation, 2) the supervisory board and the manager had known disagreements over the future course of the company, 3) identifiable faults of the top manager caused the turnover, or 4) when the turnover happened significantly before the original contract termination and other explanations were missing. A “routine” turnover, in contrast, is identified when 1) the manager pursued an internal career opportunity to either the supervisory board or a higher position within the same company, 2) the top manager left voluntarily to take a higher position with an external company, 3) the manager had to leave the company for health reasons or other private matters, 4) the turnover was the result of a planned reorganization, or 5) the classic

² The IMC is a research institute of the WHU – Otto Beisheim School of Management in Germany that bundles diverse research and teaching activities in the area of management accounting and control. Their website is <http://www.whu.edu/imc>.

case of retirement. To validate my classification results, I used two independent researchers to classify the turnovers according to pre-set rules, and I calculated the inter-rater reliability afterward (Cohen, 1960; Perreault and Leigh, 1989).

When measuring capital market reactions, it is a methodological prerequisite that the analyzed announcement not be anticipated by the capital markets, in order to properly capture stock price reactions (Fama, 1970, 1991; Fama et al., 1969). However, I find that, even in management turnover research, most capital market-related studies have not included a measure of turnover expectedness, and thus no common measure has been established.³ I apply a measure of the unexpectedness of a turnover announcement that uses the same procedure for classifying turnovers by two independent researchers into “unexpected” or “expected” turnovers according to predefined terms. In order for a turnover announcement to be classified as “unexpected,” the newspaper articles had to clearly use words such as “unexpected,” “surprise,” “sudden,” or derivations thereof. If the newspaper articles stated that a possible turnover had been discussed, that rumors existed, or that it had been expected, the turnover was classified as “expected.” I again calculated inter-rater reliability measures to validate the classifications.

Finally, the classification as outsider or insider succession is based on the top manager’s length of tenure with the company prior to appointment as either CEO or CFO. For a tenure of more than one year, I classified the manager as a company insider; for a tenure of less than one year, I classified the manager as a company outsider (Borokhovich, Parrino, and Trapani, 1996; Hillier, Linn, and McColgan, 2005; Kang and Shivdasani, 1995).

I retrieved more than 5,000 newspaper articles from *LexisNexis* to classify the turnovers as forced/routine and unexpected/expected. These articles were also used to provide background information on the managers, announcement dates, and other turnover-related information. The stock data came from *Thomson Financial DataStream*, while the accounting data came from *Thomson Financial Worldscope*.

³ The only studies I am aware of that use unexpected turnovers rely on sudden deaths of executives (Combs et al., 2007; Worrell et al., 1986).

A more detailed description of the data for analyzing each research objective, including further adaptations to the sample because of theoretical or mythological reasons, is provided in the relevant chapters. To analyze the research objectives described above, I use methodologies fitted specifically to each question. Thus, in order to analyze capital market reactions to top management turnover and the role of turnover expectedness in that context, I use standard event study methodology to measure cumulative abnormal returns around the event date (Brown and Warner, 1985; Fuller, Netter, and Stegemoller, 2002; McWilliams and Siegel, 1997; McWilliams and McWilliams, 2000). I also apply various statistical significance tests to correct for possible biases in my data (Boehmer, Musumeci, and Poulsen, 1991; Lyon, Barber, and Tsai, 1999; Wilcoxon, 1945).

To address my second research objective of short- and long-term volatility effects of a top management turnover, I calculate the standard deviation of daily returns over the event month, as well as for the three years following the announcement both as an absolute annualized measure and a relative measure compared to overall market volatility during the respective period (Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011). Additionally, I analyze the beta effects of a management turnover by using a measure of daily returns and correcting for effects of asynchronous trading (Carlson, Fisher, and Giammarino, 2010; Scholes and Williams, 1977).

Finally, to analyze my third research objective of transition period performance effects for both turnover firms and their intra-industry rivals, I use a measure of buy-and-hold returns (Lyon, Barber, and Tsai, 1999), and again apply various tests for possible data biases (Johnson, 1978; Wilcoxon, 1945).

I.4 Dissertation structure

My dissertation is organized into five chapters. The first chapter presents my research motivation, my research objectives, an overview of my approach, and an outline of the general structure. Chapters II, III, and IV are all self-contained chapters that have been built around the above-stated research objectives. Chapter II analyzes the effects of top

management turnover announcements on capital market reactions in a low managerial discretion country with a special focus on announcement expectedness. Chapter III addresses how firm-level risk dynamics are affected by a top management turnover. In chapter IV, I analyze the effects of top management turnovers and the resulting transitions on turnover firms and intra-industry rivals. Chapter V summarizes and compares my main results from the research objectives addressed in the previous chapters, discusses the theoretical and practical contributions of the findings, explores the limitations of the work, and, finally, offers suggestions for how to advance future research on this topic.

II. Sudden top management turnovers and their effects on capital markets – Evidence from a country with low managerial discretion

In the following chapter I address my research objective 1 and analyze the capital market reactions to sudden announcements of top management turnovers in a low discretion country. Based on upper echelons theory and the managerial discretion construct I argue that managers in a low discretion country are limited by the national system in their possible influence on company performance. Hence, the stock market reactions around a top management turnover should also be limited. Combining this reasoning with capital market theory I argue that if capital markets react to a turnover announcement it should not be because of changed expectations of future company performance but rather because of short-term uncertainty resulting from the announcement. I introduce the novel variable “expectedness” and argue that unexpected turnover announcements are followed by short-term negative abnormal stock price reactions representing uncertainty during the time of information processing after the announcement. In contrast I expect positive abnormal stock price reactions to precede expected turnover announcements as a result of diminishing uncertainty with increasing probability of the turnover. As a sample for my analysis I use the largest companies listed on the German DAX and MDAX during 1998 and 2008 and employ standard event study methodology.

The findings from this chapter are part of a larger research project that has resulted in a paper written together with Barbara Voußem, Utz Schäffer, and Denis Schweizer that has been accepted for a publication in the scientific journal *Zeitschrift für Betriebswirtschaft*. Earlier versions of the paper were presented at the first and second EIASM Workshop on Top Management Teams and Business Strategy Research in Valencia, Spain in March 2010, and Istanbul in March 2011, the EURAM doctoral colloquium in May 2010 and the Dortmunder Forum Technisches Management (DFTM) in July 2011.

II.1 Introduction

Research has long studied how top managers impact companies and performance (Finkelstein, Hambrick, and Cannella, 2009; Mackey, 2008). Before Hambrick and Finkelstein (1987) introduced the concept of managerial discretion, two primary opposing views on managers' influence existed. Some researchers argued that managers have the necessary leeway to shape their own fates (Child, 1972, 1997), while others believed managers are far too restricted by internal and external forces to actively change company outcomes (Hannan and Freeman, 1977).

The concept of managerial discretion (Hambrick and Finkelstein, 1987) bridges these opposing views by stating that managers can influence companies, but only to the degree they possess the necessary discretion. When first conceptualized, the forces restricting discretion were the task environment, internal organizations, and individual characteristics (Hambrick and Finkelstein, 1987). Crossland and Hambrick (2007) later added a fourth perspective, the national system, that is thought to limit managerial discretion through broader social and economic factors. In low discretion countries, managers' actions and ability to influence company performance are restricted by corporate governance mechanisms.

While this argument has been made theoretically, however, empirical evidence has thus far been limited. This article extends the literature by explicitly analyzing a single country with low managerial discretion, and demonstrating that performance consequences are limited. I use a management turnover context to analyze the importance attributed to managers by the capital markets through the phenomenon of stock price changes around management turnovers.

Furthermore, I posit that, if managers are restricted by national systems, their individual influence will also be limited. Accordingly, a management turnover initiated by the supervisory board will have only a symbolic meaning (Arthaud-Day et al., 2006; Shen and Cho, 2005). For example, it may be used to show a company's commitment to major changes (Zhang and Wiersema, 2009). However, stock price

reactions based on an individual comparison of predecessor with successor should show no significant changes.

Nevertheless, when a turnover is announced, the capital markets will process that information. I therefore use capital market theory and the efficient market hypothesis (Fama, 1970, 1980, 1991) to explain stock price movements around turnovers.

The announcement of a management turnover can be either very abrupt, with no prior anticipation by market participants, or just a confirmation of ongoing information and rumors. Both cases result in different stock price reactions, because the capital markets continually process all information relevant to a company's future expected performance.

Unexpected announcements of top management turnover often convey new information about a company's situation, such as fraudulent activity by an executive, poorer than expected financial results, or a deterioration in market position (Furtado and Karan, 1990). Whenever a turnover is announced unexpectedly, however, there will be initial uncertainty about the full informational content and quality of the announcement. An appropriate market adjustment can therefore take time (Epstein and Schneider, 2008). Many researchers have found that the capital markets will add a discount to stock prices in these cases to reflect the required stock return premium for prior unidentified risk (Bernard and Thomas, 1989; Fama, 1970; Fama et al., 1969; Worrell et al., 1986).

As an example, consider the dismissal of Karl-Heinz Glauner as CEO of Aareal Bank. In August 2004, the German Federal Financial Supervisory Authority (BaFin) concluded an examination of Aareal's risk provisions with rather devastating results. Their provisions needed to be increased by nearly €276.6 million, turning their expected annual surplus of €100 million into a deficit of €100 million.

Aareal's supervisory board immediately decided to suspend Glauner as CEO. The vacant position was filled by the three remaining directors on an interim basis until a new CEO could be found (Manager Magazin, 2004). In the five days prior to the

announcement, the share price increased slightly by 0.8%, from €28.50 to €28.68. However, two days after the announcement, it dropped significantly to €20.80 (-27.5%).

Aareal had already had problems communicating with the capital markets earlier that year, so market participants seemed especially wary about events at the company. The combined news of the deficit and the management dismissal resulted in further uncertainty for investors. The significance of the large amounts involved partially explains the stock price movements.

On the other hand, an expected change in top management should not result in market reactions after the official announcement, because it does not convey any new information. Investors are thus not faced with ambiguity at the event date (Worrell et al., 1986), and all the necessary information processing and reevaluation surrounding the turnover can be made by investors prior to the announcement.

However, a risk premium does arise from the first appearance of rumors about a management turnover. The amount of uncertainty may exist over a longer period prior to the event, which can result in somewhat lower stock prices. But, as the information crystallizes and finally climaxes in the turnover announcement, investors have had time to evaluate the impact on firm performance. This reduces uncertainty, shrinks the risk premium, and usually reverses the prior decrease in stock price, often resulting in a positive stock price reaction immediately before the turnover announcement. Furthermore, a well-prepared and well-communicated succession plan can be a sign of stability, which also reduces uncertainty and leads to positive stock price reactions (for the importance of a well managed turnover process, see for example, Ballinger and Marcel, 2010).

An example of an expected turnover is the announcement of Karl-Ludwig Kley as the successor to Michael Römer as CEO of Merck Pharma KGaA in 2007. This succession had long been planned by the company and anticipated by shareholders. In fact, in 2006, Kley, a renowned CFO from a German airline, had joined Merck as the #2

position in the company. Rumors quickly spread that he was in line to take over the top position (Frankfurter Allgemeine Zeitung, 2007; Manager Magazin, 2006).

Over the five days prior to the announcement, Merck's stock price increased by 4.1%, from €3.84 to €7.70 (5.0% abnormal returns); five days later, it fell by 3.7% to €4.05 (1.8% abnormal returns for the overall period). The increasing probability of Kley as the successor to Römer was viewed positively by the markets, and Kley's prior success and frictionless succession decreased investor uncertainty. The result was an increasing stock price during the runup to the announcement. The stock price remained stable in the days after the announcement because the information assessment had already taken place.

These two examples illustrate that a distinction between expected and unexpected turnover announcements is very important from a capital market perspective. I use standard event study methodology (Brown and Warner, 1985; Fama and French, 1993; Lyon, Barber, and Tsai, 1999; McWilliams and Siegel, 1997) to show different capital market reactions after abrupt and expected management turnovers; without this distinction, no significant capital market reactions will be seen in this low discretion environment.

The remainder of this chapter is structured as follows. In chapter II.2, I develop the theory and lay out my hypotheses. In chapter II.3, I describe the data collection and the methodology used here in more detail. My empirical results are shown in chapter II.4. I close with a discussion of my results and my conclusions in chapter II.5.

II.2 Theoretical background

There has been a great deal of management research on the relationship between top managers and firm performance (Mackey, 2008). According to upper echelons theory, managers' decisions result in organizational actions that should eventually be reflected in company performance (Carpenter, Geletkanycz, and Sanders, 2004; Finkelstein, Hambrick, and Cannella, 2009; Hambrick and Mason, 1984). However, the influence managers can have on company performance depends on the situations in which they

make their decisions. And they can impact company performance only to the degree they possess freedom in their decision making.

In order to model the degrees of freedom, Hambrick and Finkelstein (1987) introduced the concept of managerial discretion. Managerial discretion is defined as a general latitude of actions – the range of possible actions managers can choose from to achieve a goal, for example, cost reduction versus sales initiatives to boost profitability. Shen and Cho (2005) expanded this definition to include latitude of objectives – the range of goals managers can adhere to in their actions.

A number of studies have shown that managerial discretion differs among companies and industries (Finkelstein, Hambrick, and Cannella, 2009). Recently, Crossland and Hambrick (2007, 2011) have shown that the “national system” also acts to set boundaries on managers’ discretion. When the regulatory context and the national corporate governance system limit managers’ free decisions, their impact on company performance will also be limited (Crossland and Hambrick, 2007; Finkelstein, Hambrick, and Cannella, 2009).

This argument has been made theoretically, but empirical testing has thus far been limited. Studies of managers’ influence on company performance have usually been conducted in the U.S., a country with relatively high managerial discretion.⁴ However, Germany has been found to be a country with relatively low managerial discretion (Crossland and Hambrick, 2007, 2011). Along with its economic size, I argue it provides an ideal setting for analyzing manager influence on performance in a low discretion environment.

II.2.1. Turnover as a measurement context for top manager importance

Both accounting- and market-based measures can be used to measure the influence of top managers on company performance. For example, stock returns can be used to analyze company performance (Warner, Watts, and Wruck, 1988), and thereby indirectly analyze the performance of its top managers as well (Fee and Hadlock,

⁴ Few studies have been undertaken in low managerial discretion countries (Kang and Shivdasani, 1995; Li and Tang, 2010). But some cross-country studies have involved differing levels of managerial discretion (Crossland, 2009; Crossland and Hambrick, 2007, 2011).

2004). Capital markets continuously evaluate the future expected performance of companies, thereby establishing stock prices (Fama, 1970, 1991; Fama and French, 1993). When new information becomes known to markets, expectations and stock prices will be updated to reflect the new situation (Fama, 1980; Fama et al., 1969). Thus, any change in management, if it is expected to have a performance effect, will result in a stock price reaction.⁵

This effect can consist of a comparison between the backward-oriented evaluation of the predecessor and the performance changes expected by the successor, as well as signaling information about the state of the company, such as possible strategic redirections or a change in investment opportunities (Furtado and Karan, 1990). The stock price changes will reflect the updated capital market beliefs of expected performance due to the entirety of information included in the turnover announcement.

A different possible way to evaluate company performance and the contributions of top management is by analyzing accounting information. Stock prices, however, have several substantial advantages. They are not as subject to management manipulation as the accounting data in financial statements (Arthaud-Day et al., 2006; Geiger and North, 2006; Jiang, Petroni, and Wang, 2010). Furthermore, they are available on a daily basis, instead of just quarterly or annually. This allows for a more direct measurement of performance consequences, excluding other possible confounding events. In the case of management turnover, I argue that stock price reactions are a more appropriate measure of company performance (Bromiley, Govekar, and Marcus, 1988; McWilliams and Siegel, 1997).

Earlier studies of the impact of top managers on company performance tended to analyze only the CEO (Crossland, 2009; Crossland and Hambrick, 2007, 2011; Davidson, Worrell, and Dutia, 1993; Furtado and Rozeff, 1987; Huson, Malatesta, and Parrino, 2004; Reinganum, 1985; Warner, Watts, and Wruck, 1988; Weisbach, 1988;

⁵ The reaction of capital markets to top management turnover, especially CEO turnover, has been analyzed in many different studies for a U.S. context. The results have been mixed, and are context-dependent. For example, Bonnier and Bruner (1989), Furtado and Rozeff (1990), Huson, Malatesta, and Parrino (2004), and Weisbach (1988) find positive abnormal stock returns. Reinganum (1985) and Warner, Watts, and Wruck (1988) find no significant abnormal returns. Khanna and Poulsen (1995) even find negative abnormal returns.

Worrell et al., 1986). However, Hambrick (2007) has argued that other members of the top management team should be included as well. I therefore analyze both the CEO and the CFO here, because they are the two key individuals involved most with the financial decisions (Jiang, Petroni, and Wang, 2010), and can also be considered a company's strategic leaders (Arthaud-Day et al., 2006).

Early research on CFOs emphasized primarily career paths and capabilities (Baker and Phillips, 1999; Baxter and Chua, 2008; Collier and Wilson, 1994; Ocasio and Kim, 1999; Zorn, 2004); later research has also concentrated on turnover (Arthaud-Day et al., 2006; Geiger and North, 2006; Menon and Williams, 2008; Mian, 2001). CFOs have also been the subject of other recent academic research because of their increased responsibilities and involvement in specialized decisions such as debt maturity and accrual management (Chava and Purnanandam, 2010; Gore, Matsunaga, and Yeung, 2011; Jiang, Petroni, and Wang, 2010; Li, Sun, and Ettredge, 2010). Furthermore, the CFO is the most connected individual to the capital markets in terms of external financial communications and raising new capital (Mian, 2001). A detailed analysis of capital market reactions around a CFO turnover – as has been undertaken for the CEO – is thus far missing, although it is considered relevant and valuable for research (Mian, 2001).

As I note above, Germany is a low managerial discretion country. Accordingly, I expect the performance influence of individual managers, such as CEOs and CFOs, to also be low, and this should be reflected in marginal capital market reactions to a turnover announcement. The German national system has clear boundaries that limit the influence managers can have (Crossland, 2009, 2010; Crossland and Hambrick, 2007, 2011). I therefore hypothesize:

Hypothesis II-1: *Capital market reactions around top management turnover announcements will tend to be insignificant in a low discretion environment, regardless of whether they involve the CEO or the CFO.*

II.2.2. The role of turnover expectedness

From the perspective of informational value, a better distinction than forced/routine turnover or insider/outsider succession is between expected and unexpected turnovers. I analyze this difference in more detail next. If top managers in a low discretion environment have only limited influence on company performance, then board-induced turnovers will occur primarily for scapegoating reasons (Shen and Cho, 2005). However, these turnovers can have a symbolic meaning, as the capital markets interpret a management turnover as a commitment to change (Zhang and Wiersema, 2009).

Additionally, turnover announcements may be accompanied by previously unknown information, such as news about the state of the company involving, e.g., financial problems, internal quarrels, or planned strategic changes (Arthaud-Day et al., 2006; Furtado and Karan, 1990; Zhang and Wiersema, 2009).

The turnover at Aareal Bank discussed in the introduction is a good example of this simultaneous news delivery. The Bank's inadequate risk provisions led to a substantial deficit in firm performance. Because the risk provisions had been under debate for a long period, however, investors were uncertain about future developments at Aareal. Therefore, it is not clear at first whether the effect on company performance was positive or negative (Epstein and Schneider, 2008). It also takes time for capital market participants to process all relevant information and update their assessment of future company performance.

Capital market reactions to an announcement should only be present if the event to which the stock price reacts was itself unexpected (Fama, 1970, 1991; Fama et al., 1969). If a turnover is announced rather suddenly, investors will be faced with trying to evaluate all the details of the turnover announcement as well as any additional news to derive a new fair stock price. However, because of the inherent uncertainty in such cases, and the general investor aversion to ambiguity (Epstein and Schneider, 2008), it is likely that investors will require a premium to offset it. The capital markets usually add a temporary discount to the stock price when confronted with unexpected changes

in top management until the uncertainty is reduced (Bernard and Thomas, 1989; Fama, 1970; Fama et al., 1969; Worrell et al., 1986). I therefore hypothesize:

Hypothesis II-2: *Due to the uncertainty resulting from unexpected turnover announcements, the capital markets will exhibit temporarily negative abnormal returns after the announcement.*

However, when the turnover is expected, no capital market reactions should be observable at the announcement date, because the informational content is minimal. The official announcement is usually just a confirmation of what is already known and has already been priced by capital market participants. Information processing and stock price adjustments will take place – but prior to the official announcement (Keown and Pinkerton, 1981).

When rumors about a possible management turnover first appear, there is always a certain amount of uncertainty. And, similarly to the reactions to unexpected turnover announcements, investors may add a risk premium to their perceived fair stock price. Consequently, stock prices may be lower because of possible turnover rumors than they otherwise would be.

Over time, and with the release of more information, the turnover itself becomes more predictable, and investors have time to process the information and any resulting performance consequences. This reduces investor uncertainty (Graffin, Carpenter, and Boivie, 2011), and will reduce the risk premium. I expect stock prices to react by reversing their prior downturn as the announcement approaches.

Investors may also interpret a turnover announcement as a sign of good succession planning, transparent communication, and a stable and well-functioning company (Tian, Haleblan, and Rajagopalan, 2011). This should also lead to positive capital market reactions because it also reduces investor uncertainty. However, I note again that the expected turnover announcement in this case should cause no noticeable stock market reactions (Furtado and Karan, 1990). I thus hypothesize:

Hypothesis II-3: *Expected top management turnover announcements are preceded by positive abnormal returns prior to the event because of decreasing investor uncertainty over the probability of the event and any expected performance consequences.*

II.3 Method

II.3.1. Data and sample

I chose to use the largest companies in Germany for my analysis, because information asymmetry tends to be lower for larger companies. Newspaper coverage and hence data availability is also better, and they tend to have better-organized turnover processes in place. I therefore identified all companies listed on the German DAX and MDAX indices⁶ for a minimum of one year between January 1998 and December 2008. I collected data only until the end of 2008, in order to obtain information about post-turnover performance. From this date, I went back to the beginning of 1998, which I chose as the base year for my observations, because of its large availability of newspaper articles and financial information.⁷

I included all companies for every year they were listed on one of the indices, and I removed seven companies that were listed for less than one year. My final sample thus consists of 157 companies.

I hand-collected all the top management turnover data, including the relevant top management positions, turnover dates, and background information, because no database in Germany contains all of that data. To begin, I used the *Hoppenstedt Aktienführer*,⁸ a database containing profiles of listed companies in Germany including names of board members and companies' annual reports, to obtain the names of the

⁶ The DAX and MDAX are the most important German stock indices. The DAX consists of the thirty largest listed companies on the Frankfurt Stock Exchange; the MDAX consists of the next fifty largest companies by market capitalization. The MDAX was reduced from seventy to fifty companies on March 24, 2003, which did not affect my analysis.

⁷ I controlled for year effects (see the "II.4 Results" section), and found no evidence that the choice of analysis period altered my results.

⁸ The website is <http://www.hoppenstedt-aktienfuehrer.de/>.

CEOs and CFOs for each company at the end of each year. In the few cases where I could not clearly identify who held each position, I used newspaper articles from *LexisNexis* for clarification.

I used *LexisNexis* as well to obtain additional information on top management turnovers. First, I checked whether more than one turnover had occurred in years where the name pairs at year-end did not match. Second, I used it to find the exact date of the turnover announcements. Every listed company in Germany is obliged by § 15 *Wertpapierhandelsgesetz* to directly report any important company news that could possibly alter a company's stock price. Changes of important top executives are usually considered such an event. Finally, I searched all the *LexisNexis* articles from one year prior to the turnover announcement to two years afterward in order to find any additional information about the situations surrounding the turnovers.

The available information was insufficient for 24 turnover cases, either because the departing manager was interim, or because the turnover resulted from a merger or an acquisition. I eliminated those cases from my sample. Additionally, in 27 cases, a single executive held both the CEO and CFO titles. In these cases, I eliminated the CFO, because the CEO is usually considered the dominant position (Mackey, 2008).

Finally, I also excluded 3 turnovers that were in my period of analysis, but for which the time period between listing on the stock exchange and the turnover announcement was insufficient for my calculations.

My final sample consisted of 172 CEO turnovers in 109 companies, and 172 CFO turnovers in 107 companies. 44 companies experienced no CEO change, and 42 companies experienced no CFO change, during my sample period. Table II-1 gives an overview of the turnovers.

Table II-1.
Composition of turnover cases (January 1998 - December 2008)

I. Companies in DAX/MDAX		
Total number of companies in DAX/MDAX	164	
Companies with less than one year in indices	7	
Total number of relevant companies	157	
II. CEO and CFO Turnover Cases		
	CEO	CFO
Total number of relevant companies	157	157
Firms without turnover cases in relevant time frame*	44	42
Firms with turnover cases	113	115
Total turnover cases	185	213
Interim changes	8	13
Mergers and acquisitions	3	0
Double role CEO/CFO	--	27
Insufficient time for calculation	2	1
Total relevant turnover cases	172	172
Firms with relevant turnover cases	109	107

*Due either to period of analysis or time of company listing.

To adjust my analysis for capital market reactions, specifically for the way stock prices reflect information, I classify all turnovers as “expected” or “unexpected.”

I used a method of classification by two independent researchers to code the turnover cases as “expected” or “unexpected” at the turnover announcement date, based on the *LexisNexis* articles.⁹ If the press indicated that a possible turnover had been discussed for some time, or that general rumors existed in the market, the turnover was classified as expected. If the turnover appeared unexpected to the press and to market participants, the coders classified it as unexpected.¹⁰

To test for the reliability of the “unexpected” and “expected” classifications, I used the Cohen (1960) kappa and Perreault and Leigh (1989) coefficient. For the CEO (CFO) sample, I obtain a Cohen kappa of 0.9314 (0.9535), and a Perreault and Leigh coefficient of 0.9651 (0.9767). These coefficients show a very high rate of inter-rater reliability (Bresser et al., 2005; Zander et al., 2009). For any turnover case in which the

⁹ A similar method was used by Bresser et al. (2005), Bresser and Thiele (2008), and Zander et al. (2009) to classify management turnovers as either “forced” or “routine”.

¹⁰ In those cases, the press articles contained words such as “unexpected” or “surprising,” so the two independent coders could easily classify them as unambiguous.

two researchers initially disagreed, agreement was reached by discussing the cases jointly. In total, I found 86 CEO turnovers and 79 CFO turnovers that were expected at the announcement date, and 86 CEO and 93 CFO turnovers that were unexpected (see Table II-2).

Table II-2.
Turnover expectations

	CEO		CFO		Total	
	absolute	relative	absolute	relative	absolute	relative
Expected	86	50.0%	79	45.9%	165	48.0%
Unexpected	86	50.0%	93	54.1%	179	52.0%
Total	172	100.0%	172	100.0%	344	100.0%

To obtain the daily closing prices of the analyzed companies as well as the German CDAX index, I used *Thomson Financial DataStream*. The CDAX was used in the market model of the event study (Brown and Warner, 1985). I obtained the accounting information needed for the regression analysis from *Thomson Financial Worldscope*.

II.3.2. Empirical analysis

In order to analyze capital market reactions around CEO and CFO turnover announcements, I used standard event study methodology (McWilliams and Siegel, 1997). In my research setting of measuring top managers' influence on company performance, an event study offers several advantages over an accounting-based analysis. First, in a turnover context, accounting-based measures are often subject to direct manipulation by top managers, as Geiger and North (2006) have shown. Stock market prices in contrast are subject to the forces of supply and demand in the capital markets, and thus cannot be directly influenced as much by top managers.

Second, accounting-based measures are backward-oriented, but capital market prices include all participants' expectations about future firm performance. The informational content of a turnover announcement is not only backward-oriented, but it also contains information about a company's future. Therefore, I argue the future orientation of stock prices makes them more appropriate.

Third, data availability is a major advantage of stock prices. Because they are available on a daily basis, they allow for more precise measurement of the announcement effects of the turnover. Accounting data are available on only an annual or quarterly basis. With such a long time period, it can be difficult to rule out effects of other disturbing events. Thus, stock prices are the more precise measurement, and it is not surprising that a series of studies has applied this methodology in a turnover context (for example, Daily, Certo, and Dalton, 2000; Finkelstein and Hambrick, 1990; Mian, 2001; Tian, Haleblan, and Rajagopalan, 2011).

As the event date for my analysis, I use the date of the ad hoc announcement of a CEO or CFO turnover, and I measure abnormal returns around that announcement. I apply standard event study methodology (Brown and Warner, 1985; Fuller, Netter, and Stegemoller, 2002; McWilliams and Siegel, 1997), and use the market model for calculating abnormal returns to the announcement.¹¹

As the basis for the market model, I use the Germany CDAX index, which contains all listed German companies and thus represents a broad basis with which to compare the returns. Using this broad market index, I can eliminate single movements of the entire market, and isolate abnormal returns that result only from the turnover announcement (McWilliams and Siegel, 1997; McWilliams and McWilliams, 2000).

I calculate the abnormal returns by taking the difference between the market return and the predicted return of the company. The predicted return results from an ordinary least squares (OLS) regression over a 250-day estimation period, which ends 11 days before the event date. Subsequently, I calculate cumulative abnormal returns (CARs) by summing the abnormal returns of each day over the time of the event window, as follows:

$$CAR_{[t_0-\tau_1, t_0+\tau_2]} = \sum_{t_0-\tau_1}^{t_0+\tau_2} (R_{i,t} - \alpha_i - \beta_i \times R_{CDAX,t})$$

¹¹ My results remain quantitatively and qualitatively comparable when I use the Fama-French (1993) three-factor model or the Carhart (1997) four-factor model. Tables are available from the author upon request.

where $R_{i,t}$ is the return of company i on day t , α_i and β_i are estimators from the OLS regression over the 250-day window, τ_1 and τ_2 are the trading days prior to and after the announcement date, and $R_{CDAX,t}$ is the return of the market on day t .

I use several different tests on the calculated CARs. First, I apply standard t-tests for significance. Second, I apply Boehmer, Musumeci, and Poulsen's (1991) test for event-induced increased variance. Third, I use Lyon, Barber, and Tsai's (1999) test for skewness bias. And, finally, I perform the Wilcoxon (1945) rank sum z-score test. All test statistics as well as CARs were calculated for different event windows around the ad hoc announcements.¹²

Furthermore, to analyze both the expected and unexpected subsamples as well as the entire sample while simultaneously controlling for the expectedness variable, I also performed regression analyses using least squares estimation, using White's (1980) correction for heteroscedasticity.¹³

II.3.3. Dependent variables

Cumulative abnormal returns. As the dependent variable, I use the CARs around top management turnovers for both the expected and unexpected subsamples, as well as for the entire sample.

I use comparatively longer windows¹⁴ of one trading week prior to $[-5, 0]$ and one trading week after $[0, +5]$ the turnover announcement, in order to capture the entire process of adjusting to the new information. For the expected turnovers, I use a window prior to the official announcement, because I hypothesize that reactions would occur prior to the announcement but not to the actual announcement itself. For the unexpected turnovers, I use a window after the announcement date, because by

¹² I tested and report the following event windows: $[-5, 0]$, $[-4, 0]$, $[-3, 0]$, $[-2, 0]$, $[-1, 0]$, $[0, 0]$, $[0, +1]$, $[0, +2]$, $[0, +3]$, $[0, +4]$, and $[0, +5]$. I also tested but do not report the following windows due to space limitations: $[-5, +5]$, $[-4, +4]$, $[-3, +3]$, $[-2, +2]$, and $[-1, +1]$.

¹³ The results reported in the next subsection refer only to the $[-5, 0]$ event window for the expected turnover sample, the $[0, +5]$ event window for the unexpected turnover sample, and the $[-5, +5]$ event window for the entire sample. Results for the other windows are not reported here, but are available from the author upon request.

¹⁴ No consistent event window has been established, but windows have usually been short to avoid confounding events (McWilliams and Siegel, 1997; Shen and Cannella, 2003; Tian, Haleblan, and Rajagopalan, 2011). Zhang and Wiersema (2009) noted that recent studies have used primarily three-day windows.

definition no reactions are expected prior to the date. I report results for the [-5, +5] event window, including both time windows, for the entire sample to capture the effects of both the expected and unexpected announcements.

II.3.4. Independent variables

Turnover expectedness. To determine whether the turnover announcement was expected by the capital markets, I include a dummy variable that is equal to 1 if the turnover was unexpected, and 0 otherwise.

Turnover type. I control for the type of turnover, e.g., CEO or CFO, because the capital markets may react differently. The dummy variable is equal to 1 for a CEO turnover, and 0 for a CFO turnover.

II.3.5. Control variables

Turnover reason. Previous research has often differed between forced and routine turnovers (Adams and Mansi, 2009; Bresser and Thiele, 2008; Bresser et al., 2005; Fee and Hadlock, 2004; Huson, Malatesta, and Parrino, 2004; Mian, 2001; Parrino, 1997; Zander et al., 2009). To control for turnover reason, I thus include a dummy variable equal to 1 for a forced turnover, and 0 for a routine turnover.¹⁵

Successor origin. Another frequent differentiation is between outsider successors that have been with the company for less than one year, and insider successors promoted from within the firm (Borokhovich, Parrino, and Trapani, 1996; Hillier, Linn, and McColgan, 2005; Huson, Parrino, and Starks, 2001; Kang and Shivdasani, 1995). To control for successor origin, I include a dummy variable equal to 1 for an outsider and 0 for an insider.

Joint turnover. If more than one manager leaves at the same time, the effect on the capital markets may be stronger because the underlying event may be perceived as more severe. I therefore include a dummy variable equal to 1 for a turnover

¹⁵ To classify turnovers as “routine” or “forced,” I follow a method used by Bresser et al. (2005), Bresser and Thiele (2008), and Zander et al. (2009).

announcement of both a CEO and CFO turnover on the same day, and 0 for all other announcements.

Age of departing manager. To control for possible age effects, I include the age of the departing manager measured in years (Cannella and Shen, 2001).

Age of incoming manager. I also control for the age of the incoming manager measured in years, because younger successors are sometimes considered signals of more innovative change, while older managers may be more connected with risk aversion (Hambrick and Mason, 1984).

Tenure of departing manager. To control for possible stagnation effects, due to a departing manager's long tenure in office, I include a variable measured in years.

Prior firm performance. Past research has found that negative firm performance can induce management turnover (Shen and Cannella, 2002b). I therefore include prior firm performance, calculated as the performance of the company's stock price in excess of the market's performance measured as the CDAX, over the 250 days in the market model for the CAR calculation.

Herfindahl-Hirschman Index. To control for possible industry effects, I include the Herfindahl-Hirschman Index based on sales (Datta and Rajagopalan, 1998), calculated as follows:

$$HHI_{j,t} = \sum_{i=1}^{N_j} s_{ijt}^2,$$

where s_{ijt}^2 is the market share of firm i (based on sales) in industry j at turnover day t , and N_j is the number of firms in industry j .¹⁶ I again use the four-digit SIC code from *Thomson Worldscope* for the industry classification.

¹⁶ I also used the industry concentration measure Herfindahl-Hirschman Index based on total assets, which I do not report here.

Firm size. To control for firm size, I use the natural logarithm of total assets in € millions (Grusky, 1961; James and Soref, 1981).

Return on assets. As a control variable for profitability, I include the return on assets (in percent) of the fiscal year of the turnover.

Current ratio. To control for firm liquidity, I include the current ratio, measured as current assets over current liabilities.

Market-to-book value. The control variable for market-to-book value is defined as the company's market value of equity divided by the book value of equity.

Investment. I include a control variable for a firm's investment policy, defined as the amount of capital expenditures, divided by net property, plant, and equipment at the end of the previous year.

Price/earnings ratio. The control variable price/earnings ratio is measured as the ratio of price per share at year-end, divided by earnings per share.

Closely held shares. I include the percentage of shares held by insiders as a control variable for ownership structure, defined as the number of closely held shares over shares outstanding.

II.4 Empirical results

II.4.1. Analysis of cumulative abnormal returns

As a first step, I analyzed the CEO (see Table II-3) and CFO (see Table II-4) subsamples. The CEO sample showed no significant abnormal returns for any of the event windows, which supports my theoretical argument of low managerial discretion and consequently limited performance attribution by the capital markets. The CFO sample, on the other hand, shows positive significant abnormal returns of 1.4% in the [-2, 0] window and 1.2% in the [-1, 0] window, both significant at the 5% level.

The returns for the CFO sample are also larger, which supports my decision to include the CFO as another important top management team member (Finkelstein, Hambrick, and Cannella, 2009). However, the CFO results do not confirm my Hypothesis II-1 that capital markets do not react to management turnover announcements in a low discretion environment.

I performed difference in mean tests for all event windows (not reported here), and they did not show any significant differences between CEO and CFO subsample reactions. I thus conclude that the limited capital market reactions are not driven by turnover type.

To summarize, this confirms my Hypothesis II-1 of limited capital market reactions, because, overall, I do not observe conclusive significant abnormal stock price reactions. Additionally, the observations are not driven by management turnover type. However, I will examine the CFO positive abnormal stock price reactions more closely when I provide the discussion of the regression analysis results.

Table II-3.
CARs to turnover announcement
(CEO subsample)

Event window	t-Test		Böhmer, Musumeci, and Poulsen (1991) Test	Lyon, Barber, and Tsai (1999) Test	Wilcoxon (1945) Signed Rank Test	N
	Mean	t-value	z-score	t-value	z-score	
[-5, 0]	1.18%	1.5410	1.3527	1.5464	-1.4816	172
[-4, 0]	1.00%	1.4125	1.2009	1.4167	-1.5259	172
[-3, 0]	0.86%	1.4709	1.2310	1.4675	-1.6452*	172
[-2, 0]	0.50%	0.9704	0.6972	0.9673	-1.1789	172
[-1, 0]	0.40%	0.8954	0.6190	0.8948	-1.2339	172
[0, 0]	0.00%	0.0107	-0.1478	0.0108	-0.1957	172
[0, +1]	-0.14%	-0.3097	-0.3805	-0.3093	-0.4113	172
[0, +2]	-0.19%	-0.3182	-0.5148	-0.3175	-1.0565	172
[0, +3]	-0.20%	-0.2730	-0.5323	-0.2709	-0.7553	172
[0, +4]	0.02%	0.0253	-0.1909	0.0261	-0.4220	172
[0, +5]	0.18%	0.2365	0.0390	0.2379	-0.2003	172

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

Table II-4.
CARs to turnover announcement
(CFO subsample)

Event window	t-Test		Böhmer, Musumeci, and Poulsen (1991) Test	Lyon, Barber, and Tsai (1999) Test	Wilcoxon (1945) Signed Rank Test	N
	Mean	t-value	z-score	t-value	z-score	
[-5, 0]	0.69%	1.0608	0.6984	1.0688	-0.3410	172
[-4, 0]	0.95%	1.4757	1.1692	1.4937	-0.5780	172
[-3, 0]	1.02%	1,7081*	1.5243	1,7325*	-0.8899	172
[-2, 0]	1.43%	2,1178**	2,1823**	2,1604**	-0.9923	172
[-1, 0]	1.15%	2,1949**	2,1096**	2,2455**	-1.4266	172
[0, 0]	-0.10%	-0.3210	-0.2736	-0.3190	-0.5321	172
[0, +1]	-0.55%	-1.0347	-1.0152	-1.0442	-0.2691	172
[0, +2]	-0.89%	-1.2812	-1.3313	-1.2971	-0.7645	172
[0, +3]	-1.21%	-1.4300	-1.4192	-1.4499	-0.7630	172
[0, +4]	-0.78%	-0.9060	-0.8702	-0.9148	-0.4740	172
[0, +5]	-0.40%	-0.4939	-0.4872	-0.4960	-0.4908	172

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

II.4.2. Analysis of the effects of turnover expectedness

The analysis of the unexpected sample (see Table II-5) shows no abnormal returns prior to the turnover announcement – neither in size nor statistical significance.¹⁷ However, after the event, abnormal returns are negative for all subsequent event windows, and statistically significant for the [0, +1] and [0, +4] windows at the 10% level, as well as for the [0, +2] and [0, +3] windows at the 5% level. Because these negative abnormal returns are strongest for the [0, +3] and [0, +4] windows, I observe that they first increase for a few days, and then decrease again afterward.

I consider this as confirmation of Hypothesis II-2, that an unexpected turnover announcement leads to temporal uncertainty in the market until the true informational content (positive or negative) can be assessed. Temporarily negative abnormal returns will result.

¹⁷ I consider this an additional check on the reliability of the classifications used here, because, by definition, there should be no capital market reactions to an unexpected event.

Table II-5.
CARs to turnover announcement
(unexpected subsample)

Event window	Mean	t-Test	Böhmer, Musumeci, and Poulsen (1991) Test	Lyon, Barber, and Tsai (1999) Test	Wilcoxon (1945) Signed Rank Test	N
		t-value	z-score	t-value	z-score	
[-5, 0]	-0.17%	-0.2295	-0.6664	-0.2291	-0.8628	179
[-4, 0]	0.16%	0.2395	-0.2053	0.2398	-0.4235	179
[-3, 0]	0.51%	0.8383	0.4364	0.8376	-0.3428	179
[-2, 0]	0.79%	1.2094	0.9883	1.2155	-0.6165	179
[-1, 0]	0.71%	1.4815	1.0707	1.4866	-1.0141	179
[0, 0]	-0.22%	-0.5562	-0.6935	-0.5549	-0.8859	179
[0, +1]	-0.97%	-1.6331	-1.6622*	-1.6446	-1.4448	179
[0, +2]	-1.42%	-1.8363*	-1.9727**	-1.8546*	-1.5744	179
[0, +3]	-1.73%	-1.8730*	-2.0112**	-1.8957*	-1.4476	179
[0, +4]	-1.76%	-1.8637*	-1.8774*	-1.8847*	-1.4246	179
[0, +5]	-1.40%	-1.6138	-1.6285	-1.6233	-1.3483	179

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

I find opposite results for the sample of expected turnover announcements (see Table II-6). Abnormal returns are strongly positive and significant for all analyzed windows leading up to the event. Significance for the [-5, 0], [-4, 0], and [-3, 0] windows is at the 1% level, and at 5% and 10%, respectively, for the [-2, 0] and [-1, 0] windows. After the event, however, the first windows from [0, 0] to [0, +3] are very close to 0% abnormal returns and are statistically insignificant. Only the [0, +4] and [0, +5] windows again show positive abnormal returns of more than 1%, which are statistically significant at the 10% level.

I consider these results as positive support for Hypothesis II-3, that the announcement of expected turnovers leads to a reduction in uncertainty and therefore to positive abnormal returns.

Table II-6.
CARs to turnover announcement
(expected subsample)

Event window	Mean	t-Test	Böhmer, Musumeci, and Poulsen (1991) Test	Lyon, Barber, and Tsai (1999) Test	Wilcoxon (1945) Signed Rank Test	N
		t-value	z-score	t-value	z-score	
[-5, 0]	2.12%	3,1392***	3,2789***	3,2141***	-3,0059***	165
[-4, 0]	1.86%	2,8097***	2,9624***	2,8829***	-2,7472***	165
[-3, 0]	1.41%	2,4865**	2,6517***	2,5479**	-2,3991**	165
[-2, 0]	1.16%	2,1688**	2,2989**	2,2260**	-1,7076*	165
[-1, 0]	0.85%	1,6957*	1,7060*	1,7299*	-1,6588*	165
[0, 0]	0.14%	0.6232	0.6970	0.6241	-0.7834	165
[0, +1]	0.33%	0.9609	0.9338	0.9660	-0.9201	165
[0, +2]	0.42%	0.9860	0.8512	0.9966	-0.0317	165
[0, +3]	0.40%	0.6649	0.7063	0.6753	-0.1538	165
[0, +4]	1.11%	1,7635*	1,6865*	1,7942*	-0.6907	165
[0, +5]	1.28%	1,9322*	1,8814*	1,9661*	-0.7362	165

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

II.4.3. Regression analyses

As the results for the expected sample show, abnormal returns prior to the announcement are positive and statistically significant, just like the two windows for the CFO sample. It is therefore possible that the positive abnormal returns are driven more by the expectedness of the turnover.

To control for this possibility, I conducted regression analyses on the CARs for unexpected and expected turnover announcements, as well as for the entire sample. I can thus analyze the effects attributable to turnover announcement expectedness, while controlling for other possible explaining factors such as top manager type, turnover reason, or successor origin.

I used the CARs for the [0, +5] window for the unexpected sample (model 1). As described above, in this case, the capital markets did react after the announcement. For the expected sample, I used the CARs for the [-5, 0] window (model 2). Because these turnover announcements are expected, capital market reactions should occur before the

turnover announcement. I also used the CARs for the entire sample for the [-5, +5] window (model 3). The results for all three regressions are in Table II-7.

Because the Breusch-Pagan tests (1979) indicated the presence of heteroscedasticity,¹⁸ I applied the White (1980) estimator, which provides a heteroscedasticity-robust variance estimator. I also calculated the variance inflation factors (VIF) to control for multicollinearity.¹⁹ All the VIFs were well below or equal to 2.07, so no sign of multicollinearity was found with a critical value higher than 5 (Kutner et al., 2005).

To control for contemporaneous correlation, I followed Certo and Semadeni (2006) and included year dummies into the regressions for all years except 1998, which I used as my base year.²⁰ The year dummies were not significant, and did not alter my results. However, they were highly correlated with the VIFs up to 21.81. Therefore, I do not include them in the regressions here, in order to avoid the problem of multicollinearity.

The results for the regression on unexpected CARs for the [0, +5] window (Table II-7, model 1) show that turnover type is not significant, i.e., capital market reactions do not differ between departing CEOs and CFOs, which again supports my Hypothesis II-1.

The coefficients for turnover reason and successor origin are not significant. This indicates that capital market reactions do not differ between forced and routine turnovers or between insider and outsider successions, which have often been used in high discretion environments to explain stock market reactions.

Note that the coefficient for a joint CEO/CFO turnover is slightly negative at -0.12%, and is significant at the 10% level. This indicates, as expected, that the reaction to unexpected turnovers tends to be even more negative if the announcement pertains to both top managers. This is attributable to the fact that having two top managers departing unexpectedly is significantly more serious, and could signal more radical

¹⁸ The tests are not reported here, but are available from the author upon request.

¹⁹ The correlation tables for all three regressions are provided in Appendices II-A, II-B, and II-C. The VIFs are available from the author upon request.

²⁰ The results are not reported here, but are available from the author upon request, as well as the related VIFs.

changes in strategy or negative company news. The uncertainty in the capital markets will be higher, and hence the risk premium will be larger.

Furthermore, consistent with prior research, prior firm performance is slightly negative (-0.07%) and significant at the 10% level. The coefficients for the Herfindahl-Hirschman Index and investment are slightly positive, at 0.09% and 0.06%, respectively, and are significant at the 5% and 10% levels, respectively.

The results for the CAR regressions for expected turnovers are given in model 2 in Table II-7. They are similar to the model 1 results. The turnover type variable is again insignificant, which shows that, for expected turnovers, the results are also not driven by whether the change involves the CEO or the CFO. This offers further support for Hypothesis II-1.

The control variables are again mostly insignificant. Capital market reactions to expected turnovers do not depend on turnover reason, successor origin, or on joint turnovers. Prior firm performance is again slightly negative at -0.08%, and significant at the 5% level. Market-to-book value is slightly positive at 0.01%, and significant at the 10% level. All other control variables are insignificant.

The results for the regression on the overall sample are in model 3 in Table II-7. In this model as well, I find that the independent variables are not significant except for turnover expectedness, which is negative at -0.05% and significant at the 5% level. Capital market reactions thus depend on the expectedness of the news, and unexpected announcements lead to uncertainty and negative reactions. This is additional confirmation for Hypotheses II-2 and II-3. Turnover type is insignificant in this regression, providing further support for Hypothesis II-1. Of all the control variables, only prior firm performance is significant, as in the two other regression analyses.

Table II-7. Regressions on CARs around unexpected and expected turnovers

	Model 1	Model 2	Model 3
Sample	unexpected	expected	unexpected+expected
Dependent variable	CAR [0, +5]	CAR [-5, 0]	CAR [-5, +5]
Constant	-0.091 (0.156)	0.017 (0.127)	0.091 (0.130)
Explanatory variables			
Expectedness (dummy)	---	---	-0.046 **
	---	---	0.021
Turnover type (dummy)	-0.013 (0.028)	0.022 (0.018)	0.022 (0.020)
Control variables			
Turnover/manager variables			
Turnover reason (dummy)	-0.014 (0.027)	-0.022 (0.027)	-0.016 (0.025)
Successor origin (dummy)	-0.008 (0.026)	0.016 (0.017)	0.013 (0.021)
Joint turnover (dummy)	-0.116 * (0.068)	0.021 (0.056)	-0.038 (0.058)
Age departing manager	-0.002 (0.002)	-0.001 (0.001)	-0.002 (0.002)
Age incoming manager	0.003 (0.002)	-0.001 (0.002)	0.001 (0.002)
Tenure departing manager	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)
Company variables			
Prior firm performance	-0.066 * (0.033)	-0.076 ** (0.032)	-0.081 ** (0.032)
Herfindahl-Hirschman index	0.089 ** (0.045)	-0.039 (0.035)	0.001 (0.045)
Firm size	0.001 (0.008)	0.008 (0.006)	0.001 (0.007)
Return on assets	-0.001 (0.003)	-0.004 (0.003)	-0.006 (0.004)
Current ratio	0.004 (0.022)	0.007 (0.012)	-0.005 (0.013)
Market-to-book value	0.006 (0.006)	0.013 * (0.008)	0.014 (0.011)
Investment	0.055 * (0.028)	0.013 (0.010)	0.023 (0.015)
Price/earnings ratio	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Closely held shares	-0.001 (0.001)	0.000 (0.000)	0.000 (0.000)
Included observations	98	99	197
R-squared	23.55%	31.65%	18.57%
Adjusted R-squared	8.45%	18.32%	10.84%
F-statistic	1.560	2.374	2.401
Prob(F-statistic)	0.100	0.006	0.002
Variance inflation factors (maximum)	1.72	2.07	1.94

Standard errors in parentheses.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

II.5 Discussion and conclusion

The goal of my study is to analyze the importance that the capital markets ascribe to top management turnovers in a low discretion environment. Crossland and Hambrick (2007, 2011) have argued that the national system impacts the managerial discretion of managers and the way they can influence companies. I therefore use standard event study methodology to examine the stock market reactions of CEO and CFO turnovers in Germany, which is considered a low discretion country (Crossland and Hambrick, 2011). To my knowledge, this is the first study that has attempted to empirically test this subject.

Overall, I show that top management turnover announcements do not result in significant abnormal returns, which provides evidence for the limited importance of top management from a capital market perspective. Also, capital markets do not differentiate significantly between CEO and CFO turnovers, which supports my decision to expand the definition of top management beyond the CEO. It further highlights that, in the German low discretion environment, the CEO, who is often considered the most important individual in a company, (Mackey, 2008), will not have a stronger effect than the CFO (I find even stronger results for the CFO).

For a low discretion country, I show that classifying turnover as expected or unexpected helps explain stock price reactions around the announcement date in a more coherent way. Expected turnovers lead to positive significant abnormal returns *prior* to the event date, while unexpected turnovers lead to negative abnormal returns *after* the event date. I argue that this is attributable largely to uncertainty over the information revealed around the turnover announcement, including possible strategic changes and the ability of the successor to fulfill performance expectations.

For expected turnovers, the market has time to fully process the information. Thus, with the passage of time, uncertainty lessens and positive abnormal returns result. For unexpected turnovers, I find the opposite. The lack of prior rumors or information about the turnover means that markets must first assess the new information and adjust their performance expectations accordingly. This leads to temporal uncertainty, the

imposition of a risk premium, and hence negative abnormal returns in the days following the turnover announcement.

It seems therefore that it is not the individual managers but rather the expectedness of the management turnover and any uncertainty resulting from additional information in the announcement that drive the stock price. Top managers themselves appear to be rather interchangeable from a capital market perspective. Accordingly, it is important for companies to properly manage the turnover process to reduce uncertainty for investors and to ensure that stock prices around the turnover announcement are disrupted as little as possible.

My results also show clear differences from results found in U.S. studies. The usual categorizations into forced or routine turnovers and insider or outsider succession that is consistently present in U.S. studies (Bonnier and Bruner, 1989; Furtado and Rozeff, 1987; Warner, Watts, and Wruck, 1988) have no explanatory power in my analysis. However, these studies have not integrated the amount of managerial discretion provided to managers by national systems. By adding the national system as a limitation on managerial discretion in Germany, I can explain the limited reactions of stock prices to management turnover in general, and focus more on the information processing around a turnover announcement.

I show that stock price reactions depend on the expectedness of the management turnover. This variable, a basic prerequisite for event studies, has so far only been included in studies with a certain type of turnover (i.e., the death of an executive), not in general management turnover studies (Combs et al., 2007; Worrell et al., 1986). The inherent uncertainty around expected and unexpected turnover announcements, however, largely explains the stock price reactions around management turnovers in the German low discretion environment. A reassessment of prior studies including my expectedness variable could therefore lead to new insights, as well as to a possible reinterpretation of the real capital market meanings in prior U.S. studies. It may also help resolve the inconclusive findings for stock market reactions to turnover announcements.

A few limitations exist in my study. I only analyzed one single country, as opposed to a cross-country study. I used Germany as the example for a low discretion country because it has been shown to have clear factors that limit managerial discretion, while at the same time it is a very large and developed economy. I did not analyze capital market effects in other low discretion countries to compare my results, but I would expect the results to be similar and to foster similar conclusions based on theoretical arguments. I also could not directly compare my results, including the expectedness variable, to capital market reactions in high discretion environments. However, I believe a comparison of different national systems and their resulting managerial discretion in a single study could be a valuable topic for future research.

A further limitation is the selection of companies in my study. I only analyzed the largest German companies, instead of all those listed, because of the reduced information asymmetry, information availability, and the established turnover management processes in large companies. I would, however, expect my results to be the same or even stronger for smaller companies. Managerial discretion tends to be even more limited in smaller companies, which would strengthen my argument of limited capital market reactions. At the same time, the capital markets may take more time to update expectations, because information on smaller companies is not as easily or extensively available. Stock prices may also react even less to the individual component of a management turnover, but more to the uncertainty inherent in the announcement, resulting in higher volatility. However, I suggest that future studies also focus on smaller companies such as family firms to confirm these suppositions.

III. Disentangling risk dynamics around top management turnovers – The effect of information processing

The following chapter addresses research objective two and analyzes the risk dynamics of publicly listed companies around top management (CEO and CFO) turnovers. I extend prior literature by showing that, in addition to uncertainty over (long-term) strategic changes after a turnover, a further source of uncertainty also exists: The processing of information around top management turnover announcements – not necessarily related to the turnover – leads to increased short-term uncertainty.

By using a low managerial discretion context, I am able to theoretically and empirically distinguish between the two effects. I argue that short-term volatility increases to reflect the effects of uncertainty from information processing but not long-term volatility increases or beta changes. This is because, in a low discretion context, individual managers are expected to have only limited effects on strategic changes.

I use a sample of 344 CEO and CFO turnovers in Germany, and show that, as expected, volatility only increases over the short term. These volatility increases are larger for forced turnovers, but seem unaffected by whether the successor is an insider or an outsider. However, volatility does not increase in the long term after a turnover, and the systematic risk as measured by beta remains unchanged.

III.1 Introduction

According to upper echelons theory, corporate performance results from organizational decisions made by top managers based on their values and cognitive framing (Carpenter, Geletkanycz, and Sanders, 2004; Hambrick, 2007; Hambrick and Mason, 1984). When a company experiences a top manager turnover, those values will be replaced by the values of the successor, which may lead to different decisions and performance outcomes.

Many studies have used stock market reactions to top management turnover announcements to predict performance changes from predecessor to successor (for an extensive review, see Finkelstein, Hambrick, and Cannella, 2009). However, for the company and investors, it is not only the stock price development that is important, but its volatility over time as well (Cheung and Jackson, 2010; Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011). Investors use volatility in the risk determination of investment decisions, which in turn influences their risk-adjusted return expectations (Fleming, Kirby, and Ostdiek, 2001). Companies are also affected by changes in the cost of capital needed to meet expected investor returns (Bhagat, Brickley, and Loewenstein, 1987; Kalay and Loewenstein, 1985).

Volatility reflects uncertainty that arises for different reasons, and can persist over either the short or long term. As per the efficient markets theory (Fama, 1970, 1991), the capital markets will use any information derived from a news event to reevaluate expected future company performance and stock prices. In the case of a top management turnover announcement (I include both CEO and CFO turnovers in this category here), this may encompass a comparison of the expected performance of the predecessor and the successor, as well as other prior unknown information, such as a deterioration in the company's financial situation, an announced plan by the supervisory board to undertake certain strategic changes, or a change in market position (Arthaud-Day et al., 2006; Furtado and Karan, 1990; Zhang and Wiersema, 2009).

Furthermore, it has been argued that many companies actively disseminate confounding information about other significant events around a management turnover announcement, in order to create strategic noise and distract from the event (Graffin, Carpenter, and Boivie, 2011). The numerous different sources of information, and their interactions, often make it difficult to precisely estimate the overall effects. Thus, in the short term, stock prices tend to decrease and to be more volatile as a reflection of investors' general aversion to ambiguity during the time of information processing (Epstein and Schneider, 2008; Epstein and Turnbull, 1980; Zhang, 2006).

However, volatility may continue to be higher over the long term if capital markets remain uncertain about possible strategic changes following a top management turnover. It is unlikely that all the information about a planned strategy change or the ability of a successor will be known when the turnover is announced (Vancil, 1987). As capital market participants learn about these factors, the levels of uncertainty and volatility should gradually decrease (Zhang, 2006). Therefore, if capital markets expect individual top managers to significantly influence strategic changes, the increased volatility may remain for a certain period of time, before eventually decreasing again.

And when strategy changes are pursued by the successor, they should also lead to changes in expected cash flows, for example, due to production or investment decisions, and also a change in the long-term systematic risk of a company as reflected by its beta (Ball and Kothari, 1989; Beatty and Zajac, 1987; Chan, 1988; Deutsch, Keil, and Laamanen, 2011; Fama and Miller, 1972). If, however, no strategic changes are expected, neither volatility nor company beta should change over the long term.

Prior studies have shown volatility increases after top management turnovers in countries with high managerial discretion, such as the U.S. (Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011) or Australia (Cheung and Jackson, 2010). In such an environment, individual top managers are more likely to be able to influence company performance than they would be in low discretion countries (Crossland and Hambrick, 2007). These studies explain volatility effects by means of the uncertainty that surrounds strategic changes initiated by successors, as well as their implementation

abilities (Clayton, Hartzell, and Rosenberg, 2005). However, they have not explicitly considered the uncertainty arising from information processing around the turnover announcement, which could be a major alternative source of short-term volatility increases.

In a high discretion country the uncertainty from information processing cannot be empirically separated from the uncertainty from possible strategic changes by successors; both will be present in the short term in a high discretion country. To remedy this situation, I analyze volatility effects in a low discretion country, namely, Germany (Crossland and Hambrick, 2007, 2011). In this context, I expect to find a short-term increase in stock price volatility because of the uncertainty over the informational content of all the information surrounding a turnover announcement.

In a low discretion country, the ability of individual top managers to influence a company's strategy, as well as their ability to implement any major changes, will tend to be more restricted (Crossland, 2009; Crossland and Hambrick, 2007, 2011). Thus, I argue that the uncertainty resulting from the turnover of a top manager should be of less consequence in such an environment. This is supported by my findings, which show only an increase in the level of short-term uncertainty, measured as a volatility increase in the month around a top management turnover announcement, but neither long-term volatility increases nor changes in company betas.

To further support my results, I analyze two important categories of turnovers separately: forced turnovers and outsider successions. These are often considered more disruptive to firms, and should result in more uncertainty from information processing (Harris and Helfat, 1997; Shen and Cannella, 2002b). My results indicate that forced turnovers result on average in higher short-term volatility, supporting my argument that the diverse information often present in a forced turnover results in a higher level of uncertainty. Interestingly, outsider successions do not result in higher short-term volatility than routine turnovers. Rather, investors on average do not seem to experience differing levels of short-term uncertainty from information processing based on successor origin.

In summary, I contribute to the literature in the following ways. I extend prior literature by theoretically arguing that uncertainty over possible strategic changes is not the only source of volatility increases in a top management turnover context, but that information processing also leads to increased short-term uncertainty. I purposefully use a low discretion country for my analysis to empirically show how only short-term information uncertainty is present, and that no long-term changes in volatility or beta are observed. I note that this is attributable to the limited influence of individual top managers in a low discretion country. I thereby also add theoretically to the literature on managerial discretion as well as empirically to the literature on top management turnover effects in non-U.S. countries.

The remainder of the chapter is organized as follows. Section III.2 provides a literature review, and develops my theory and hypotheses. Section III.3 describes my dataset, as well as the methods used for analyzing the risk dynamics around management turnovers. Section III.4 shows my empirical results; section III.5 discusses the results and concludes.

III.2 Theoretical background

The importance of top managers to company performance is a long-studied subject in management research (Finkelstein, Hambrick, and Cannella, 2009; Mackey, 2008). Upper echelons theory states that corporations are a reflection of their top managers (Hambrick and Mason, 1984), and that organizational decisions, outcomes, and firm performance are influenced by their values and cognitive framing (Carpenter, Geletkanycz, and Sanders, 2004; Hambrick, 2007). However, when top management turnovers occur, these values change, and may lead to different decisions and expected company performance. In order to measure the performance impact of top managers, turnover situations have therefore crystallized as an ideal setting for analysis (Aivazian, Lai, and Rahaman, 2009).

One way to analyze performance consequences for a particular company is to measure stock price reactions around top management turnovers, and thus indirectly the

expected performance of the new top manager (Fee and Hadlock, 2004; Huson, Malatesta, and Parrino, 2004; Warner, Watts, and Wruck, 1988).²¹ However, from a capital market perspective, it is not only stock price development that is important, but also the variation or volatility over time (Cheung and Jackson, 2010; Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011). Volatility changes can impact the firm itself, as well as its managers, investors, and other stakeholders (Clayton, Hartzell, and Rosenberg, 2005).

For investors, volatility is a measure of riskiness that is used to determine investment strategies. It also impacts investment value. For companies, volatility is directly linked to the cost of capital, because required investor returns increase during periods of high volatility (Bhagat, Brickley, and Loewenstein, 1987; Kalay and Loewenstein, 1985). High volatility can also reduce the attractiveness of a company's stock as a means to acquire other companies or other forms of compensation (Clayton, Hartzell, and Rosenberg, 2005). Finally, high volatility can also affect internal decisions. For example, in the presence of high volatility, companies may decide to lower the performance thresholds under which they will dismiss managers (Clayton, Hartzell, and Rosenberg, 2005), or they may alter their decision to issue stock-based compensation (Baiman and Verrecchia, 1995).

Because volatility is so important for many internal and external decisions, it is not surprising that it has been the subject of many diverse studies. Volatility event studies, for example, have analyzed how various events impact the magnitude of stock price volatility, including cash tender offers (Bhagat, Brickley, and Loewenstein, 1987; Dodd and Ruback, 1977), mergers and spin-offs (Mandelker, 1974; Vijh, 1994), stock splits (Dubofsky, 1991; Ohlson and Penman, 1985), stock repurchases (Bartov, 1991; Dann, Masulis, and Mayers, 1991; Hertzell and Jain, 1991), dividend announcements (Jayaraman and Shastri, 1993; Kalay and Loewenstein, 1985), earnings announcements (Cornell, 1978), and other major corporate events (Brown, Harlow, and Tinic, 1988).

²¹ Other studies have used accounting-based measures (see, for example, Bresser et al., 2005; Denis and Denis, 1995; Hotchkiss, 1995; Karaevli, 2007; Shen and Cannella, 2002a; Wiersema, 2002).

Volatility is a general reflection of capital market uncertainty about the fair value of a company's stock price. It can thus be altered by new information, such as a top management turnover announcement, in both the short and long term. Under the assumption of capital market efficiency, investors will use all information contained in a news event to update their expectations about the impact on company performance, and to derive a new stock price (Fama, 1970, 1991). When a top management turnover is announced, investors are faced with a wide variety of information, such as how the predecessor compares to the successor. However, other previously unknown news may also be released at this time.

For example, companies may choose this time to publicize planned strategy changes by the supervisory board, worse than expected financial returns, internal disagreements, or changes in market position (Arthaud-Day et al., 2006; Furtado and Karan, 1990; Zhang and Wiersema, 2009). Additionally, Graffin, Carpenter, and Boivie (2011) find there is often "strategic noise" around top management turnover announcements: Companies are purposely releasing additional information in an attempt to decrease the informational value of the turnover announcement, increase the level of uncertainty, and ideally positively influence investor reactions.

The multitude of other news, which may have opposing effects on company valuations, makes it difficult for capital market participants to immediately estimate the overall valuation effects. It may be unclear at first whether the news is positive or negative with regard to company value (Epstein and Schneider, 2008; Epstein and Turnbull, 1980).

Thus, in order to fully evaluate all information and update future performance expectations, capital market participants need sufficient time. As a result, I expect to find an increased level of uncertainty during the time of information processing, which again should be reflected in increased short-term stock price volatility (Francis, Schipper, and Vincent, 2002; Krinsky and Lee, 1996; Venkatesh, 1989; Zhang, 2006). The length and magnitude of the uncertainty, as reflected by higher volatility, can be considered a sign of how market participants view the potential influence of the news on firm value (Bookstaber and Pomerantz, 1989). As soon as the uncertainty is

resolved (e.g., when the informational content of the news is fully incorporated into stock prices), volatility should return to its prior levels (Garman and Klass, 1980).

In addition to short-term effects, volatility increases may also continue in the long term, because the higher level of uncertainty may now result from the expectation of some underlying changes affecting the company, instead of only from information processing. Research has shown that a top management turnover often leads to a change in strategy (Finkelstein, Hambrick, and Cannella, 2009). If the change persists, such as in the case of an aggressive growth strategy that may, for example, lead to higher levels of risk, longer-lasting uncertainty may also persist. As Clayton, Hartzell, and Rosenberg (2005) argue, possible strategic changes and the successor's ability are the primary determinants of the level of uncertainty over future performance effects.

Both strategy and ability are forward-looking factors, whose final outcomes can only be determined in the long term. Capital markets cannot know all the pertinent information about these factors at the time of the turnover, as it is only gradually revealed over time (Vancil, 1987). Thus, the more capital market participants expect that individual managers will have the ability to influence strategy, the longer the uncertainty may exist. As investors "learn" of any planned changes and can more precisely evaluate performance effects, a decrease in uncertainty and volatility should be seen (Zhang, 2006).

In addition, if capital market participants expect to see strategic changes, these should affect not only long-term volatility, but also the systematic risk of a company, that is its beta. Beta is a typical measure of the systematic or non-diversifiable risk of a stock. It indicates how strongly a company's stock price is expected to change compared to the overall market. For example, if a new top manager alters production or investment decisions, the company's expected cash flows should also change (Beatty and Zajac, 1987; Fama and Miller, 1972). Accordingly, the level of long-term systematic risk should change as well, because the company's stock price will be influenced by these actions, but the market will generally remain unaffected (Ball and Kothari, 1989; Beatty and Zajac, 1987; Chan, 1988; Deutsch, Keil, and Laamanen, 2011). Accordingly, while long-term strategic changes should result in increased levels of

uncertainty and volatility, these effects can also be measured by a long-term change in beta.²² If, on the other hand, capital market participants do not expect to see strategic changes, neither long-term volatility nor beta should be affected.

The first studies to examine the impact of top management turnovers on uncertainty and investor risk theoretically discussed both decreases and increases in risk (Berkovitch and Israel, 1996; Dewatripont and Tirole, 1994; Grinstein, 2005). Dewatripont and Tirole (1994), for example, reasoned that disciplinary management turnovers should lead to reduced levels of firm risk, because under these conditions projects will tend to be canceled or assets will be sold. In contrast, Berkovitch and Israel (1996) and Grinstein (2005) argue that management turnovers lead to higher riskiness of firm cash flows, because the new managers' actions are uncertain, while capital market participants have already formed expectations about cash flows under old managers.

Clayton, Hartzell, and Rosenberg (2005) were the first to empirically analyze volatility changes around top management turnovers. They found long-lasting volatility increases after CEO turnovers on average, with larger increases following forced turnovers and outsider successions (when preceded by a routine turnover). They explain increased volatility by uncertainty over possible strategic changes following the turnover, as well as uncertainty over the successor's ability.

Two other recent studies have analyzed volatility effects after and around management turnovers. Intintoli (2011) examines volatility effects for "marathon" successions, where the search for a successor after a turnover continues long after the turnover announcement. He finds that volatility increases are not dependent on the marathon succession, but rather on the turnover in general, which supports Clayton, Hartzell, and Rosenberg's (2005) findings. Cheung and Jackson (2010) focus on short-term volatility changes resulting from uncertainty over successor ability and firm fundamentals, and find larger volatility increases after forced turnovers.

²² In finance research, it is common for firm-level betas and volatility to be studied jointly (Carlson, Fisher, and Giammarino, 2010; Hackbarth and Morellec, 2008; Kalay and Loewenstein, 1985). This is because, although they are not identical, they can provide a valuable robustness check on each other.

However, note that all of these studies analyzing volatility effects were conducted in countries with a high level of managerial discretion, such as the U.S. (Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011) or Australia (Cheung and Jackson, 2010). In this context, individual top managers have a greater potential to influence company decisions and hence performance (Crossland and Hambrick, 2007, 2011). Possible stock price reactions should therefore be stronger than in low discretion countries (Crossland, 2010).

Cheung and Jackson (2010) note that their choice of an Australian context is somewhat more obscure and therefore more interesting to study. However, they fail to fully explain its differences and how they could impact volatility effects. Since Australia has been shown to be a country with relatively high managerial discretion, comparable almost to the level found in the U.S. (Crossland and Hambrick, 2011), it is not surprising that their results are not substantially different from the two other studies.

I decided to conduct my analysis of risk dynamics in a country where top managers have been shown to possess comparably little discretion, namely, Germany (Crossland and Hambrick, 2007, 2011). I distinguished theoretically above between short-term volatility increases resulting from uncertainty about information processing and long-term volatility increases, and beta changes resulting from possible real strategic changes following a top management turnover. Using a low discretion country as my setting will allow me to show the unaltered existence of the uncertainty resulting from information processing.

I expect to find short-term increases in stock price volatility in a low discretion country. This is because capital market participants should experience increased levels of uncertainty over the informational content of a top management turnover announcement, independent of the level of individual managerial influence. This increased level of uncertainty, reflected in higher volatility, is expected to be present in the short term until all information is processed.

In contrast, long-term changes in volatility or beta depend on expected real changes in a company. In a low discretion country, however, individual top managers are greatly

restricted from pursuing any major strategic changes that could alter a firm's expected performance and risk level (Crossland, 2009; Crossland and Hambrick, 2007, 2011). Clayton, Hartzell, and Rosenberg's (2005) argument, that increases in volatility result primarily from uncertainty over possible strategic changes pursued by successors, as well as their ability to implement those changes, should therefore be of little relevance in a low discretion context. Accordingly, no persistent increase in volatility is expected, and the level of systematic risk measured as beta should generally remain unchanged.

The sudden departure of Jürgen Schrempp from Daimler Chrysler AG in 2005 is an example of a short-term volatility increase due solely to uncertainty in information processing. Annualized volatility during the month of the turnover announcement was 36.07%, 3.20 times larger than overall market volatility and 2.26 times larger than Daimler's stock price volatility during the year prior to the turnover (15.98%). In the three years after the turnover, volatility returned to levels of between 1.39 and 1.70 times that of the overall market, which was similar to the pre-turnover ratio.

On the day of the turnover announcement, Daimler was the most traded German stock. Trading volumes remained high in the following days. Although the announcement was generally considered positive news by market participants (the stock price increased by over 10% in the days surrounding the announcement), there was nevertheless a high level of uncertainty. The announcement was totally unexpected by investors, as Schrempp had been CEO of Daimler Chrysler for more than ten years, and his contract had been extended just one year before. Furthermore, the exact reasons for the sudden turnover were not revealed initially, and press articles speculated rampantly about the true reasons behind the departure, contradictions in the communications, and the possible changes for the company (Börsen-Zeitung, 2005; Manager Magazin, 2005).

In summary, I therefore expect stock price volatility to increase in the short term because of the information uncertainty inherent in a top management turnover announcement. But I do not expect any major strategic changes, long-run volatility increases, or beta factor changes. I thus hypothesize as follows:

Hypothesis III-1a: *A top management turnover in a low discretion country will result on average in a short-term stock price volatility increase.*

Hypothesis III-1b: *A top management turnover in a low discretion country will not on average be followed by a long-term stock price volatility increase.*

Hypothesis III-1c: *A top management turnover in a low discretion country will not on average be followed by either short- or long-term changes in systematic risk.*

III.2.1. Forced versus routine turnovers

In order to further analyze the effect of uncertainty resulting from information processing, I next extend my analysis to include two turnover categories that should result in particularly strong information uncertainty: forced versus routine turnovers, and outsider versus insider successions. I focus first on forced turnovers, which are usually considered to be more disruptive than routine turnovers (Shen and Cannella, 2002a). This is a classic dichotomy, and although reliable measures for differentiating between forced and routine turnovers have been established, the underlying reasons are usually unclear to the public at first (Bresser and Thiele, 2008; Bresser et al., 2005; Fee and Hadlock, 2004; Huson, Malatesta, and Parrino, 2004; Mian, 2001; Zander et al., 2009).

I note that the same reasons can lead to either a forced or a routine turnover, such as negative performance, internal conflicts with the supervisory board, or job fatigue (Finkelstein, Hambrick, and Cannella, 2009). The anticipation of an imminent future performance downturn can also lead to either a routine or forced turnover (Finkelstein, Hambrick, and Cannella, 2009). Accordingly, the informational content of both types is at first ambiguous.

However, I expect the ambiguity to be on average larger for forced turnovers. It has been shown that forced turnovers often follow prior negative stock price or accounting

performance (Finkelstein, Hambrick, and Cannella, 2009). Managers may be dismissed due to less than satisfactory financial performance, for example. The board may also judge the manager to be incompetent (Fredrickson, Hambrick, and Baumrin, 1988), or it may be a case of scapegoating. The manager may not be considered responsible for the negative financial situation, but the supervisory board may feel a management change will signal strong board action to the capital markets (Khanna and Poulsen, 1995).

In low discretion countries, I expect scapegoating to be more common, since managers tend to be somewhat interchangeable (Shen and Cho, 2005). However, from a volatility perspective, the results for both reasons should be the same. The dismissal decision will often be made suddenly, with insufficient time to select an appropriate successor who can meet new long-term strategic goals. This should lead to greater uncertainty (Wiersema, 2002).

Routine turnovers, as the name suggests, are usually less disruptive and can provide a positive signal to the market that standard procedures are functioning well. Routine turnovers have also been shown to result in better future performance than forced turnovers (Greiner, Cummings, and Bhambri, 2003; Wiersema, 2002; Zhang and Rajagopalan, 2004). In this respect, I agree with prior studies on the volatility effects of management turnovers that have suggested that higher volatility results from forced turnovers (Cheung and Jackson, 2010; Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011).

However, as I have argued above, I expect the larger uncertainty increase that follows a forced turnover to be rather short-lived. This is because the stock price movements expected after an actual strategy change can only commence when the new manager has had time to adjust to the new position and begin to undertake major actions (Gabarro, 1987; Vancil, 1987). Accordingly, I hypothesize that I will find larger short-term volatility increases for forced management turnovers:

Hypothesis III-2: *Short-term stock price volatility increases due to a top management turnover in a low discretion country will be on average larger for forced than routine turnovers.*

III.2.2. Outsider versus insider successions

I next focus on my second category, outsider versus insider successions. Although the turnover reason itself is naturally backward-oriented, as a result of the pre-turnover context, the decision of whether to hire a new manager from within the company or outside of it is considered a post-turnover factor (Grusky, 1964; Karaevli, 2007).

And just as a forced turnover is considered more disruptive for a company than a routine turnover, an outsider succession has also been found to be more disruptive than an insider succession (Harris and Helfat, 1997). However, the results of empirical studies analyzing performance effects of both succession types have been ambiguous (Karaevli, 2007; Kesner and Sebor, 1994). If a supervisory board chooses an outsider successor, it may be that the board does not consider any internal candidates to be appropriate (Shen and Cannella, 2002a). The board may also want to bring in new managers who will initiate strategic change according to their own concepts (Cannella and Lubatkin, 1993), or to explicitly execute particular strategic directions of the board (Hambrick, 2007).

Outsider successors are usually perceived as providing positive change and performance (Kesner and Dalton, 1994), but they may also face more challenges initially (Harris and Helfat, 1997). For example, some studies have found that it is easier for insider successors to adapt to the new position, but their actions also tend to have less impact (Hambrick and Fukutomi, 1991). Furthermore, the decision to hire an internal candidate does not usually signal imminent strategy changes.

Therefore, in comparing insider and outsider successions, I expect to find volatility increases for both. However, since the reasons for choosing an outsider over an insider are less clear, and thus so are the consequences, I expect to find larger short-term volatility increases for outsider successions. I thus hypothesize:

Hypothesis III-3: *Short-term stock price volatility increases due to a top management turnover in a low discretion country will be on average larger for an outsider successor than for an insider successor.*

III.3 Method

III.3.1. Data and sample

For my turnover sample, I used all companies listed on either the German DAX or MDAX indices for a period of at least one year between January 1998 and December 2008. I included all companies only for the time that they were part of either index. Because I analyze stock price behavior around an event date, I focused on the largest companies in Germany. Smaller companies with less trading activity could weaken my results, and they also tend to have less investor coverage, which would result in larger information asymmetries. Newspaper coverage on turnovers and the availability of accounting data for my regression analyses also led me to analyze the largest companies. In total, I identified 157 companies as the basis for my sample, after removing 7 companies that were not on either index for at least one year.

I hand-collected all the information on top management turnovers, because there is no one primary database in Germany that contains all of that data. I use both the CEO and the CFO to represent top management, because they are often considered to have the most impact on a company's financial situation (Jiang, Petroni, and Wang, 2010), and are also considered a company's strategic leaders (Arthaud-Day et al., 2006). To identify the names of all the CEOs and CFOs for the respective companies for each year-end, I first turned to the *Hoppenstedt Aktienführer*,²³ and to companies' annual reports. If those sources were unclear about which individuals held each position, I then used *LexisNexis* for further identification.

I compared the name pairs at each year-end, and for any changes in position that occurred during the year, I conducted a more detailed press analysis, again using

²³ The *Hoppenstedt Aktienführer* (www.hoppenstedt-aktienfuehrer.de) is a database containing company profiles that includes contact details, management and board information, and key financial figures.

LexisNexis. I first checked whether more than one management turnover occurred during any period. Then I analyzed all relevant newspaper articles from *LexisNexis* for the one year prior to the turnover to the two years afterward, in order to obtain as much precise information as possible on the situation surrounding the turnover and on the individuals involved. According to German law,²⁴ all important information that could potentially influence a company's stock price must be immediately publicized in an ad hoc announcement. Top management turnovers of either the CEO or the CFO are considered such events.

To further ensure that my results are reliable and not affected by outside factors, I excluded several turnover cases from my sample, including interim managers, turnovers resulting from mergers or acquisitions, and turnovers where no sufficient data was available. Also, in 27 turnover cases, one individual held both the CEO and the CFO positions. Because the CEO role is usually considered stronger, I eliminated those cases from the CFO turnover sample.

My final sample therefore consists of 173 CEO turnovers (in 110 companies), and 173 CFO turnovers (in 107 companies). Table III-1 gives a more detailed overview of how I derived this final sample.

²⁴ §15 Wertpapierhandelsgesetz (a German stock trading law).

Table III-1.
Composition of turnover cases (January 1998 - December 2008)

I. Companies in DAX/MDAX		
Total number of companies in DAX/MDAX	164	
Companies with less than one year in indices	7	
Total number of relevant companies	157	
II. CEO and CFO Turnover Cases		
	CEO	CFO
Total number of relevant companies	157	157
Firms without turnover cases in relevant time frame*	44	42
Firms with turnover cases	113	115
Total turnover cases	184	213
Interim changes	8	13
Mergers and acquisitions	3	0
Double role CEO/CFO	--	27
Total relevant turnover cases	173	173
Firms with relevant turnover cases	110	107

*Due either to period of analysis or time of company listing.

I based my classification of top management turnover reasons on a method of newspaper article classification that is similar to that used in prior studies (Farrell and Whidbee, 2003; Parrino, 1997). However, like other non-U.S. studies (Cheung and Jackson, 2010; Kind and Schläpfer, 2010), I also had to rely on a variety of news sources, as no single data source such as *The Wall Street Journal* is available in Germany for turnover classification.

To begin, two independent researchers used the identified newspaper articles from *LexisNexis* to classify each top management turnover as either “forced” or “routine,” according to pre-set rules. They classified a turnover as forced when 1) it was initiated by the supervisory board, and the articles gave no other explanations, 2) explicit differences between the supervisory board and the top manager existed that led to the turnover, 3) the top manager made clear mistakes or errors in judgment (either personal or company-related), or 4) the contract was unexpectedly terminated well before its official end, with no further stated reasons.

The researchers classified turnovers as routine when 1) the top manager was promoted within the company, to either the supervisory board or another position within the

same or a parent company, 2) the top manager pursued career opportunities outside the company, 3) the top manager had clear personal issues or an illness that led to the change, 4) the company underwent a reorganization, or 5) the top manager retired.

For the majority of cases, the independent coders easily agreed on the classifications (94.80% for the CEO sample, and 96.53% for the CFO sample). However, I also used two common inter-rater reliability measures to verify the classifications: Cohen's (1960) kappa, which gave 0.8948 for the CEO sample and 0.9193 for the CFO sample, and the Perreault and Leigh (1989) coefficient, which gave 0.9465 for the CEO sample and 0.9647 for the CFO sample. Both results indicated a reliable classification, similarly to results of prior studies (Bresser et al., 2005; Zander et al., 2009).

The few turnover cases on which the two researchers could not easily agree were discussed again jointly and reclassified. As a result, my sample is comprised of a total of 93 routine turnovers and 80 forced turnovers for the CEO sample, and 121 routine turnovers and 52 forced turnovers for the CFO sample (see Table III-2).

Table III-2.
Reasons for CEO or CFO turnover

I. Classification of CEO Turnover Reasons		Observations	
		absolute	relative
Total CEO turnover cases		173	100.0%
Routine Turnover	Total	93	53.8%
	Internal promotion (incl. supervisory board/consulting role)	19	11.0%
	External career opportunities	10	5.8%
	Organizational changes	3	1.7%
	Personal reasons or motivations	7	4.0%
	Health issues/death	2	1.2%
	Retirement	52	30.1%
Forced Turnover	Total	80	46.2%
	Differences of opinion (incl. with other management and supervisory board)	52	30.1%
	Explicit failure	18	10.4%
	Unexpected early contract termination	10	5.8%
II. Classification of CFO Turnover Reasons		Observations	
		absolute	relative
Total CFO turnover cases		173	100.0%
Routine Turnover	Total	121	69.9%
	Internal promotion (incl. supervisory board/consulting role)	20	11.6%
	External career opportunities	28	16.2%
	Organizational changes	17	9.8%
	Personal reasons or motivations	16	9.2%
	Health issues/death	3	1.7%
	Retirement	37	21.4%
Forced Turnover	Total	52	30.1%
	Differences of opinion (incl. with other management and supervisory board)	23	13.3%
	Explicit failure	15	8.7%
	Unexpected early contract termination	14	8.1%

For the breakdown between outsider and insider successions, I expected to observe different volatility effects (Karaevli, 2007; Zhang and Rajagopalan, 2003). I follow prior literature and define an outsider as a top manager that has worked for a company for less than one year; I define all other top managers as insiders (Borokhovich, Parrino, and Trapani, 1996; Hillier, Linn, and McColgan, 2005; Kang and Shivdasani, 1995). My sample thus consists of 96 insider and 76 outsider CEO successors, and 75 insider and 97 outsider CFO successors (see Table III-3).

Table III-3.
Succession types

	CEO		CFO		Total	
	absolute	relative	absolute	relative	absolute	relative
Insider	97	56.1%	76	43.9%	173	50.0%
Outsider	76	43.9%	97	56.1%	173	50.0%
Total	173	100.0%	173	100.0%	346	100.0%

The necessary stock price information, e.g., daily capital change-adjusted closing prices, for turnover companies and for the CDAX (as a market measure) came from *Thomson Financial DataStream*. The accounting information for the regression analyses came from *Thomson Financial Worldscope*.

III.3.2. Empirical analysis

My main hypothesis is that volatility will tend to increase in the short term, but not over the long term, as has been found by other studies conducted in high discretion contexts. To analyze short- versus long-term volatility effects, I defined various periods. The short-term period is the one-month event period, consisting of the 21 trading days around the turnover announcement day, e.g., -10 days to +10 days. For the long-term effects, I defined three consecutive event years following the event month, each consisting of 250 trading days. Hence, year +1 is defined as +11 days to +260 days, year +2 is defined as +261 days to +510 days, and year +3 is defined as +511 days to +760 days after the turnover announcement. Similarly to prior studies, I used a one-year period ending one year before the turnover month as the base year for comparison, defined as -261 days to -510 days prior to the announcement (Clayton, Hartzell, and Rosenberg, 2005).²⁵

To calculate the volatility dynamics around top management turnovers, I follow existing turnover event studies (Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011) that use the annualized standard deviation of daily returns. I use the same procedure for the calculations based on each event month with 21 trading days, as well as for the calculations based on each year with 250 trading days.

²⁵ Intintoli (2011) finds that volatility increases can be influenced by the choice of base year, so I also use the year directly before the turnover month, defined as -260 days to -11 days. My results, however, remained qualitatively and quantitatively similar, and are available from the author upon request.

Overall market volatility is one of the key factors that determines individual stock volatility. Following Clayton, Hartzell, and Rosenberg (2005), I control for this factor by dividing company-specific volatility by stock market volatility. Market volatility is measured as the annualized standard deviation of daily returns over the same time period as the stock's volatility, using the CDAX returns as the market measure. A volatility ratio of 2, for example, would indicate that the individual stock volatility is twice as high as the volatility of the overall market.

I report both mean and median figures for all samples, but I consider the median to be more meaningful because it reduces the influence of outliers. To compare differences between the base year and the event month and between the base year and the following three years, I use a standard t-test to test the mean differences, and the non-parametric Wilcoxon (1945) signed-rank test to test the median differences.

For the beta calculation, I used the log returns of the companies and the log returns of the market (e.g., the German CDAX) (Carlson, Fisher, and Giammarino, 2004, 2006, 2010). I also used Scholes and Williams (1977) consistent estimators to correct for any possible problems with non-synchronous data when using daily returns.²⁶ Since my sample of turnover companies consists of only the largest German companies, I found no days with zero trading volumes, and I did not need to aggregate returns across those days (Scholes and Williams, 1977).

In order to test my various hypotheses within the entire sample at the same time, I also performed OLS regressions using White's (1980) heteroscedasticity-consistent estimators. The regressions are based on the following equation and explain changes in volatility for different event periods using the block of explanatory turnover variables $\sum \beta_{ETV} * ETV$, the block of management and turnover control variables $\sum \beta_{MTCV} * MTCV$, and the block of company control variables $\sum \beta_{CCV} * CCV$.

$$\text{Changes in volatility} = \beta_0 + \sum_{j=1}^{j=J} \beta_{ETV} * ETV_j + \sum_{l=1}^{l=L} \beta_{MTCV} * MTCV_l + \sum_{m=1}^{m=M} \beta_{CCV} * CCV + \epsilon$$

²⁶ My results remained quantitatively and qualitatively similar when I used only standard estimators. Results are available from the author upon request.

III.3.3. Dependent variables

Changes in volatility. As the dependent variable, I include changes in volatility of four different event periods compared to the base year. The event periods are the event month that consists of 21 trading days around the turnover announcement (10 days prior + announcement day + 10 days afterward), and the three consecutive years following the event month, each consisting of 250 trading days. The changes are measured as the natural logarithm of event period volatility over base year volatility, and I define volatility as the annualized standard deviation of daily stock returns of the turnover company.

Note that, in the regression analysis, I do not adjust company volatility directly for market volatility by regressing on relative volatility, but rather I include the change in market volatility as a control variable.

III.3.4. Explanatory variables – turnover variables

Turnover reason. In order to test for the effect of the turnover reason in accordance with Hypothesis III-2, I follow prior research and include a dummy variable that is equal to 1 for a forced turnover, and 0 for a routine turnover (Adams and Mansi, 2009; Bresser and Thiele, 2008; Bresser et al., 2005; Parrino, 1997; Zander et al., 2009).

Successor origin. In order to test for the effect of outsider versus insider succession in accordance with my Hypothesis III-3, I include a dummy variable equal to 1 for an outsider successor (defined as being with the company for less than one year), and 0 for an insider successor (Borokhovich, Parrino, and Trapani, 1996; Hillier, Linn, and McColgan, 2005; Huson, Parrino, and Starks, 2001; Kang and Shivdasani, 1995).

III.3.5. Control variables – manager and turnover variables

Turnover type. Because I am using both CEOs and CFOs to represent top management, I include a dummy variable to control for the possible different reactions by the capital markets. The dummy variable equals 1 for CEO turnovers, and 0 for CFO turnovers.

Turnover expectedness. Capital markets should only react to unanticipated news (Fama, 1970, 1991), which may also have an effect on the volatility around a turnover announcement (Intintoli, 2011). I therefore include a dummy variable equal to 1 if the turnover announcement was unexpected by the capital markets, and 0 if the turnover was expected.²⁷ In total, I classify 166 turnovers as expected, and 180 as unexpected (see Table III-4).

Table III-4.
Turnover expectations

	CEO		CFO		Total	
	absolute	relative	absolute	relative	absolute	relative
Expected	87	50.3%	79	45.7%	166	48.0%
Unexpected	86	49.7%	94	54.3%	180	52.0%
Total	173	100.0%	173	100.0%	346	100.0%

Joint turnover. In cases where more than one top management turnover occurs at the same time, market reactions are expected to be stronger because the event is more disruptive and implications more uncertain, resulting in higher volatility. In order to control for this possibility, I include a dummy variable equal to 1 if the CEO and CFO depart at the same day, and 0 otherwise.

Age of departing manager. In order to control for possible age effects of the departing manager, I include the age in years at the time of the turnover announcement (Cannella and Shen, 2001).

Age of incoming manager. I control for possible age effects of the incoming manager, for example, for the possibility that younger managers may pursue more strategic changes than older managers, who may be more risk averse (Hambrick and Mason, 1984). I thus include the age in years at the time of the turnover announcement.

²⁷ To classify turnovers as expected or unexpected, I used an in-depth press analysis by two independent researchers (similarly to how I classified turnovers as “forced” or “routine”). To be classified unambiguously, the press articles had to clearly state that the turnover announcement was “unexpected” or a “surprise,” etc. The inter-rater reliability measures indicated a very high reliability; details are available from the author upon request.

Tenure of departing manager. To control for possible tenure effects of the departing manager, due to, e.g., job fatigue, I include the total number of years the manager has worked for the company.

III.3.6. Control variables – company variables

Prior firm performance. Because prior market performance could influence volatility in the periods I analyze, I include a measure of compounded market returns over the 250 trading days prior to the event month (Graffin, Carpenter, and Boivie, 2011).

Herfindahl-Hirschman Index. To control for possible industry concentration effects, I include the Herfindahl-Hirschman index based on sales into my analysis (Datta and Rajagopalan, 1998):

$$HHI_{j,t} = \sum_{i=1}^{N_j} s_{ijt}^2,$$

where s_{ijt} is the market share of firm i (based on sales) in industry j (measured using the four-digit SIC code from Thomson Worldscope) at turnover day t , and N is the number of firms in the industry.

Firm size. In order to control for the effect of firm size, I include the natural logarithm of total assets in €millions (Grusky, 1961; James and Soref, 1981).

Return on assets. As a profitability control measure, I include return on assets (in percent) of the year of the top management turnover announcement.

Current ratio. In order to control for firm liquidity, I include the current ratio, defined as current assets to current liabilities.

Market-to-book value. In order to control for the valuation of a company's stock, I include market-to-book value, defined as the ratio of a company's market value of equity over its book value of equity.

Investments. In order to control for possible effects of investment policy, I include the amount of capital expenditures divided by net property, plant, and equipment at the end of the previous year.

Price/earnings ratio. As a control variable, I include the price/earnings ratio, defined as the price per share at year-end divided by earnings per share for that year.

Closely held shares. Ownership structure may influence stock volatility, because the trading behavior of insiders to the company may differ. To control for this possibility, I include the percentage of shares held by insiders divided by shares outstanding.

Changes in market volatility. Because the main driver of individual stock volatility is overall market volatility, I include the change in market volatility over the same time period as the change in company volatility. This is also measured as the natural logarithm of the event period market volatility over the base period volatility.

Leverage. To control for possible effects of a firm's financial leverage on volatility, I include the equity percentage of total capital.

III.4 Empirical results

III.4.1. Descriptive statistics

As a first graphic analysis of the volatility dynamics, I divided my sample period into three parts: the twenty-four months prior to the event month, the event month itself, and the thirty-six months following the event. I then calculated the ratio of annualized company volatility to market volatility for each month as described above (similarly to Clayton, Hartzell, and Rosenberg, 2005).²⁸ Figure III-1 depicts the median relative volatilities for all the companies in the sample, as well as for the forced and outsider

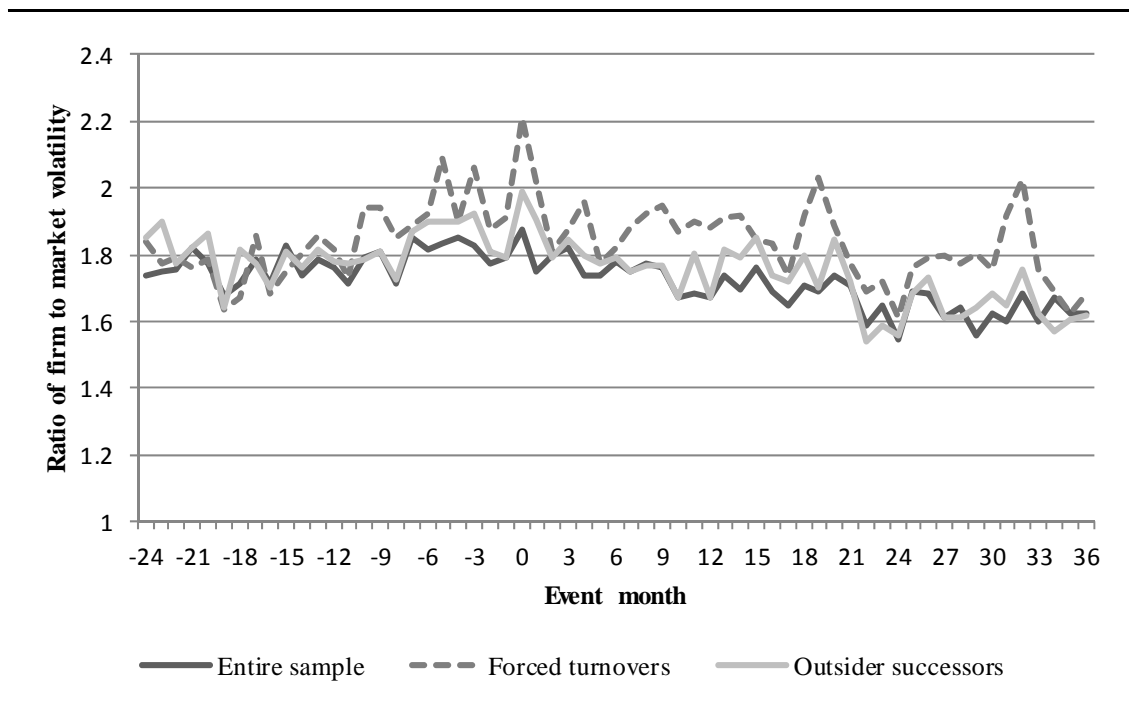
²⁸ In contrast to Clayton, Hartzell, and Rosenberg (2005), I add an additional month between the twenty-four pre-turnover months and the thirty-six post-turnover months to explicitly show the volatility effects during the event month.

samples, which I expect to result in particularly strong short-term uncertainty and volatility increases.²⁹

I note that, during the event month, the relative volatility of the turnover companies seems to reach a high point, and then to slightly decrease afterward, even sometimes to below pre-turnover levels. The forced turnover subsample exhibits relatively higher volatility than either that of the entire sample (of forced and routine turnovers), or the outsider subsample. This supports my argument that forced turnovers result in higher uncertainty and volatility, especially during the turnover month. But volatility remains higher than the overall sample after the turnover, although it appears to return to pre-turnover levels.

The outsider subsample, which I also expected to exhibit higher short-term uncertainty from information processing, shows a volatility peak during the month of turnover. But it appears to be similar to the entire sample (of outsider and insider successions) in the month following the turnover.

Figure III-1.
Median ratios of firm to market volatility (months)

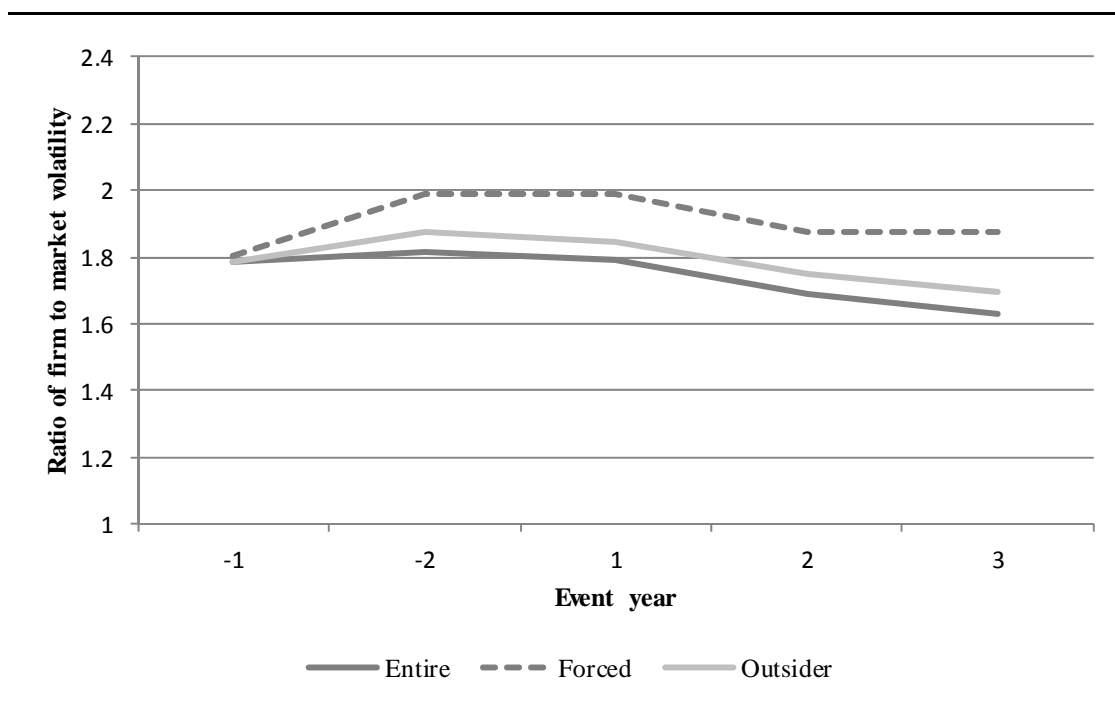


²⁹ I do not show the results for the routine turnover or insider succession subsamples here, because I am more interested in the effects of the most disruptive events.

Repeating the same analysis on a yearly basis (see Figure III-2), I find a similar picture. I show that relative volatility of the forced subsample is higher than that of either the outsider subsample or the entire sample, indicating an increased level of uncertainty after forced turnovers. However, in this case, it also shows that median volatility is higher for the outsider subsample than for the entire sample, indicating that outsider successions also result in higher uncertainty levels.

Although it is only a graphic analysis, both figures already seem to support my hypothesis that short-term volatility increases during the event month result from uncertainty due to information processing, especially for forced and outsider turnovers, but show no clear sign of being long-lasting. In contrast, uncertainty measured as volatility for the entire sample (including outsider successions) seems to fall below pre-turnover levels.

Figure III-2.
Median ratios of firm to market volatility (years)



Tables III-5 and III-6 present descriptive statistics, giving the mean, median, standard deviation, and minimum and maximum volatility measures for both the annualized standard deviation (see Table III-5) and the market-adjusted ratios of firm-to-market volatility (see Table III-6). The tables show the volatility measures for the base year,

the event month, and the three consecutive years following the turnover announcement for all subsamples and the CDAX index as the market measure.

These descriptive statistics support the graphic analysis by indicating that both absolute volatility and the market-adjusted ratio increase during the event month compared to the base year, subsequently falling to pre-turnover levels. Furthermore, they indicate that the short-term volatility increases are highest for forced turnovers and outsider successions.

The next two subsections will provide a more detailed analysis of the changes for short- and long-term effects.

Table III-5.
Annualized standard deviations (all analyzed periods)

Variable	Mean	Median	SD	Minimum	Maximum
Base year					
Full sample	37.18%	34.03%	15.48%	9.25%	121.07%
Forced turnover	37.56%	34.36%	15.55%	14.74%	107.05%
Routine turnover	36.95%	33.08%	15.44%	9.25%	121.07%
Outside succession	38.53%	34.63%	17.53%	9.25%	121.07%
Inside succession	35.83%	32.98%	12.98%	15.05%	82.86%
CDAX index	20.00%	18.93%	5.80%	9.55%	37.97%
Event month					
Full sample	45.27%	35.41%	43.25%	7.33%	405.36%
Forced turnover	58.32%	37.61%	58.94%	7.93%	405.36%
Routine turnover	37.22%	32.96%	26.69%	7.33%	337.10%
Outside succession	51.03%	35.37%	56.04%	7.33%	405.36%
Inside succession	39.51%	35.45%	23.11%	9.03%	182.62%
CDAX index	20.91%	17.62%	11.18%	7.47%	76.85%
Year +1					
Full sample	43.32%	37.77%	23.16%	8.70%	198.53%
Forced turnover	50.07%	40.27%	31.40%	9.35%	198.53%
Routine turnover	39.27%	36.70%	14.92%	8.70%	101.42%
Outside succession	44.49%	38.64%	22.09%	8.70%	140.91%
Inside succession	42.14%	36.41%	24.15%	10.25%	198.53%
CDAX index	23.20%	21.89%	8.67%	11.98%	48.95%
Year +2					
Full sample	43.49%	37.20%	23.78%	6.65%	152.02%
Forced turnover	47.77%	43.49%	25.79%	6.65%	152.02%
Routine turnover	41.01%	35.53%	22.16%	8.55%	141.88%
Outside succession	42.83%	37.19%	22.46%	6.65%	141.88%
Inside succession	44.13%	37.22%	24.98%	8.62%	152.02%
CDAX index	24.40%	22.12%	10.09%	11.66%	48.88%
Year +3					
Full sample	44.14%	34.96%	32.94%	6.26%	257.13%
Forced turnover	53.73%	42.12%	45.37%	6.26%	257.13%
Routine turnover	39.03%	33.16%	22.14%	6.27%	167.24%
Outside succession	47.22%	35.35%	39.79%	6.26%	257.13%
Inside succession	40.86%	34.41%	24.14%	8.38%	164.20%
CDAX index	23.56%	21.47%	9.57%	11.66%	48.84%

Table III-6.
Ratios of firm to market volatility (all analyzed periods)

Variable	Mean	Median	SD	Minimum	Maximum
Base year					
Full sample	1.89	1.79	64.9%	0.25	5.36
Forced turnover	1.92	1.80	57.9%	0.79	3.55
Routine turnover	1.88	1.77	68.8%	0.25	5.36
Outside succession	1.93	1.78	71.8%	0.25	5.36
Inside succession	1.86	1.79	56.9%	0.63	4.70
Event month					
Full sample	2.31	1.88	186.2%	0.39	23.33
Forced turnover	2.83	2.21	253.5%	0.39	23.33
Routine turnover	1.99	1.73	117.2%	0.53	12.29
Outside succession	2.55	1.99	234.0%	0.41	23.33
Inside succession	2.07	1.80	116.0%	0.39	8.66
Year +1					
Full sample	1.92	1.79	83.1%	0.53	7.71
Forced turnover	2.19	1.99	106.7%	0.53	7.71
Routine turnover	1.76	1.69	59.2%	0.67	5.15
Outside succession	1.96	1.84	75.9%	0.53	5.83
Inside succession	1.88	1.72	89.7%	0.62	7.71
Year +2					
Full sample	1.87	1.69	95.4%	0.30	9.27
Forced turnover	2.05	1.88	118.6%	0.30	9.27
Routine turnover	1.76	1.61	77.0%	0.44	6.51
Outside succession	1.85	1.75	79.2%	0.30	6.07
Inside succession	1.89	1.69	108.9%	0.43	9.27
Year +3					
Full sample	1.97	1.63	146.6%	0.25	13.13
Forced turnover	2.32	1.88	204.9%	0.32	13.13
Routine turnover	1.78	1.56	97.9%	0.25	8.24
Outside succession	2.05	1.70	137.0%	0.35	8.47
Inside succession	1.87	1.54	154.9%	0.25	13.13

III.4.2. Short-term volatility effects

Hypothesis III-1a suggests that the increased uncertainty surrounding a top management turnover announcement should cause stock price volatility over all management turnovers to generally increase during the event month. I therefore analyze the differences in relative volatility between the event month and the base year (see Table III-7). I use a difference in means test for the full sample with a regular t-test, and find a strong increase of 0.41 in the relative ratio of firm-to-market volatility compared to the base year. This change is significant at the 1% level.

I also use the Wilcoxon (1945) Z-score to compare differences in median ratios for the full sample, and find a 0.09 volatility increase, which is significant only at the 10% level. This finding supports my Hypothesis III-1a, which argues that on average the level of short-term uncertainty increases due to information processing around a top management turnover will lead to an increase in volatility.

The difference in means tests also show that relative volatility significantly increases for all analyzed subsamples except routine turnovers. As I expected, the increases in means are highest for the forced and outsider subsamples, and are both significant at the 1% level. These findings support my Hypotheses III-2 and III-3 that forced turnovers and outsider successions are more disruptive and result in more uncertainty, which is reflected in larger volatility increases.

Note that I do not report here the results of a difference in means test that compares the relative volatilities of the forced and routine subsamples. It is highly significant at the 1% level. For the sake of space, I also do not report the results of a difference in means test that compares relative volatility between outsider and insider successions. It is significant at the 5% level. Both provide additional support for Hypotheses III-2 and III-3.

Using the less outlier-influenced median to compare the relative volatilities in the event month and the base year yield similar conclusions. Relative volatility increased significantly for the entire sample and for the forced and outsider subsamples. An unreported difference in median test shows that relative volatility is larger for forced than routine turnovers at the 5% level. These findings together are again clear support for my Hypothesis III-2, that the average volatility increases during the event month will be larger for forced than routine turnovers. A more detailed discussion of these findings follows after the regression analyses.

Table III-7.
Mean and median differences in ratio of firm to market volatility
(event month)

Variable	Differences – event month to base year		Tests	
	Mean	Median	t-test	Wilcoxon Z
Full sample	0.41	0.09	3.85***	1.77*
Forced turnover	0.91	0.41	3.97***	3.48**
Routine turnover	0.11	-0.04	1.14	0.35
Outside succession	0.62	0.20	3.25***	2.10**
Inside succession	0.21	0.01	2.13**	0.36

Standard errors in parentheses.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

III.4.3. Long-term volatility and beta effects

I also used difference in mean and median tests for the analysis of long-term effects (see Table III-8). I did not expect any significant volatility increase in the long term, and the overall results support my Hypothesis III-1b. The difference in means tests show that volatility for the entire sample does not significantly change for any of the three years following the turnover. I even find significant decreases in relative volatility for the routine subsample in year +1 at the 5% level.

However, the difference in means tests show significant increases in relative volatility for year +1 and year +3 of the forced turnover subsample at the 5% level. I thus posit that, after forced turnovers, investor uncertainty remains high, possibly as a result of continuing uncertainty over changes in the company that may have resulted in the turnover. All other difference in means tests show only small and statistically insignificant changes.

When comparing the differences in less outlier-influenced medians, the only significant increase in relative volatility occurs in year +1 for the forced subsample, which again is likely attributable to the fact that the uncertainty takes longer to resolve. All other significant changes in relative volatility are negative, and are found for the entire sample as well as for routine turnovers and insider successions.

Relative volatility for the entire sample significantly decreases in years +2 and +3 following top management turnovers, which seem mainly to be driven by routine turnovers and insider successions that also show strong and significant volatility decreases. Both subsamples represent cases where the standard procedures worked well, which led to decreased uncertainty as the capital market participants “learned” more. But, for the outsider subsample, I also note small decreases in relative volatility, which are statistically insignificant.

Together, these results strongly support my Hypothesis III-1b that on average, in contrast to findings from other studies, no increased levels of volatility will result from top management turnovers. My actual results show the opposite: On average, relative volatility falls in the years after a management turnover. The sole exception is the forced turnover subsample, which in the first year still shows increased volatility, but which reverts to pre-turnover volatility levels in years +2 and +3. I will examine these findings and possible interpretations more closely when I perform the regression analyses.

Table III-8.
Mean and median differences in ratio of firm to market volatility
(three years following turnover)

Variable	Differences in mean			Differences in median		
	year +1	year +2	year +3	year +1	year +2	year +3
Full sample	0.03	-0.03	0.07	0.01	-0.09**	-0.15***
Forced turnover	0.27**	0.13	0.40**	0.19**	0.07	0.08
Routine turnover	-0.12**	-0.12	-0.10	-0.07*	-0.15***	-0.21***
Outside succession	0.03	-0.08	0.12	0.06	-0.03	-0.08
Inside succession	0.02	0.03	0.01	-0.07	-0.10*	-0.24***

Significance for differences in mean tests based on standard t-tests.

Significance for difference in median tests based on Wilcoxon Z.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

My descriptive results for the betas show a very consistent picture for the entire sample and for all subsamples and across all analyzed periods (see Table III-9). The means and medians are about the same in all cases, and the standard deviations of betas and minimums and maximums differ only for the event month period. I posit that these are

driven by the short period of analysis, and the short-term fluctuations in stock prices due to the uncertainty in the turnover announcements.

Table III-9.
Company betas (all analyzed periods)

Variable	Mean	Median	SD	Minimum	Maximum
Base year					
Full Sample	0.78	0.73	42.2%	-0.09	2.74
Forced turnover	0.77	0.71	42.7%	-0.04	2.70
Routine turnover	0.78	0.74	41.9%	-0.09	2.74
Outside succession	0.76	0.71	45.1%	-0.09	2.74
Inside succession	0.79	0.76	39.0%	-0.04	1.84
Event month					
Full sample	0.83	0.72	177.4%	-3.23	26.21
Forced turnover	1.00	0.72	257.4%	-3.23	26.21
Routine turnover	0.72	0.73	98.6%	-3.23	5.24
Outside succession	0.97	0.69	230.3%	-3.23	26.21
Inside succession	0.69	0.77	97.6%	-3.23	3.68
Year +1					
Full sample	0.78	0.77	46.0%	-0.60	2.28
Forced turnover	0.76	0.78	48.0%	-0.60	2.28
Routine turnover	0.80	0.73	44.7%	-0.22	2.12
Outside succession	0.72	0.67	48.3%	-0.60	2.28
Inside succession	0.85	0.88	42.4%	-0.10	2.01
Year +2					
Full sample	0.77	0.75	42.3%	-0.51	1.88
Forced turnover	0.75	0.75	45.1%	-0.51	1.88
Routine turnover	0.78	0.77	40.5%	-0.23	1.83
Outside succession	0.72	0.70	39.5%	0.01	1.88
Inside succession	0.81	0.81	44.4%	-0.51	1.84
Year +3					
Full sample	0.77	0.72	47.8%	-0.21	2.60
Forced turnover	0.74	0.66	51.3%	-0.21	2.12
Routine turnover	0.78	0.73	45.8%	-0.08	2.60
Outside succession	0.71	0.68	48.5%	-0.21	2.60
Inside succession	0.82	0.81	46.6%	-0.08	2.19

As an analogy to the volatility analyses, I also performed difference in mean and median tests for the event month and for the three consecutive years following the turnover (see Table III-10). The difference in means and the Wilcoxon (1945) signed-rank tests for medians support the findings by showing small and insignificant differences for the event month and all consecutive years. I interpret this as strong

support for my Hypothesis III-1c, that systematic risk as measured by beta does not tend to change following a top management turnover announcement.

I have argued that volatility will only change in the short term due to uncertainty over signaling effects, and that it will not be long-lasting. Individual managers are unlikely to be able to undertake major changes without the support by both other top managers and the supervisory board. If a management turnover also results in strategic changes, I would expect to observe such beta changes in the long run, but I did not.

Table III-10.
Mean and median differences in betas

Variable	Differences in mean				Differences in median			
	event month	year +1	year +2	year +3	event month	year +1	year +2	year +3
Full sample	0.05	0.01	-0.01	-0.01	0.00	0.04	0.03	-0.01
Forced turnover	0.23	-0.01	-0.02	-0.03	0.01	0.07	0.04	-0.05
Routine turnover	-0.06	0.02	0.00	0.00	-0.01	-0.01	0.03	-0.01
Outside succession	0.21	-0.04	-0.04	-0.05	-0.01	-0.04	-0.01	-0.03
Inside succession	-0.10	0.06	0.02	0.03	0.01	0.11	0.05	0.05

Significance for differences in mean tests based on standard t-tests.

Significance for difference in median tests based on Wilcoxon Z.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

III.4.4. Regression analyses

I further analyzed the effects of forced versus routine turnovers and outsider versus insider successions on short- and long-term volatility at the same time. For this task, I performed regression analyses, first for changes in volatility from the base year to the event month, and then for changes from the base year to the three years after the turnover announcement. Because Breusch-Pagan tests (2011) show the presence of heteroscedasticity, I used White's (1980) heteroscedasticity-consistent estimators. An inspection of the correlation matrices and the variance inflation factors showed no signs of multicollinearity. All VIFs remained under the critical value of 5 (the maximum was 2.02) (Kutner et al., 2005).³⁰

³⁰ Correlation tables for all regressions, as well as results for the variance inflation factors, are available from the author upon request.

In my first regression analysis (see Table III-11, model 1), I attempt to explain the changes in volatility in the event month compared to the base year. The dummy variable for turnover reason is significant at the 5% level. This shows that, as expected, the volatility increase is larger for forced than routine turnovers. These findings are similar to those obtained from the graphic analysis and the difference in means and median tests. They provide further support for Hypothesis III-2. Because forced turnovers are expected to be more disruptive by the capital markets, uncertainty over the informational content of the announcement will increase. Furthermore, the more sudden nature of forced turnovers, which often leaves insufficient time to choose an appropriate successor, seems also to increase ambiguity over the informational content of the news surrounding the announcement. Such ambiguity may include speculation about the true reasons for the turnover, as well as other signals about the company's stock price. The result is that observed short-term volatility will tend to increase until the uncertainty resolves.

Interestingly, the successor origin dummy is not only insignificant, but it also has a negative coefficient when I compare event month and base year volatility. Although the graphic depiction and the difference in means and median tests indicate higher volatility for outsider versus insider successions, when I test the entire sample while controlling for other variables, this effect diminishes or becomes slightly negative. This opposes my Hypothesis III-3, that higher volatility increases will result for outsider than for routine turnover cases in the event month.

However, because short-term volatility increases for both succession types, it seems that capital market participants experience an increased level of uncertainty independent of succession type, and do not differentiate in terms of their expectations. The uncertainty resulting from the signaling effects of the outsider announcement (e.g., the inability to cultivate an internal successor, or possible plans for strategy changes by the supervisory board) do not seem to result in a different evaluation. Instead, the informational content of both events appears on average to be similar.

Table III-11. Regressions on post- to pre-turnover changes in volatility

	Model 1	Model 2	Model 3	Model 4
Sample	entire sample	entire sample	entire sample	entire sample
Dependent Variable				
Change in Volatility - Ln(ratio of post- to pre-event market volatility)	Ln(Volatility_{event month} / Volatility_{base year})	Ln(Volatility_{t+1} / Volatility_{base year})	Ln(Volatility_{t+2} / Volatility_{base year})	Ln(Volatility_{t+3} / Volatility_{base year})
Constant	0.089 (0.423)	-0.246 (0.252)	-0.196 (0.334)	-0.215 (0.387)
Explanatory Variables				
Turnover reason (dummy)	0.172 ** (0.079)	0.149 *** (0.052)	0.107 * (0.060)	0.197 ** (0.079)
Successor origin (dummy)	-0.040 (0.061)	-0.060 (0.043)	-0.088 * (0.052)	-0.031 (0.060)
Control Variables				
Turnover/Manager Variables				
Turnover type (dummy)	-0.032 (0.067)	-0.097 ** (0.049)	-0.132 ** (0.064)	-0.128 * (0.076)
Expectedness (dummy)	(0.023) (0.065)	-0.002 (0.041)	0.016 (0.053)	0.055 (0.067)
Joint turnover (dummy)	0.269 (0.236)	-0.017 (0.081)	-0.006 (0.076)	-0.044 (0.182)
Age departing manager	-0.002 (0.005)	0.001 (0.003)	0.004 (0.004)	0.011 ** (0.005)
Age incoming manager	0.004 (0.005)	0.005 (0.004)	0.004 (0.005)	0.004 (0.005)
Tenure departing manager	-0.002 (0.004)	-0.001 (0.002)	-0.003 (0.002)	-0.005 (0.003)
Company Variables				
Prior firm performance	-0.098 (0.068)	-0.001 (0.047)	0.022 (0.045)	-0.018 (0.066)
Herfindahl-Hirschman index	-0.117 (0.135)	0.091 (0.092)	0.113 (0.102)	0.049 (0.144)
Log (total assets)	-0.003 (0.019)	0.005 (0.014)	-0.003 (0.019)	-0.023 (0.021)
Return on assets	0.005 (0.007)	0.001 (0.005)	-0.002 (0.006)	0.008 (0.008)
Current ratio	-0.050 (0.042)	-0.007 (0.028)	-0.006 (0.030)	-0.027 (0.041)
Market-to-book value	0.011 (0.014)	-0.006 (0.010)	-0.009 (0.009)	-0.013 (0.014)
Investment	-0.093 ** (0.046)	0.032 (0.023)	0.029 (0.027)	-0.004 (0.034)
Price/earnings ratio	0.000 (0.001)	0.001 * (0.000)	0.000 (0.001)	0.000 (0.001)
Closely held shares	0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	-0.001 (0.001)
Change in market volatility - Ln(ratio of post- to pre-event market volatility)	0.629 *** (0.058)	0.738 *** (0.049)	0.674 *** (0.047)	0.757 *** (0.049)
Leverage	0.000 (0.001)	-0.002 (0.001)	-0.002 (0.001)	-0.005 *** (0.002)
Included observations	199	197	180	153
R-squared	46.05%	67.76%	67.91%	67.40%
Adjusted R-squared	40.32%	64.30%	64.10%	62.74%
F-statistic	8.040	19.580	17.822	14.472
Prob(F-statistic)	0.000	0.000	0.000	0.000
Variance inflation factors (maximum)	2.01	2.02	2.00	2.00

Standard errors in parentheses.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

Of all the control variables, I note that change in market volatility is positive and significant. This is not surprising, as market volatility is a very strong indicator of individual stock volatility (Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011). Only the investment control variable is significantly negative.

My second set of regressions analyzes long-term volatility changes for the three years following the turnover compared to the base year (see Table III-11, models 2 to 4). It shows that the explanatory variables I use to explain short-term increases also have an effect over the long run. The dummy variable for forced turnovers is positive and significant in all three models, indicating that, although overall volatility decreases in the years following a turnover, it remains higher for forced than routine turnovers. This is similar to my prior findings of small increases in relative volatility for the forced subsample, and decreases for the routine subsample.

Routine turnovers on average can be interpreted as a sign of continuity and reduced volatility; forced turnovers, on the other hand, may lead to more strategic changes, as predicted by Clayton, Hartzell, and Rosenberg (2005). Ongoing uncertainty over stock prices may result. And although this may not lead to absolute increases in volatility compared to pre-turnover volatility, it results in higher uncertainty and volatility than after routine turnovers.

In contrast, the dummy variable for outsider succession exhibits a negative coefficient for all three years, but is significant at the 10% level only in year +2. This suggests that volatility changes after outsider successions will be lower than after insider successions. This finding supports my argument of no long-term volatility increase following a top management turnover.

At the same time, however, it shows that my results, as expected, differ from earlier studies in high discretion countries, which have found larger volatility increases after outsider successions (Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011). The often predicted effect of stronger strategic changes made by outsiders is thus not supported by my findings in the analyzed low discretion context, neither from changes in volatility nor from changes in the earlier analysis of systematic risk. It seems instead

that top management turnovers are not followed by major strategic changes that could lead to possible volatility or beta effects, probably because in Germany they are limited by the national system.

It is further interesting to note that over all three years following a top management turnover, the control variable for turnover type is significantly negative, which implies fewer changes in volatility after CEO turnovers than after CFO turnovers. Thus, CFO turnovers result on average in higher uncertainty for capital market participants than CEO turnovers. One explanation for this finding might be that CFOs tend to interact more often with the capital markets than CEOs. However, my results are only an initial indication, and a more detailed analysis of varying risk dynamics effects would be needed to draw fully meaningful conclusions.

The control variable for change in market volatility measured over the same time period as change in company volatility is again positive and consistently significant. Firm volatility is strongly influenced by market volatility, which is also why I report relative volatility in the analyses prior to the regression analyses. The other significant control variables (price/earnings ratio in year +1 and age of departing manager and leverage in year +3) are not consistent across the time periods.

III.5 Discussion and conclusion

The volatility of a company's stock price is important for both company management on an internal level and for the external financial markets. Prior studies have argued that volatility increases after a top management turnover because of uncertainty over strategic changes and the ability of the successor to implement these strategies. I extend this literature by theoretically arguing that there is an alternative source of short-term uncertainty resulting from the processing of information from a variety of sources around a top management turnover announcement. By using a low managerial discretion context, I am able to theoretically and empirically distinguish between short-term uncertainty resulting from information processing, and long-term uncertainty resulting from possible strategic changes.

My findings suggest that, in a low discretion country, short-term volatility on average is likely to increase due to capital market uncertainty over the informational content of the turnover announcement. Furthermore, short-term volatility increases tend to be larger for forced than routine turnovers, which indicates, as expected, a higher level of capital market uncertainty. Because forced turnovers are often seen as more disruptive than routine turnovers, they frequently result in stronger information signaling effects.

Interestingly, outsider successions, which have also been found to be more disruptive, do not lead to higher short-term volatility increases than insider successions when I control for turnover reason. I find short-term volatility increases for both succession types, but capital market participants in a low discretion country seem to experience similar levels of uncertainty from both. They thus appear to experience the informational content resulting from succession type similarly, which shows that both outsider and insider successions are considered equal and do not affect expectations in the short term.

In contrast to short-term volatility increases, however, I expect to find no long-term volatility increases in a low discretion country, because managers are more restricted in their decision making. My results support this expectation. In such a context, the uncertainty over possible strategic changes and successor ability, which are expected in high discretion countries, should be less relevant.

In line with this argument, I find no long-term volatility increases, but I show that volatility on average decreases in the years following a turnover, especially after routine turnovers and insider successions. This supports my argument that capital market participants in a low discretion environment expect individual top managers to have only a limited influence on company strategy.

Additionally, when top manager turnovers occur as a standard part of business (e.g., routine turnovers or insider successions), capital market participants seem to regard them as positive signals about the state of a company, which reduces their long-term risk level. My findings of unchanged betas following a top management turnover

further support this view by indicating that systematic risk remains at the same pre-turnover level.

If successors to a top management turnover engage in major strategic changes, instead of maintaining continuity, this should also result in different levels of systematic risk, which I do not observe. I can therefore extend prior work by Clayton, Hartzell, and Rosenberg (2005) on the influence of ability and strategy on volatility increases by showing only limited importance in a low discretion context. This provides additional empirical support for the hypothesis of national system-influenced managerial discretion (Crossland and Hambrick, 2007, 2011), and illustrates that managerial influence differs according to context.

I chose to undertake my study in a single country with low managerial discretion, and I use the theoretical differences from high discretion countries to demonstrate the existence of an alternative source of short-term volatility increases. I have thus added to the general understanding of risk dynamics in a management turnover context. Future studies may want to use this basis to further analyze risk dynamics. It would also be useful to incorporate a cross-country setting in order to conduct direct comparisons of volatility and beta dynamics in countries with differing managerial discretion at the same time.

IV. Bad news for announcers, good news for rivals – An examination of transition-period performance effects following top management turnovers

This chapter addresses research objective three and analyzes how the disruption of top management turnovers can affect not only the turnover company but also its intra-industry rivals. I find that there is a period of relative stagnation for turnover companies following top management turnovers, as the successor must adapt to the new position and company before undertaking any major strategic changes. This period can be used by intra-industry rivals because they stay fully operational during that time, and they may actively exploit the relative inability of turnover companies to react. Intra-industry rivals should therefore gain a temporary competitive advantage, leading to positive abnormal stock price reactions.

I extend prior literature on leader life cycles by empirically analyzing capital market performance during the transition period following a top management turnover. I also add to the competitive dynamics literature by analyzing the performance effects on intra-industry rivals, arguing that stock price reactions to turnovers are not limited to the turnover companies themselves.

Using a German sample of 344 CEO and CFO turnovers, I find that turnover companies tend to experience a transition period characterized by stagnation and no significant abnormal stock price returns. In contrast, intra-industry rivals are able to profit from this stagnation, and outperform turnover firms by a 6.8% average. Furthermore, this outperformance is significantly higher when the turnover is forced, or when an insider is chosen as a successor.

IV.1 Introduction

The question of how much impact top managers have on company performance has long been debated and researched (for an overview, see Finkelstein, Hambrick, and Cannella, 2009; Mackey, 2008). Studies have usually analyzed long-term accounting consequences, short-term capital market consequences, or, more seldom, a combination of both (Giambatista, Rowe, and Riaz, 2005). While studies using accounting data focus on an ex post evaluation of realized company performance, the immediate stock price reactions around a top management turnover are considered a reflection of changed expectations about future company performance based on a comparison between the expected performance influence of the predecessor and successor (Fee and Hadlock, 2004; Warner, Watts, and Wruck, 1988).

When a top manager (the CEO or CFO in this study) departs, the event tends to be disruptive for the company (Ballinger and Schoorman, 2007; Burns, 2003; Grusky, 1960). The new top manager must transition to the position by adapting to the new processes, learning position- or firm-specific skills, and potentially learning how to manage having more responsibility (Harris and Helfat, 1997). Additionally, the new manager may need to establish credibility with other members of the top management team, as well as with the supervisory board and other stakeholders (Greiner, Cummings, and Bhambri, 2003).

This process is usually quite time consuming, and tends to prevent the new top manager from focusing on future strategic goals and actions during the transition period (Gabarro, 1987; Shen, 2003). The result is a period of relative stagnation, which can be a competitive disadvantage. For example, studies have shown that no matter how well new top managers perform in the beginning of their tenure, they are unlikely to deliver substantial economic performance (Wowak and Hambrick, 2010).

Consequently, around a top management turnover announcement, there will be an increased level of uncertainty about market consequences, because capital market participants will not be able to clearly predict the results (Epstein and Schneider, 2008; Epstein and Turnbull, 1980). Therefore, no abnormal stock returns are expected during

the turnover company's transition period, because capital markets can only value a manager's actions when they actually happen, become visible, or at least become predictable (Finkelstein, Hambrick, and Cannella, 2009).

At the same time, a top management turnover and the resulting transition period may also convey material information to intra-industry rivals, e.g., the so-called *information effect* (Firth, 1996). Rivals, because they remain fully operational during this time, may be able to gain a competitive advantage because of the turnover company's relative inability to react (Ferrier and Lyon, 2004; Ferrier et al., 2002; Miller and Chen, 1994, 1996). Such an advantage should be valued positively by the capital markets, and should result in positive stock price reactions for intra-industry rivals until the transition period ends (Ferrier and Hun, 2002).

For an example of an intra-industry reaction, consider the departure of Helmut Panke as CEO of BMW AG, who retired routinely in 2006 at the age of 60. He was replaced internally by Norbert Reithöfer, who was already a member of the top management team, and was responsible for production. Reithöfer was considered an ideal successor, and he adapted to the CEO position relatively easily (Höpner, 2006). This seemingly smooth top management turnover, however, was followed by a stock price development for BMW that was significantly lower than that of the overall German car industry. In fact, during the year after the turnover, BMW's stock price increased by only 26%, from €7.14 to €6.83, strongly lagging the overall market, which gained 46%.³¹ Moreover, all other German car manufacturers strongly outperformed the market during this period, with Daimler AG increasing by 78%, Audi AG by 83%, and Volkswagen AG by 130%.

This example illustrates that, even after an expected routine turnover, followed by an insider succession, the results can still be disruptive, even though both factors are considered signs of a well-managed turnover process. It thus seems likely that these transition-period effects may be even stronger if the process is less smooth, for example, under conditions of a forced turnover.

³¹ To measure market developments, I use the CDAX, an index comprised of all the German stocks listed on the Frankfurt stock exchange in the General and Prime Standard.

My contribution is twofold. Scholars have argued that it is important to choose the right period of analysis to show the performance effects of a top management turnover, e.g., to analyze the period when performance changes are most expected (Day and Lord, 1988). This may require an extended or lagged period of analysis compared to past studies (Giambatista, Rowe, and Riaz, 2005). I am the first to explicitly analyze performance effects during the transition period following a top management turnover by analyzing buy-and-hold abnormal returns (BHARs) for different periods of up to one year after the announcement, thus adding to a better understanding of the manager life cycle perspective (Giambatista, 2004; Hambrick and Fukutomi, 1991).

I show empirically that, on average, turnover companies in Germany do not experience significant abnormal returns for most of the transition period. This supports the theoretical argument that new top managers tend to be somewhat limited in their actions directly after the turnover, and that no new strategies are likely to take place until the new top management completes the transition. By explicitly analyzing the performance effects during this time, I therefore aim to contribute to a better understanding of the time frame in which top managers will begin to initiate change and take major strategic actions (Finkelstein, Hambrick, and Cannella, 2009; Hambrick and Fukutomi, 1991).

Second, I am also the first to theoretically argue and empirically test industry-wide effects of top management turnover announcements. These effects have been considered important in previous literature, but rivals' perceptions and reactions to competitor actions have nevertheless received scant research attention (Hughes-Morgan, Ferrier, and Labianca, 2011; Tsai, Su, and Chen, 2011).

I find that, on average, turnover announcements are followed by significantly positive abnormal stock price reactions for intra-industry rivals in the year following the turnover, because rivals can exploit the relative inability of turnover companies to react (Ferrier and Hun, 2002). These reactions are referred to as *positive intra-industry information effects*, and they result in a 6.8% average outperformance for intra-industry rivals over turnover firms. The *positive information effects* for intra-industry rivals are expected to be strongest when a turnover is forced, because the more

disruptive situation will tend to heighten the competitive advantage. The transition period may be more intense if the predecessor is unavailable to assist in an orderly handover of processes, if the successor has urgent cleanup work, or when the turnover creates a signaling effect that the turnover company was not managed efficiently.

Outsider successions are also often seen as more disruptive than insider successions, and should also lead to a more intense transition period and stronger *positive information effects* for intra-industry rivals (Grusky, 1960; Harris and Helfat, 1997). However, I find stronger positive abnormal returns for intra-industry rivals after insider than outsider successions. One explanation for this finding is the presence of both *positive* and *negative information effects* after an outsider succession, which may be, on average, offsetting each other. *Positive information effects* may arise from the potential that intra-industry rivals will exploit the relative stagnation of the turnover company; *negative information effects* may arise if investors anticipate a higher likelihood that an outsider successor will undertake major strategic changes at the turnover company, which may ultimately have negative effects on intra-industry rivals in the future.

In general, my findings support the argument that intra-industry rivals can use the transition period of a turnover company and gain temporary competitive advantages. Intra-industry rivals significantly outperform the turnover companies over the course of the transition period, which is clear support for my expected *positive information effect*.

The remainder of the chapter is organized as follows. Section IV.2 provides the theoretical background and develops my hypotheses. Section IV.3 describes my methodology, including the data set and statistical models. In section IV.4, I present my empirical results. I conclude with remarks and a discussion of my findings in section IV.5.

IV.2 Theoretical background

Research on the importance of top management has a long history and a large body of literature, generally within a context of how much and under what circumstances top managers can impact companies and their performance has emerged (for an overview, see Finkelstein, Hambrick, and Cannella, 2009; Mackey, 2008). As a setting for analyzing this question, management turnovers are ideal, because they allow for a direct predecessor/successor comparison. Most prior studies have generally applied either accounting variables to measure the realized long-term performance effects of a new manager (Denis and Denis, 1995; Hotchkiss, 1995; Karaevli, 2007; Shen and Cannella, 2002a; Wiersema, 2002), or capital market variables to evaluate short-term expectations about the future performance effects of a manager (Bonnier and Bruner, 1989; Furtado and Rozeff, 1987; Khanna and Poulsen, 1995; Reinganum, 1985; Tian, Halebian, and Rajagopalan, 2011; Warner, Watts, and Wruck, 1988; Weisbach, 1988). Less frequently, articles have combined both accounting- and capital market-based measures (Huson, Malatesta, and Parrino, 2004). The results have been mixed, with findings of positive, negative, and no significant performance reactions to a management turnover. However, there is a consensus that the actions of the successor, as well as the internal and external circumstances, are a prime determinant of the outcome (Ballinger and Marcel, 2010; Giambatista, Rowe, and Riaz, 2005).

Top management turnovers³² can be disruptive for companies, because new top managers are confronted with new situations (Ballinger and Marcel, 2010; Ballinger and Schoorman, 2007; Grusky, 1960), and must learn to adapt to new executive tasks, responsibilities, and skill requirements (Harris and Helfat, 1997; Kotter, 1982). They also need to build acceptance, credibility, and power with the management team and with the supervisory board in order to initiate major strategic changes (Greiner, Cummings, and Bhambri, 2003). They can expect to be under increased scrutiny from

³² In this study, I use both the CEO and CFO positions to represent top managers. I thus follow Hambrick's (2007) suggestion to extend upper echelons theory by including roles other than the CEO. While studies that focus solely on CEOs have a long history, recent research has begun to include other top managers, especially the CFO (Chava and Purnanandam, 2010; Gore, Matsunaga, and Yeung, 2011; Jiang, Petroni, and Wang, 2010; Li, Sun, and Ettredge, 2010). The CEO and CFO are often cited as the two most influential roles in a company from a financial perspective (Jiang, Petroni, and Wang, 2010), and they are also considered a company's strategic leaders (Arthaud-Day et al., 2006).

both the board and shareholders as well (Alderfer, 1986; Vancil, 1987), particularly because they can be somewhat vulnerable early in their tenures (Fredrickson, Hambrick, and Baumrin, 1988; Shen and Cannella, 2002b), and because company conditions may require them to take bold actions quickly, i.e., during situations of financial stress (Hambrick and D'Aveni, 1992).

The length of the transition period differs according to the situation (Shen, 2003). Gabarro (1987) finds that CEOs have begun to undertake major actions and reshape organizations after seven to eighteen months. Hambrick and Fukutomi (1991) find that, during their first year, top managers tend to focus on developing a track record, building legitimacy, and ensuring a political foothold. They argue that performance influence at the beginning of a manager's tenure will be lower, because the manager will not have had a chance to fully implement ideas.

In a review of more recent studies, Giambatista, Rowe, and Riaz (2005) support the findings of Gabarro (1987) and Hambrick and Fukutomi (1991), and find that CEOs either need more than one year to fully effect strategic changes, or that a succession event alone is insufficient to overcome strategic inertia. As the successor becomes comfortable and increases decision-making, a gradual transition occurs toward a company run according to the new manager's concepts (Vancil, 1987). However, before that can occur, the company will often face a period of relative stagnation compared to its competitors that are not undergoing top management changes. Accordingly, even if top managers perform exceptionally well early in their tenures, I do not expect to see economic effects until a later stage (Wowak, Hambrick, and Henderson, 2011).

Prior studies used stock prices to reflect changes in company performance expectations due to predecessor/successor comparisons around the turnover announcement. And, although some information on future company direction is known at the announcement (for example, intended strategic changes by the supervisory board, as Zhang and Wiersema (2009) note), a high level of uncertainty over the consequences will tend to remain (Epstein and Schneider, 2008; Epstein and Turnbull, 1980). Only when the decisions are implemented or can be predicted by the capital markets with more

“certainty” will stock prices be expected to react (Fama, 1970, 1991; Finkelstein, Hambrick, and Cannella, 2009).

A disruptive top management turnover and the resulting transition period may also have consequences beyond the turnover company itself. Several studies have analyzed capital market effects of company news on intra-industry rivals and found *information effects* (Firth, 1996), for example, reactions to earnings announcements (Firth, 1976), dividend changes (Firth, 1996), bankruptcy (Asness and Smirlock, 1991), and lead-lag effects to earnings announcements (Hou, 2007). Others found overreactions to intra-industry information transfers (Thomas and Zhang, 2008), reactions to management forecasts (Kim, Lacina, and Park, 2008), and reactions to shareholder activism (Mietzner, Schweizer, and Tyrell, 2011). However, I do not find any studies analyzing intra-industry *information effects* to top management turnover announcements, although rivals’ perceptions and their responses to competitor actions are considered highly relevant (Hughes-Morgan, Ferrier, and Labianca, 2011; Tsai, Su, and Chen, 2011).

What these studies have in common is an examination of whether firm-specific news is also important for other companies in the same industry, e.g., intra-industry rivals, and whether they result in wealth effects for them as well. The information effects to rivals can be both positive and negative. For example, a *positive information effect* would be the increased likelihood of an industry-wide positive earnings surprise after the first company has issued an earnings surprise due to favorable market conditions. A *negative information effect*, in contrast, would be the announcement of a positive earnings surprise by a company that results from a substantial increase in market share that will have a negative effect on other companies in that industry.

In the case of a top management turnover, I argue that the competitive situation for the turnover company is worsened, which results in a *positive information effect* for intra-industry rivals. As noted above, the relative disruption inherent in a turnover and the transition period lead to a period of stagnation for announcing firms. At the same time, however, other firms in the industry are able to continue their operations without a similar disruption. They can thus use their “repertoire of competitive actions” (Ferrier

and Lyon, 2004; Ferrier, Smith, and Grimm, 1999; Miller and Chen, 1994, 1996) to exploit the turnover company's situation. For example, they may choose that time to introduce a new innovative product directed at increasing market share (Otero-Neira, Varela, and Garcia, 2010) while the turnover company cannot fully react.

I argue that capital markets will be aware of the relatively weak situation of the turnover company and see the opportunity for intra-industry rivals to strengthen their market position (Ferrier and Hun, 2002). This temporal competitive advantage should be reflected in positive abnormal intra-industry valuation effects during the transition period.

To analyze transition-period performance effects for both turnover companies and their intra-industry rivals, I use the context of a country that provides relatively low managerial discretion (Crossland and Hambrick, 2007). In such a context, top managers are considered rather interchangeable. Thus, any differences between the predecessor and successor in terms of values, cognitive framing, or skill sets are of less import for company performance than they would be in a high discretion country. Using this context allows me to analyze more clearly and explicitly the effects of the top management turnover and the resulting transition period on the valuation of intra-industry rivals, because the individual influence of a manager should have less impact on stock price development.

I chose Germany as my example of a low discretion environment. Its national system, including its corporate governance mechanisms and national and cultural values, tends to limit both the latitude of actions and the latitude of objectives of managers compared to other countries. It therefore provides an ideal setting for this analysis.³³

³³ I identify factors that, taken together, constitute the low discretion environment in Germany: 1) The two-tiered board system and lack of CEO duality (c.f. Finkelstein and D'Aveni, 1994; Tuggle et al., 2010; Weir, Laing, and Wright, 2005), 2) the civil law context (c.f. Crossland and Hambrick, 2011; Johnson et al., 2000; La Porta, Lopez-de-Silanes, and Shleifer, 1999), 3) the workers' representation on the supervisory board (c.f. Crossland and Hambrick, 2007; Witt and Redding, 2009), 4) the collective responsibility of the top management team (c.f. Chatterjee and Hambrick, 2007), and 5) the banking-oriented system (Elsas and Krahen, 2004; Gorton and Schmid, 2000), with the phenomenon of highly concentrated ownership (c.f. Becht and Boehmer, 2003).

To summarize my arguments for the relative stagnation of turnover firms, and the potential for intra-industry rivals to exploit that situation, I thus hypothesize:

Hypothesis IV-1: *A top management turnover at a firm will be followed by positive abnormal stock price reactions for its intra-industry rivals.*

IV.2.1. Forced versus routine turnovers

The *information effect* inherent in a top management turnover announcement is more pronounced for forced than routine turnovers. This is because forced top management turnovers are often related to prior negative performance (Finkelstein, Hambrick, and Cannella, 2009), are usually considered more disruptive than routine turnovers and are often viewed as a potential sign of internal problems (Shen and Cannella, 2002a). For example, a forced turnover can signal that existing top management did not manage the company properly, and thus the supervisory board had to dismiss the manager (Fredrickson, Hambrick, and Baumrin, 1988). On the other hand, a forced turnover can be representative of scapegoating, where the dismissal was conducted to demonstrate a commitment to change rather than poor performance on the part of the manager (Khanna and Poulsen, 1995; Shen and Cho, 2005).

In both cases, however, the turnover decision is often abrupt, so that the supervisory board may be unable to choose a successor according to long-term strategic goals (Wiersema, 2002). The result tends to be a heightened level of investor uncertainty because of the lack of information about future strategic direction compared to a routine succession. The transition period also tends to be more intense in terms of the time and effort needed by the successor, especially because the predecessor may not be present to ensure an orderly handover (Shen, 2003). Furthermore, in forced turnovers, the successor often needs to act immediately to correct the actions of the predecessor, even without a detailed prior analysis of the issue at hand (Gabarro, 1987). These corrective actions can distract from the actual task of long-term strategic planning, and – when they become known to the public – may reveal weak points to intra-industry rivals.

At the same time, investors may view intra-industry rivals as better able to cope with a potentially difficult industry situation that has led to the forced management turnover. Both the potential exploitation of the disruptive event as well as the indirect signal of a well-managed situation are expected to result in *positive information effects* that may translate into positive abnormal returns for intra-industry rivals after forced top management turnovers.

To summarize, the transition phase of a routine turnover company should lead to a period of relative stagnation – albeit less severe than forced turnover companies experience (Shen and Cannella, 2003). Accordingly, because of the *positive information effects* after a forced top management turnover, I expect positive reactions for intra-industry rivals to be higher for forced than routine turnovers. I therefore posit:

Hypothesis IV-2: *Positive abnormal stock price reactions of intra-industry rivals will be higher after forced top management turnovers than routine turnovers.*

IV.2.2. Outsider versus insider successions

Another classic differentiation in management turnover research is outsider versus insider successions (Grusky, 1960), which have been shown to result in ambiguous effects on firm performance (Karaevli, 2007; Kesner and Sebor, 1994).

It is often argued that top managers from outside the company are more likely to initiate major strategic changes (Hambrick and Fukutomi, 1991; Kesner and Dalton, 1994). Yet, before conducting any major changes, outsiders will often face greater challenges than insiders (Grusky, 1960; Harris and Helfat, 1997). Accordingly, the stagnation might be stronger at the beginning of an outsider's tenure. At a later stage, when capital markets “learn” about value-adding actions, or when such actions become more predictable, they should translate into positive stock price changes (Fama, 1970, 1991; Finkelstein, Hambrick, and Cannella, 2009).

Moreover, insider successors also face new situations, tasks, and responsibilities (Harris and Helfat, 1997; Kotter, 1982). As Vancil (1987) notes, even “heir apparent”

successors need to learn how to interact with the supervisory board, other members of the top management team, and other stakeholders. Insider successors will also naturally tend to have better networks inside the company than outsiders (Hambrick and Fukutomi, 1991), but these social ties can act as constraints when implementing major strategic changes (Shen and Cannella, 2002a). Accordingly, it is likely that insider successors will adjust more quickly to their new positions than outsiders. However, their overall impact on company performance is also expected to be less substantial, because they may be inclined to follow the paths of their predecessors (Hambrick and Fukutomi, 1991).

However, the supervisory board may have many reasons for selecting an outsider as a successor. On the one hand, researchers have argued that this choice can suggest the company was not able to implement a clear succession plan, or to build up the required knowledge from within the company (Dalton and Kesner, 1985). No suitable insider candidate may have existed (Guthrie and Datta, 1997), or the board may have explicitly vetoed a particular candidate (Shen and Cannella, 2002a). For intra-industry rivals, this could be seen as a *positive information effect*, because it may reveal the turnover company had poor process management, which would not have affected other companies in the industry.

On the other hand, an outsider succession can signal that the board recognizes the need for major strategic change, and has provided the new top manager with that mandate (Wiersema, 1992). The change can be based on either the successor's own ideas, resulting from knowledge and skills (Cannella and Lubatkin, 1993), or be merely an execution of the board's strategy (Hambrick, 2007). Either way, a new outsider top manager is expected to proceed with major strategic changes that should result in positive stock price developments in the long run (Kesner and Dalton, 1994).

I could interpret this as a *negative information effect* for intra-industry rivals, because the major strategic changes of the new top manager may have a significant impact that could reduce the competitive position of intra-industry rivals. The signaling role of an outside succession is thus ambiguous: Both *positive and negative information effects* for intra-industry rivals can exist at the same time, but it is not clear which will

dominate. An insider succession, in contrast, normally signals that standard processes are in place, which – except for the transition period – is expected to have *no information effect* on intra-industry rivals.

To summarize, the overall information effects of an outsider versus insider succession on intra-industry rivals are ambiguous, and they cannot be clearly predicted because contradicting effects exist. In deriving my hypotheses, I follow existing literature and predict that an outsider succession will be viewed as a more disruptive event at first (Grusky, 1960; Harris and Helfat, 1997). It will then lead to a more intense transition period for turnover companies, and hence larger average *information effects* and abnormal returns for intra-industry rivals. During the transition, I expect intra-industry rivals to be more likely to exploit the stagnation of the turnover company for an outsider succession. However, as I noted, at a later stage, the major strategic changes by the outsider successor may result in *negative information effects* to rivals once they become “visible” to the capital markets. I therefore hypothesize:

Hypothesis IV-3: *Positive abnormal stock price reactions of intra-industry rivals will be larger following outsider than insider top management successions of competitors.*

IV.3 Method

IV.3.1. Data and sample

I compiled my sample by taking all companies listed on either the German DAX or MDAX index³⁴ for at least one year between January 1998 and December 2008. The analyzed time period for each company corresponds to the time the company was part of one of the indices. From this procedure, I obtained 157 companies for which to analyze turnover reactions. I excluded 7 companies because they were part of the indices for less than one year.

³⁴ The DAX and MDAX are German stock market indices that together comprise the 80 largest companies on the Frankfurt Stock Exchange by market capitalization (it was the 100 largest until March 24, 2003).

I use both the CEO and CFO positions to represent top managers in this study. Because there is no one database in Germany that lists all management turnovers, I hand-collected information on the turnovers as well as some background information. My starting point was a combination of the *Hoppenstedt Aktienführer*³⁵ and published company reports, from which I was able to identify the names of the CEOs and CFOs at each year-end. I used newspaper articles from the *LexisNexis* database for cases of insufficient information in my primary sources. For all years that I was able to detect a change in management this way, I also used *LexisNexis* to identify additional changes within the particular year.

Next, for all the identified management turnovers, I undertook a detailed analysis of press articles for several years prior to and after the turnover to obtain a fuller understanding of the situations surrounding the turnovers. I analyze turnover reasons, predecessor and successor information, and, finally, the exact dates of the announcements and the effective turnover dates.

For the announcement date of a turnover, I generally used the date of the ad hoc notification. According to §15 *Wertpapierhandelsgesetz* (a German stock trading law), listed companies in Germany are required to immediately disclose any facts about a company that could possibly influence its stock price in a significant way. The turnover of a CEO or a CFO, as the two most important positions in a company, is commonly accepted to be such an event.

I further eliminated some management turnovers because they constituted changes of interim managers (21 cases), mergers and acquisitions (3 cases), or cases for which no sufficient background information could be gathered from the newspaper articles. I found that, in 27 cases, the CEO also held the position of CFO. In those cases, I excluded the CFO turnover cases because I assume that the CEO role is stronger and capital markets are more likely to react to it.

³⁵ The *Hoppenstedt Aktienführer* is a database of all companies listed according to the German prime standard. It contains among other information a company profile as well as the composition of the management board. For detailed information see the company website: <http://www.hoppenstedt-aktienfuehrer.de>.

Finally, I also excluded some turnovers because the time series between the company's first day on the index and the turnover announcement was too short to calculate expected and abnormal returns (3 cases).

My final sample therefore consists of 172 CEO turnovers in 109 companies, and 172 CFO turnovers in 107 companies (see Table IV-1).

Table IV-1.
Composition of turnover cases (January 1998 - December 2008)

I. Companies in DAX/MDAX		
Total number of companies in DAX/MDAX	164	
Companies with less than one year in indices	7	
Total number of relevant companies	157	
II. CEO and CFO Turnover Cases		
	CEO	CFO
Total number of relevant companies	157	157
Firms without turnover cases in relevant time frame*	44	42
Firms with turnover cases	113	115
Total turnover cases	185	213
Interim changes	8	13
Mergers and acquisitions	3	0
Double role CEO/CFO	--	27
Insufficient time for calculation	2	1
Total relevant turnover cases	172	172
Firms with relevant turnover cases	109	107

*Due either to period of analysis or time of company listing.

In order to classify management turnovers as forced or routine, I used a common method of newspaper article classification (Farrell and Whidbee, 2003; Parrino, 1997). Two independent researchers analyzed newspaper articles from *LexisNexis*, and classified the turnovers as either “forced” or “routine” based on the information therein.³⁶ If the newspaper articles stated clearly that a turnover was initiated by the supervisory board without providing clear reasons, or because of differing objectives between management and supervisory board, because of clear management mistakes, or personal mistakes, the turnover was classified as “forced.” Furthermore, I classified all top management turnovers as forced if a managers’ contract was terminated before

³⁶ Studies from a U.S. context usually use *The Wall Street Journal* as the sole or primary information source for classifying turnovers (Farrell and Whidbee, 2003; Parrino, 1997). However, in Germany, there is no sole source for full media coverage, and thus information from different sources needs to be combined.

its official end, if no other reasons were observed. Turnovers were classified as “routine” if a top manager was promoted to the supervisory board or to a higher position in a different company, promoted from CFO to CEO within the company, for personal reasons or serious illness, for reorganizations, or simple retirements.

I calculated the Cohen (1960) kappa and the Perreault and Leigh (1989) coefficient as inter-rater reliability scores to measure the quality of my assessment. 94.8% of the forced/routine classifications for the CEO subsample and 96.5% of the classifications for the CFO subsample were identical. The results of the Cohen kappa (0.8943 for the CEO subsample and 0.9191 for the CFO subsample) and the Perreault and Leigh coefficient (0.9462 for the CEO subsample and 0.9645 for the CFO subsample) show a very high rate of reliability.

For the few cases in which the two independent researchers did not agree (nine CEO turnovers and six CFO turnovers), they discussed the facts jointly until agreement was reached.³⁷ My sample therefore consists of 92 routine and 80 forced CEO turnovers, and 120 routine and 52 forced CFO turnovers (see Table IV-2).

³⁷ As a robustness check, I also repeated my analyses without these cases. The results remained quantitatively and qualitatively similar. Tables are available from the author upon request.

Table IV-2.
Reasons for CEO or CFO turnover

I. Classification of CEO Turnover Reasons		Observations	
		absolute	relative
Total CEO Turnover Cases		172	100.0%
Routine Turnover	Total	92	53.5%
	Internal promotion (incl. supervisory board/consulting role)	19	11.0%
	External career opportunities	10	5.8%
	Organizational changes	3	1.7%
	Personal reasons or motivations	7	4.1%
	Health issues/death	2	1.2%
	Retirement	51	29.7%
Forced Turnover	Total	80	46.5%
	Differences of opinion (incl. with other management and supervisory board)	52	30.2%
	Explicit failure	18	10.5%
	Unexpected early contract termination	10	5.8%
II. Classification of CFO Turnover Reasons		Observations	
		absolute	relative
Total CFO Turnover Cases		172	100.0%
Routine Turnover	Total	120	69.8%
	Internal promotion (incl. supervisory board/consulting role)	20	11.6%
	External career opportunities	27	15.7%
	Organizational changes	17	9.9%
	Personal reasons or motivations	16	9.3%
	Health issues/death	3	1.7%
	Retirement	37	21.5%
Forced Turnover	Total	52	30.2%
	Differences of opinion (incl. with other management and supervisory board)	23	13.4%
	Explicit failure	15	8.7%
	Unexpected early contract termination	14	8.1%

I next classified successors as insiders (from within the company) or outsiders (from outside the company) (Karaevli, 2007; Zhang and Rajagopalan, 2003). I considered top managers that had been with a company for less than one year as outsiders, and those with a company for more than one year as insiders (Borokhovich, Parrino, and Trapani, 1996; Hillier, Linn, and McColgan, 2005; Kang and Shivdasani, 1995). Using this classification, I found 96 insiders and 76 outsiders as CEO successors, and 75 insiders and 97 outsiders as CFO successors (see Table IV-3).

Table IV-3.
Succession types

	CEO		CFO		Total	
	absolute	relative	absolute	relative	absolute	relative
Insider	96	55.8%	75	43.6%	171	49.7%
Outsider	76	44.2%	97	56.4%	173	50.3%
Total	172	100.0%	172	100.0%	344	100.0%

I collected the data for the time series analyses, i.e., the daily closing prices for all firms and the CDAX index, from *Thomson Financial DataStream*. The accounting data for two years prior to three years after the turnover came from the *Thomson Financial Worldscope* database. In line with prior research, all announcements between July and June of year t_{+1} were assigned variables for the fiscal year-end t_{-1} (Fama and French, 1992).

IV.3.2. Construction of the rival portfolio

For the basic population of the survivorship bias-free intra-industry rival portfolios, I used all the active and delisted firms included in the *Thomson Financial DataStream* database. To derive the relevant portfolios of intra-industry rival firms for each management turnover, I applied three consecutive steps based on Barber and Lyon (1997):

1. Selecting all firms with the same four-digit standard industrial classification (SIC) code as the announcing firm, and forming an equally weighted portfolio.³⁸
2. Further restricting the portfolio to companies with market capitalizations of between 50% and 250% of the announcing firm (as the classification would otherwise be too broad).
3. Limiting the intra-industry rival portfolio to a maximum of the five companies per management turnover that are closest to the announcing firm in terms of market-to-book ratio.³⁹

³⁸ I also used an industry classification based on the three-digit SIC code as an additional robustness check, but the results remained stable. Tables are available from the author upon request.

³⁹ As a further robustness check, I conducted tests using only the closest rival to each turnover company. The results obtained for the abnormal returns were even larger. Tables are available from the author upon request.

I also eliminated rival firms with illiquid stocks from the intra-industry rival portfolios and ensured that no rival firm would encounter a management turnover itself during my time of analysis.

IV.3.3. Estimation of valuation effects

To measure long-term valuation effects, I calculated benchmark-adjusted buy-and-hold abnormal returns (BHARs) (Lyon, Barber, and Tsai, 1999) for both the announcing firm and for intra-industry rival portfolios to each turnover company. To obtain as precise a picture as possible, I used small intervals of BHARs, i.e., fifty-day steps from 0 to 250 trading days. I chose a maximum of 250 trading days to approximately measure the valuation effects over the course of one year. Using the Fama and French (1993) three-factor model,⁴⁰ I also calculated the BHARs for the different intervals T for each company, as follows:

$$BHARS_{i,T} = \left[\prod_{t=T}^T (1 + R_{i,t}) \right] - \left[\prod_{t=T}^T (1 + \alpha_i (R_{m,t} - R_{f,t}) + \beta_i SMB_t + \gamma_i HML_t) \right].$$

where $R_{i,t}$ is the return of company i on day t , $R_{m,t}$ is the market return, and $R_{f,t}$ is the risk-free rate. SMB corrects for the size effect by taking into account the difference between the returns of large and small stocks. HML corrects for book-to-market differences.

Because historical data for Germany is not readily available, I obtained the Fama and French (1993) factors by creating proxies on these variables as per Cremers, Petajisto, and Zitzewitz (2010), Pham (2007), Cuthbertson, Nitzsche, and O'Sullivan (2008), and Faff (2003). For the calculations, I used the MSCI Germany Value and Growth indexes for small and large caps, the MSCI Germany Value and the MSCI Germany Growth Index for low and high book-to-market firms, and the MSCI Germany Standard Index as a market reference.

⁴⁰ I also calculated BHARs using the market model based on the CDAX as well as the Carhart (1997) four-factor model. Results remain quantitatively and qualitatively similar, and are available from the author upon request.

I used various test statistics to draw inferences from my results. Along with standard t-statistics, I used the Wilcoxon (1945) rank sum z-score, and the Johnson (1978) test to eliminate the skewness bias often present in long-run abnormal return studies.

In addition to the BHARs analysis, I also conducted regression analyses. To correct for heteroscedasticity, I used least squares estimation according to White (1980). I conducted regressions for the 150-, 200-, and 250-day windows in order to show the effects of turnover reason and succession type over time.⁴¹

The OLS regressions for the different windows are all based on Equation (2). I explain the BHARs by using a block of explanatory turnover variables $\sum \beta_{ETV} * ETV$, a block of management and turnover control variables $\sum \beta_{MTCV} * MTCV$, and a block of intra-industry rival company control variables $\sum \beta_{CCV} * CCV$:

BHARs (intra-industry rivals)

$$= \beta_0 + \sum_{j=1}^{j=J} \beta_{ETV} * ETV_j + \sum_{l=1}^{l=L} \beta_{MTCV} * MTCV_l + \sum_{m=1}^{m=M} \beta_{CCV} * CCV_m + \epsilon.$$

IV.3.4. Dependent variables

Buy-and-hold abnormal returns (intra-industry rivals). The dependent variable in the regressions is the BHARs of the intra-industry rival portfolios following a CEO or CFO turnover announcement for the 150-, 200-, and 250-day windows. Because the duration of the transition period differs according to the respective situation of the turnover company (Shen, 2003), I use varying periods of up to one year to illustrate the different effects over time (Gabarro, 1987; Hambrick and Fukutomi, 1991).

IV.3.5. Explanatory turnover variables

Turnover reason. To test Hypothesis IV-2, I included turnover reason in my regression analyses. The dummy variable is equal to 1 if the turnover was forced, and 0 if the turnover was routine (Adams and Mansi, 2009; Parrino, 1997).

⁴¹ Note that days in this context refers to trading days of the stock market, not calendar days.

Successor origin. To test Hypothesis IV-3, I included successor origin in my regression analyses. The dummy variable is equal to 1 if the successor was an outsider, and 0 if the successor was an insider.

IV.3.6. Control variables – manager and turnover variables

Turnover type. I included both the CEO and CFO as individuals representing top managers. To control for whether the market reacts differently to a CEO turnover than to a CFO turnover, I included a dummy variable equal to 1 for a CEO turnover, and 0 for a CFO turnover.

Joint turnover. When more than one management turnover is announced at the same time, market reactions may naturally be stronger. To control for this possibility, I included a dummy variable that is equal to 1 if a firm announced a CEO and CFO turnover on the same day, and 0 otherwise.

Tenure departing manager. To control for a possible effect of the tenure of the departing top manager, for example, due to job fatigue, I included this variable, measured as the number of years the top manager worked for the company.

IV.3.7. Control variables – intra-industry rival company variables

Prior stock performance. To control for the effect of the turnover company's prior market performance, I included a measure of compounded market returns (Graffin, Carpenter, and Boivie, 2011).

Return on assets t-1. To control for prior profitability, I included the return on assets of the last fiscal year of the turnover company, measured in percent.

Herfindahl Hirschman index. To control for the effects of industry concentration, I included the Herfindahl Hirschman index based on sales (Datta and Rajagopalan, 1998).

$$HHI_{j,t} = \sum_{i=1}^{N_j} s_{ijt}^2$$

where s_{ijt} represents the market share of firm i (based on sales) in industry j at turnover day t , and N is the number of firms in the industry. I again used the four-digit SIC code from *Thomson Worldscope* for industry classification.

Firm size. To control for firm size, I included the size of a firm as the natural logarithm of total assets in €millions (Firth, 1996; Makino and Delios, 2000).

Current ratio. To control for the effects of a firm's liquidity, I included the current ratio, defined as current assets over current liabilities.

Investment. Investment is defined as the amount of capital expenditures, divided by lagged net property, plant, and equipment, in order to control for a company's investment policy.

Price/earnings ratio. Price/earnings ratio is defined as the ratio of price per share at year-end, divided by earnings per share.

Closely held shares. To control for the effects of ownership structure, I included closely held shares as a measure of insider ownership.

IV.4 Empirical results

IV.4.1 Transition-period valuation effects

I first analyzed the BHARs for the entire sample of companies with a CEO (172) or CFO (172) turnover over various periods of up to one year to measure transition-period valuation effects (see Table IV-4). I found no significant BHARs in any tested event window between the 50- and 200-day windows for the companies with either a CEO or CFO turnover. Only over the 250-day window were the companies able to achieve positive BHARs of 5.48%, at a 5% significance level.

This is in line with my arguments that a management turnover is followed by a transition period in which positive abnormal returns are at first very limited or non-existent. It seems, however, that turnover companies are able to overcome initial stagnation and achieve positive returns between 200 and 250 days after the turnover

announcement. I interpret this as a sign that initiated major strategic changes on average become visible around this time.

In contrast, for the intra-industry rivals to the turnover firms, I found highly significant positive BHARs over all the analyzed event windows. Positive BHARs begin in the first period, with 3.51% abnormal returns over the 50-day window, and increase almost monotonically to 12.27% over the 250-day window. This is strong evidence for my Hypothesis IV-1 that I expect a *positive information effect* for intra-industry rivals to an announcing firm after a top management turnover that will result in positive abnormal stock price reactions. The difference in means tests for announcing firm and intra-industry rival BHARs show that intra-industry rival BHARs are significantly higher for all analyzed event windows: Over the 250-day window following the turnover, intra-industry rivals outperform turnover firms on average by 6.8%, further supporting my argument that they are able to use the transition period to their advantage.

Table IV-4.
BHARs to turnover announcement
(entire sample)

Event window	Turnover firms			Rival portfolios			Difference in mean	
	Mean	t-value	N	Mean	t-value	N	Difference	t-value
50	0.24%	0.2553	344	3.51%	4.4984***	330	-3.27%	-2.6688***
100	-0.73%	-0.5749	344	6.86%	5.8384***	330	-7.59%	-4.3870***
150	-0.67%	-0.3785	344	9.26%	6.7341***	330	-9.93%	-4.4487***
200	1.90%	0.9429	344	11.30%	6.3110***	330	-9.40%	-3.4830***
250	5.48%	2.2134**	340	12.27%	5.7308***	326	-6.79%	-2.0758**

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

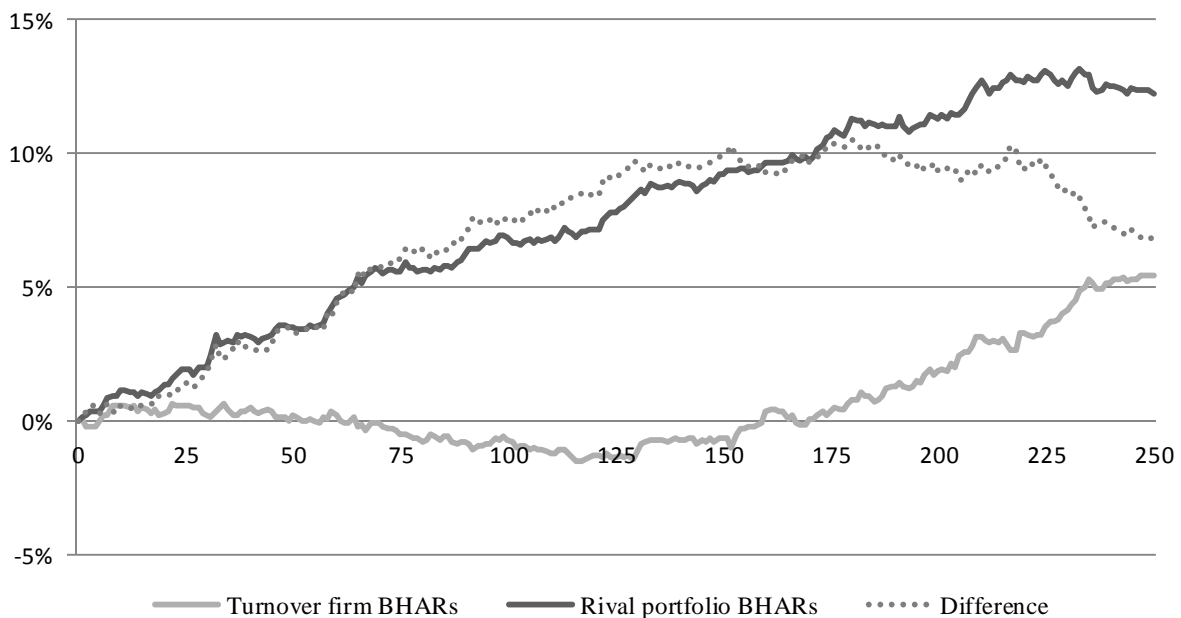
A daily examination (see Figure 1 for a graphic depiction) reveals that the announcing firm's BHARs remain at around 0% abnormal returns for the first 170 days,⁴² increasing thereafter. This is also in line with my arguments, and can be interpreted as the point at which the successor's actions on average begin to become effective and

⁴² The BHARs are marginally positive directly after the turnover announcement, and then turn negative. Day 170 is the first day after which the BHARs do not turn negative again, but continue to rise.

more visible to the capital markets. The intra-industry rival BHARs are instead positive from the first day after the turnover, increasing constantly until the returns level at around 200 days. This supports the *positive information effect*.

The stagnation of the turnover firm BHARs, combined with the increase in the intra-industry rival BHARs, leads to a maximum difference in valuation of about 10% between day 125 and day 225. This difference can be interpreted as an outperformance of intra-industry rivals over the turnover firms, and hence a relative wealth effect. However, it seems that once the turnover firm's period of stagnation ends and the BHARs become positive at day 170, this increase is larger than that for intra-industry rival firms, reducing the prior outperformance again. This could indicate that major actions taken by successors start to become effective on average at this time, ending the stagnation phase and giving positive signals to the capital markets.

Figure IV-1.
BHARs to turnover announcement
(entire sample)



I also performed various tests for the CEO and CFO subsamples, which I do not report here. I found no significant differences between the two subsamples, for neither the announcing firms nor the intra-industry rival portfolios. The effects therefore seem

unaffected by departing position type. I consider this as support for my decision to extend my research by also including other top management team members (Finkelstein, Hambrick, and Cannella, 2009). I will explore the impact of turnover type in more detail later when I examine the control variables of my regressions.

IV.4.2. Valuation effects for forced versus routine turnovers

I next compare the effects from forced versus routine turnovers on BHARs for turnover firms and their intra-industry rivals. Forced turnovers (see Table IV-5) resulted in negative BHARs for turnover companies in all tested windows between the 50- and 200-day windows, of which the 100- and 150-day windows were statistically significant at the 1% level. For the 250-day window, the BHARs are close to 0% and statistically insignificant. These negative stock price reactions, especially at the beginning, likely stem from the problems that result on average from forced turnovers. They can be seen as an indication that intra-industry rivals are liable to take advantage of this period of relative weakness, and attempt to profit from the situation.

As I expected, the intra-industry rival portfolios show positive and statistically significant BHARs for all event windows at the 1% level after forced top management turnovers. The differences between the turnover firms and the intra-industry rival portfolios are statistically significant for all windows, and show a 21.8% average outperformance of the intra-industry rivals, the largest during the 150-day window. This further confirms my argument that the more intense transition period after a forced turnover can be used very effectively by intra-industry rivals, resulting in *positive information effects* and a strong outperformance of stock prices.

Table IV-5.
BHARs to turnover announcement
(subsample forced)

Event window	Turnover firms			Rival portfolios			Difference in mean	
	Mean	t-value	N	Mean	t-value	N	Difference	t-value
50	-2.43%	-1.3728	132	4.10%	3.0825***	107	-6.52%	-2.9489***
100	-6.24%	-2.7215***	132	8.22%	4.0618***	107	-14.46%	-4.7280***
150	-10.45%	-3.7022***	132	11.32%	5.3066***	107	-21.77%	-6.1536***
200	-4.27%	-1.0878	132	15.41%	5.2888***	107	-19.68%	-4.0250***
250	0.25%	0.0554	129	16.21%	4.8247***	107	-15.96%	-2.8602***

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

The results for the routine subsample of turnover firms, in contrast, exhibit positive and significant BHARs for all tested windows (see Table IV-6). This is plausible, because, in routine turnover cases, succession planning has often occurred, and tends to include an orderly transition from predecessor to successor. Ideally, this should result in a smooth transition and a continuation of operations with little interference compared to forced turnovers.

The BHARs of the intra-industry rival portfolios are again all positive and highly significant at the 1% level. The difference in means tests show that the turnover firm returns are positive and significant, but the size of the positive BHARs for the intra-industry rival portfolios is still larger. However, the only significant differences at the 5% level occur during the 100-day window, with a 3.51% average underperformance of the announcing firms. This supports that routine turnovers are less disruptive for turnover firms, resulting in a less intense transition phase, fewer possibilities for exploitation by intra-industry rivals, and hence only a small and insignificant *positive information effect*.

Table IV-6.
BHARs to turnover announcement
(subsample routine)

Event window	Turnover firms			Rival portfolios			Difference in mean	
	Mean	t-value	N	Mean	t-value	N	Difference	t-value
50	1.90%	1.8102*	212	3.23%	3.3486***	223	-1.32%	-0.9279
100	2.70%	1.8749*	212	6.21%	4.3007***	223	-3.51%	-1.7197**
150	5.42%	2.5266**	212	8.28%	4.7052***	223	-2.85%	-1.0269
200	5.75%	2.6799***	212	9.33%	4.1584***	223	-3.58%	-1.1538
250	8.67%	2.9933***	211	10.34%	3.7927***	219	-1.67%	-0.4194

* Indicates statistical significance at the 10% level.

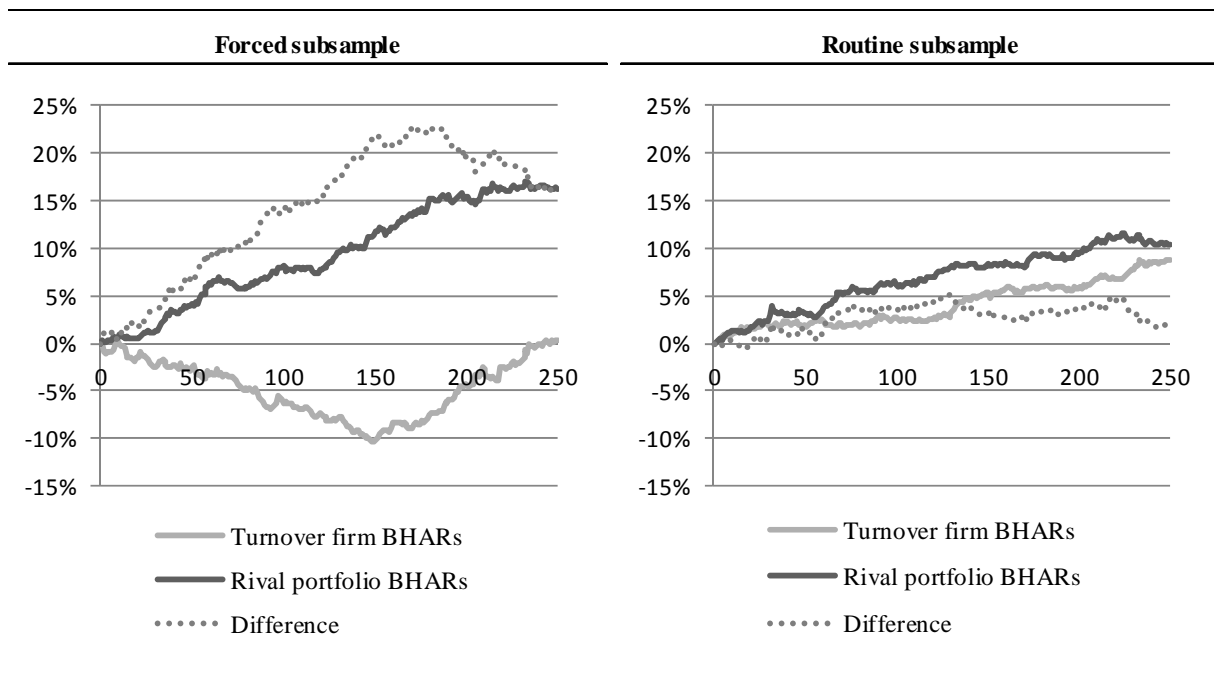
** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

A daily examination (see Figure 2 for a graphic depiction) shows that the initial BHARs for the forced subsample of turnover firms become positive after the first downturn at day 243. The maximum difference between the turnover firm BHARs and the intra-industry rival firm portfolio BHARs for the forced subsample is at day 180, with 22.9%. For the routine subsample, I note a parallel movement of BHARs for turnover firms and rival portfolios, although the rivals' BHARs are slightly more positive, as I found above.

The maximum difference between turnover firms and rival portfolio BHARs in the routine subsample occurs at day 129, with only a 5.2% difference. If I compare these findings, I note that the time and the size of the maximum difference further support my argument that forced turnovers are much more disruptive. Forced turnovers lead to strong *positive information effects* for intra-industry rivals compared to routine turnovers, and they result in a substantial stock price outperformance.

Figure IV-2.
BHARs to turnover announcement
(forced and routine subsamples)



Finally, I conduct additional difference in means tests to compare forced versus routine turnovers for the turnover firm sample and the intra-industry rival portfolio sample (see Table IV-7). I find that the difference in turnover firm BHARs between forced and routine is significant for all tested windows. This is as expected, given that turnover firms will tend to experience longer and more intense transition periods in the case of forced turnovers.

The difference in rival portfolio BHARs, in contrast, exhibits higher abnormal returns after forced turnovers, but is only significant for the 200- and 250-day event windows. For the other windows, the difference is in the expected direction, but does not seem strong enough to be statistically significant. This may be explained by the rather small sample size. This test also qualitatively supports my Hypothesis IV-2, that forced turnovers will be followed by stronger *positive information effects* and a larger outperformance of intra-industry rivals over turnover companies than routine turnovers. I will explore the role of turnover reason in more depth later when I perform the regression analyses.

Table IV-7.
Differences in mean BHARs after forced versus routine turnovers

Table 7 - Differences in Mean BHARs after Forced versus Routine Turnovers

Event window	Turnover firms		Rival portfolios	
	Difference (forced-routine)	t-value	Difference (forced-routine)	t-value
50	-4.33%	-2.1049**	0.87%	0.5296
100	-8.94%	-3.3018***	2.01%	0.8083
150	-15.87%	-4.4762***	3.05%	1.1019
200	-10.02%	-2.2393**	6.08%	1.6537**
250	-8.43%	-1.5854*	5.87%	1.3556*

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

IV.4.3. Valuation effects for outsider versus insider successions

I now turn to a comparison of transition-period valuation effects based on successor origin. My analysis of turnover firm BHARs for the outsider (see Table IV-8) and insider (see Table IV-9) subsamples shows insignificant returns for all tested event windows, except for the 250-day window after insider successions.

The BHARs for the corresponding intra-industry rival portfolios are again significantly positive, and increase over time for all windows for both origin types. Accordingly, the difference in means tests for both subsamples show a highly significant outperformance of intra-industry rivals over both insider and outsider successions, except for the 250-day window after outsider successions. These findings are again all in line with my theoretical argument that a transition period with relative stagnation will occur for outsider and insider successions that can then be exploited by intra-industry rivals, resulting in *positive information effects* for them.

Table IV-8.
BHARs to turnover announcement
(subsample outsider)

Event window	Turnover firms			Rival portfolios			Difference in mean	
	Mean	t-value	N	Mean	t-value	N	Difference	t-value
50	-0.03%	-0.0212	173	3.57%	2.6665***	128	-3.60%	-1.8862**
100	-1.91%	-1.0825	173	6.65%	3.4711***	128	-8.56%	-3.2865***
150	-1.58%	-0.6146	173	8.53%	4.2449***	128	-10.11%	-3.0945***
200	1.52%	0.5704	173	8.37%	3.3884***	128	-6.85%	-1.8856**
250	4.89%	1.4486	172	9.23%	3.2476***	128	-4.35%	-0.9853

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

Table IV-9.
BHARs to turnover announcement
(subsample insider)

Event window	Turnover firms			Rival portfolios			Difference in mean	
	Mean	t-value	N	Mean	t-value	N	Difference	t-value
50	0.51%	0.3915	171	3.47%	3.6393***	202	-2.95%	-1.8219**
100	0.46%	0.2534	171	6.99%	4.6913***	202	-6.53%	-2.7681***
150	0.26%	0.1104	171	9.73%	5.2449***	202	-9.47%	-3.1259***
200	2.29%	0.7526	171	13.16%	5.3333***	202	-10.87%	-2.7734***
250	6.08%	1.6725*	168	14.23%	4.7356***	198	-8.15%	-1.7280**

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

However, when I examine outsider and insider successions on a daily basis (see Figure 3 for a graphic depiction), and using difference in means tests (see Table IV-10), I find the differences are not significant in most cases. Thus, in terms of valuation effects, the market participants do not seem to distinguish between successor origins in their evaluation of the turnover process. However, the differences indicate that the outperformance of intra-industry rivals is larger after insider successions in most windows. In light of my literature-based argument of a more intense transition period after outsider successions, it is somewhat surprising that the *positive information effect* for intra-industry rivals does not seem stronger after outsider than insider successions. However, one explanation could be that both the *positive and negative information effects* after an outsider succession offset each other, resulting in smaller positive information effects than are seen after insider successions. Yet these results are only

preliminary, and I will examine the influence of succession type in more detail next, when I perform the regression analyses and control for other possible explanatory factors.

Figure IV-3.
BHARs to turnover announcement
(outsider and insider subsamples)

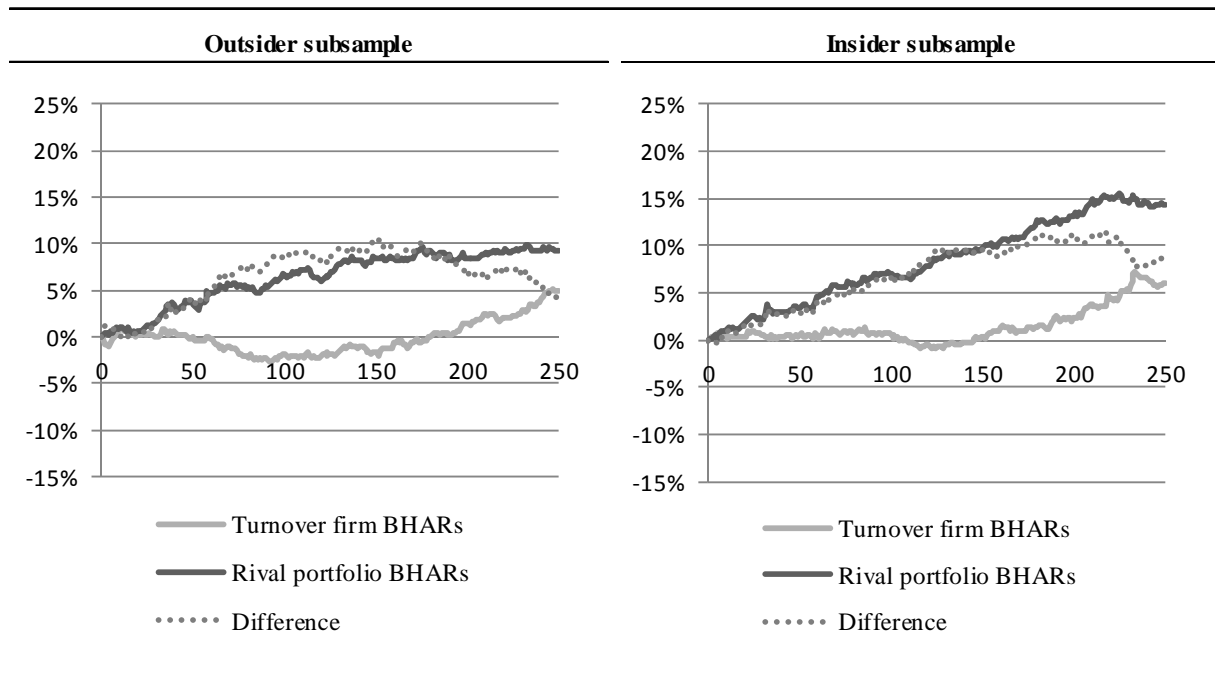


Table IV-10.
Differences in mean BHARs after outsider versus insider turnovers

Event window	Turnover firms		Rival portfolios	
	Difference (outsider-insider)	t-value	Difference (outsider-insider)	t-value
50	-0.54%	-0.2871	0.10%	0.0621
100	-2.37%	-0.9340	-0.35%	-0.1423
150	-1.85%	-0.5254	-1.20%	-0.4406
200	-0.77%	-0.1906	-4.79%	-1.3706*
250	-1.19%	-0.2403	-4.99%	-1.2070

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

IV.4.4. Regression analyses

In the prior section, I calculated BHARs for both turnover firms and intra-industry rival portfolios for the entire sample and various subsamples. My results suggest that, overall, turnovers are followed by a period of stagnation for the turnover companies. Furthermore, intra-industry rivals can profit from the resulting *positive information*

effects, leading to strong positive abnormal returns. In line with my arguments, the BHARs for the intra-industry rivals were much stronger following forced than routine turnovers. However, although intra-industry rival BHARs were also strongly positive after insider and outsider successions, I found some evidence that they are even larger following insider successions, which is contrary to my hypothesis.

In order to test the effects of turnover reason and successor origin on the reactions of intra-industry rivals at the same time, I next performed various regression analyses (see Table IV-11). This allows me to use the BHARs of intra-industry rivals as the dependent variable for the entire sample, to include turnover reason and successor origin as explanatory variables, and also to control for alternative factors that may be influencing rival reactions.

I decided to examine several different event windows, because the length of the transition period depends on many factors (Shen, 2003), but usually lasts about one year (Gabarro, 1987; Giambatista, Rowe, and Riaz, 2005; Hambrick and Fukutomi, 1991). I report three models of regressions on intra-industry rival BHARs for the 150- (model 1), 200- (model 2), and 250-day windows (model 3).

The results of Breusch-Pagan tests (1979) show the presence of heteroscedasticity in my data,⁴³ so I use White's (1980) heteroscedasticity-consistent standard errors and covariances. In order to control for possible multicollinearity, I also calculated the variance inflation factors (VIF).⁴⁴ All VIFs were well below the critical value of 5 (Kutner et al., 2005), with a maximum of 2.5 and a mean of 1.38. Multicollinearity should therefore not influence my results.

For all event windows, the results of the regressions on intra-industry rival BHARs show that the turnover reason dummy variable, indicating a forced turnover, has a consistently positive effect (models 1 to 3). The coefficient becomes larger as the length of the analyzed event period increases. The turnover reason dummy variable is

⁴³ The results of the tests are not reported here, but are available from the author upon request.

⁴⁴ See appendices IV-A, IV-B, and IV-C for the correlation tables for all three regressions. Maximum and mean VIFs are in Table IV-11. All other VIFs are available from the author upon request.

not significant for the 150-day window, but it becomes significant at the 5% level for the 200-day window, and at the 10% level for the 250-day window.

These results are consistent with the difference in means tests for the forced and routine turnover subsamples, which also showed significantly larger intra-industry rival BHARs after forced turnovers for the 200- and 250-day windows but not for the 150-day window. Note, however, that the positive coefficient does not imply a *negative information effect* for routine turnovers – intra-industry rival BHARs are also significantly positive after routine turnovers. Rather, it implies that the *positive information effect* is larger after forced turnovers. My Hypothesis IV-2 thus receives further support: Forced top management turnovers are followed by larger *positive information effects* and BHARs for intra-industry rivals than routine turnovers, which I argue results from the more intense transition period for the turnover company after a forced turnover.

The successor origin dummy variable for an outsider succession shows that, in contrast to my theory, intra-industry rival BHARs are actually significantly lower after outsider than insider successions. The coefficients are consistently negative in all models, and significant at the 5% level over the 200-day window and at the 10% level over the 150- and 250-day windows. The results of the regression analysis thus shed more light on my findings from the difference in means tests for intra-industry rival BHARs after outsider versus insider successions. Because the higher BHARs of intra-industry rivals after insider successions are constant over time, I believe that the capital markets differentiate between insider and outsider successions, contrary to my expectations.

There may be several reasons for these findings. Contrary to my arguments, there may actually be a less intense transition period for outsiders than for insiders. The outsider successor may be given a stronger mandate for change, and a need for major action may be more generally accepted by the top management team and supervisory board (Karaevli, 2007). This could result in stronger support and discretion to undertake the desired changes, even early in a manager's tenure.

However, my analysis of turnover firm BHARs shows that both insider and outsider successions are followed by a period of stagnation, and, although the difference is insignificant, it seems (if anything) more intense for outsiders. I therefore argue more in favor of my second possible explanation: There is a stronger expectation that outsiders will initiate major changes in a company than there is for insiders. The result might be more meaningful in the long run, and may be directed at strengthening a company's competitive position. The exact changes made by an outsider will at first usually be unknown to intra-industry rivals, resulting in an increased level of uncertainty over outsider actions compared to insider actions. The combination of both factors, the anticipation of major strategic changes and the increased level of uncertainty, could result in a *negative information effect* for intra-industry rivals. The *positive information effect* due to the more intense transition period after an outsider succession could to some extent be offset by this *negative information effect*, and result in industry rivals possibly being more reluctant to actively exploit the transition phase until they know which direction the turnover firm will move in.

For insider successions, in contrast, there is usually a lower level of uncertainty over possible strategic actions, and thus intra-industry rivals could have more clear ideas of how to exploit the transition phase. The *negative information effect* resulting from anticipated major strategic changes will hence be absent, and I may then observe larger abnormal returns for intra-industry rivals. However, little is known about how investors differentiate between insider and outsider successions in their evaluation of intra-industry rivals, thus, a more detailed analysis of the various information effects could be a promising avenue for future research.

The results for the control variables are fairly consistent across the tested event windows. The joint turnover variable, defined as the announcement of a joint CEO and CFO turnover on the same day, provides an additional robustness check on my findings. When two or more top managers leave a company at the same time, the situation is obviously more disruptive than after a single turnover. The loss of human capital is more severe, and the transition phases of both successors will likely be more intense. Intra-industry rivals are thus likely to have more possibilities to exploit this

situation, and to outperform the turnover company. This is supported by the consistently statistically larger abnormal returns for intra-industry rivals following a joint turnover.

Prior company stock performance is also positive and significant across all models, indicating that good performance of intra-industry rivals prior to the turnover is likely to continue afterward. Return on assets of the last fiscal year is also significant across all models, but, in contrast to prior stock performance, is slightly negative. However, the coefficients are fairly small, so their effects on the stock price increases of intra-industry rivals are limited. Finally, the investment control variable is negative and highly significant across all tested models, implying a lower stock price increase after a competitor's management turnover for higher levels of investment.

Table IV-11.
Regressions on intra-industry rival BHARs for various event windows

	Model 1	Model 2	Model 3
Sample	entire sample	entire sample	entire sample
Dependent Variable	BHARs (rivals) 150 days	BHARs (rivals) 200 days	BHARs (rivals) 250 days
Constant	0.040 (0.203)	-0.015 (0.243)	0.006 (0.279)
Explanatory Variables			
Turnover reason (dummy)	0.068 (0.052)	0.150 ** (0.072)	0.165 * (0.087)
Successor origin (dummy)	-0.090 * (0.050)	-0.157 ** (0.067)	-0.137 * (0.080)
Control Variables			
Turnover/Manager Variables			
Turnover type (dummy)	-0.054 (0.041)	-0.027 (0.054)	-0.035 (0.065)
Joint turnover (dummy)	0.205 ** (0.098)	0.225 * (0.116)	0.255 * (0.151)
Tenure departing manager	0.003 (0.002)	0.004 (0.003)	0.005 (0.003)
Company Variables			
Prior stock performance	0.161 ** (0.065)	0.207 ** (0.094)	0.218 ** (0.109)
Return on assets t-1	-0.006 ** (0.003)	-0.007 ** (0.004)	-0.006 * (0.004)
Herfindahl-Hirschman index	0.281 (0.177)	0.289 (0.224)	0.391 (0.250)
Firm size	-0.004 (0.015)	-0.002 (0.018)	-0.007 (0.021)
Current ratio	-0.002 (0.017)	0.009 (0.021)	-0.004 (0.022)
Investment	-0.068 *** (0.014)	-0.070 *** (0.019)	-0.061 *** (0.021)
Price/earnings ratio	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Closely held shares	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Included observations	148	148	148
R-squared	21.69%	20.37%	15.92%
Adjusted R-squared	14.09%	12.65%	7.76%
F-statistic	2.855	2.637	1.952
Prob(F-statistic)	0.001	0.003	0.030
Variance inflation factors (maximum)	2.50	2.50	2.50
Variance inflation factors (mean)	1.38	1.38	1.38

Standard errors in parentheses.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

IV.5 Discussion and conclusion

This chapter began with the assumption that the job transition of a new top manager varies across situations, and that various factors influence the transition's intensity (Shen, 2003). I extend prior literature by explicitly analyzing capital market effects for the period following a management turnover, and I show empirically that a period of stock price stagnation generally results for turnover companies.

To conduct my analysis, I chose Germany, a country that provides low managerial discretion. In such a context, the differences in skills and ability between predecessor and successor are expected to be relatively unimportant in determining managerial actions. I therefore expect the clearest effects for the transition period to be those not diluted by individual manager attributes.

I analyzed BHARs for different periods of up to one year following a CEO or CFO turnover announcement, and overall found no significant positive abnormal returns for turnover firms following the announcement. I consider this strong support for the existence of a transition period that is characterized by relative stagnation of the turnover company. Subsample comparisons showed that such a period exists independent of the type of manager turnover (e.g., CEO or CFO) or successor origin (e.g., outsider or insider successor). It was also found to exist after forced turnovers. However, the only subsample that did not seem to experience a period of substantial stagnation is routine turnovers, which were on average followed by positive BHARs. This is not surprising, because, as the name implies, routine turnovers should be the least disruptive type, and are ideally minimized in their "significance" for companies (Vancil, 1987).

My second and major finding refers to the industry-wide influences of management turnovers. I am the first to theoretically argue and empirically show that intra-industry rivals can exploit the relatively disruptive situation of the turnover company to achieve significantly positive BHARs for themselves. This is largely because they stay fully operational during that time. I show that *positive information effects* exist after all types of turnovers, and that positive abnormal returns are larger for forced than routine

turnovers. I consider this as support for my argument that the disruption and the more intense transition phase at turnover companies is stronger after forced than routine turnovers, and can thus provide more potential for exploitation.

Interestingly, and contrary to my expectations, I found no evidence that stronger disruptions after outsider successions lead to larger abnormal returns for intra-industry rivals. In contrast, insider successions were followed by larger rival BHARs. The most likely explanation for this is that rivals are more reluctant to actively engage in exploiting the transition period of an outsider succession. Such successions are often linked to major strategic changes after the transition phase, but the nature and direction are unknown at the time of the announcement. The potential changes may ultimately increase the competitive position of the turnover company, thus acting as *negative information effects*.

The *positive information effects* resulting from the transition period may therefore be partially offset if intra-industry rivals decide to wait to engage in countermeasures until they have more information about changes at the turnover company. Because the different information effects of insider versus outsider successions on intra-industry rival reactions seem relevant but are not yet fully understood, a more detailed analysis of these factors would be a useful avenue for future research.

In general, I conclude that management turnovers are at first bad news for turnover companies, but good news for intra-industry rivals: A change in top management is not valued immediately by the capital markets, but instead – even for a routine turnover – it results in intra-industry rivals temporally profiting. I therefore interpret my findings as a signal of an overall *positive information effect* for intra-industry rivals, resulting from an increase in their competitive situation.

My study contributes to two different strands of literature in management turnover research. First, I empirically extend the literature on transition-period effects following management turnovers and life cycles (Gabarro, 1987; Giambatista, 2004; Hambrick and Fukutomi, 1991; Vancil, 1987). Prior findings have been based primarily on qualitative studies, but I also provide support for the transition period on a quantitative

basis, thus answering the call of Giambatista, Rowe, and Riaz (2005) to increase research using this important theoretical focus. Second, I also extend the literature on competitive dynamics (Hughes-Morgan, Ferrier, and Labianca, 2011; Ketchen, Snow, and Hoover, 2004; Tsai, Su, and Chen, 2011). I find some preliminary evidence that management turnovers are not only a single company issue, but have important impacts for other firms in the same industry as well.

Furthermore, from a practical management perspective, certain implications can arise from a turnover situation. Turnover companies must ask themselves whether they can aim to avoid stagnation and the resulting positive effects for intra-industry rivals. Better process management of the turnover, including the planning, managing, and communicating to investors, is likely to alleviate the stock market effects. Investors need to be convinced that the transition will be smooth, with as minimal a disruption as possible, to prevent them from reallocating their funds to intra-industry rivals during the transition period. Future research might focus more on the practical relevance of this important research area of information effects for intra-industry rivals.

This study has shown that the transition period of new top managers differs by context, but I do not focus here on determining the exact lengths of such periods. It was also not my intention to examine what actions top managers take during the transition phase that eventually end the stagnation, nor was I able to focus here on the responses of intra-industry rivals when exploiting the transition period. Future studies may want to consider these issues in more detail, in order to further increase the understanding of the transition period and the competitive dynamics effects.

V. Discussion

V.1 Purpose of dissertation

The purpose of this dissertation was to analyze capital market reactions to top management turnovers in a low discretion country. Using a combination of upper echelons theory and capital market theory, I explored different aspects of top management turnover along three separate research objectives. The dissertation sought to explain short-term capital market reactions around the turnover and to investigate the influence of sudden announcements of top management departure. Further, the dissertation examined the consequences of top management turnover on both short- and long-term stock price volatilities, as well as on changes in systematic risk. Lastly, the dissertation investigated transition-period performance effects over the course of one year for the turnover companies and showed the influence of top management turnovers on intra-industry rival firms. In the next section, I will give an overview of the main findings for each research objective and then compare the overall findings.

V.2 Overview and comparison of key findings

V.2.1. Overview of key findings

In summarizing my results, I find that capital market reactions to top management turnovers seem to be strongly influenced by the managerial discretion a country offers. Using upper echelons theory and the concept of managerial discretion, my findings suggest that managers are limited in their discretion and that capital markets are aware of this situation. This leads to results that differ from studies examining turnovers in the context of high managerial discretion. The key findings for each research objective are presented next.

Research objective 1: *Examine the capital market reactions to top management turnovers in a low discretion country and analyze the effects of turnover expectedness.*

In order to address the first research objective, I applied standard event study methodology to measure abnormal stock returns around the announcement of CEO and CFO turnovers in Germany. Overall, I observed no significant abnormal returns, either for the CEO or for the CFO subsamples. This supports my argument that top managers are limited in their possibilities to influence company performance in a country providing only low managerial discretion. Dividing my overall sample into subsamples of unexpected and expected turnover announcements, I find significant negative abnormal returns following an unexpected turnover announcement and significant positive abnormal returns prior to expected turnover announcements. These results suggest that information processing takes place around a turnover announcement that is independent of the individual managers changing. Uncertainty of capital market participants over the informational content of a turnover announcement, for example, the true reasons leading to a turnover or possible consequences, should result in a temporal risk premium reflected in lower stock prices for the uncertainty period. For an unexpected turnover, this uncertainty arises suddenly at the time of announcement and is resolved over the ensuing days, as performance expectations are updated. For an expected turnover announcement, information processing occurs prior to the final announcement, and the uncertainty lessens along with the turnover's increasing probability. Also controlling for classical factors in top management turnover research, i.e. forced versus routine turnovers and insider versus outsider succession, did not alter my results. I therefore conclude that in a low discretion country, individual top managers seem to be rather interchangeable from a capital market perspective, and the observed stock price reactions result primarily from uncertainty during the information processing period around the announcement.

Research objective 2: *Examine the short- and long-term volatility and systematic risk consequences of a top management turnover in a low discretion country.*

In order to address the second research objective, I used a context of low managerial discretion to theoretically and empirically distinguish in a top management turnover context between short-term uncertainty resulting from the information processing and

long-term uncertainty resulting from possible strategic change initiated by the successor. My results indicate that in a low discretion context, uncertainty and hence volatility on average increases in the short-term, because capital market participants must evaluate a great amount of information that is released concurrently with the turnover announcement. My findings show that forced turnovers lead to greater short-term volatility increases than do routine turnovers, which suggests that forced turnovers result in higher information uncertainty and thus are seen as more disruptive by capital market participants. The results further indicate both outsider and insider successions lead to higher short-term volatility increases, indicating that capital market participants on average experience a comparable information uncertainty and do not differentiate in their evaluation based on the succession types.

My results for the analysis of long-term effects show that on average neither the level of volatility increases nor does the systematic risk change after a top management turnover in a low discretion country. As expected, this suggests that top managers in low discretion countries are greatly restricted in their possible influence concerning company outcomes, and hence uncertainty over possible strategic change resulting from a top management turnover should be limited. In contrast to prior studies in high discretion countries that have found long-term volatility increases, I find that volatility decreases in the long-term, especially after routine turnovers and insider successions. Capital market participants in a low discretion country appear to attribute only a limited influence to individual top managers in changing company strategy; in cases of routine turnovers or insider successions, they even evaluate it as a positive signal, reducing their overall risk level. My findings therefore clearly highlight the need to consider uncertainty resulting from information processing as an important source of short-term volatility dynamics, independent of uncertainty about long-term strategic changes attributable to an individual manager.

Research objective 3: *Examine the capital market consequences of the transition period following a top management turnover for turnover firms and intra-industry rivals.*

In order to address my third research objective, I analyzed abnormal stock price reactions during the transition period in which a new manager moves into the job for both turnover firms as well as their intra-industry rivals. I argued theoretically that a management turnover is followed by a transition period resulting in a period of relative stagnation, as the new manager first must adapt to the new job and all processes involved. In support of this argument, I observed no significant stock price reaction for the turnover company in the year following a CEO or CFO turnover, except for the routine subsample. Further, my findings showed that intra-industry rivals of a turnover company seem able to exploit the disruption and relative stagnation of a turnover company, leading to a positive information effect, reflected in significant positive abnormal returns. In line with my expectation, I find that the abnormal returns for intra-industry rivals are greater for forced than routine turnovers, because forced turnovers should result in more intense transition periods and provide more exploitation possibilities for rivals. Although outsider successions likewise often are considered to be more disruptive than insider successions, I observed no stronger abnormal returns for intra-industry rivals. A possible explanation for this is a negative information effect resulting from a higher likelihood of strategic change following an outsider succession that partly offsets the positive information effect from the transition period. Intra-industry rivals may be more careful with actions directed at increasing competitive advantages after an outsider succession until they attain more knowledge over which actions will be pursued.

I therefore conclude that initially, top management turnovers are bad news for the turnover companies, because capital markets do not place an immediate positive value on such management changes. At the same time, top management turnovers are good news for intra-industry rivals, which temporally profit from a competitive advantage and achieve positive abnormal returns.

V.2.2. Comparison of key findings

My three research objectives in this dissertation all analyze capital market consequences of top management turnovers in a low discretion country. While they take different angles to answer separate questions using different methodologies, they

are, however, all interconnected through the same theoretical foundation and underlying sample. For these reasons, it is expedient to compare the findings of the individual research objectives to gain a more comprehensive picture.

Each of my research objectives sheds light on the importance of top managers for company performance in a low discretion country. While the first research objective focused on the absolute stock price development around top management changes, the second focused on volatility and beta effects following management turnovers. In both studies, I find no evidence that the exchange of individual top managers exerts any significant influence on the analyzed measures. Further, the results obtained from the third research objective support the view of limited managerial influence, because the turnover firms do not experience abnormal returns in the year following the turnover. Hence, the theoretical argument of low managerial discretion and the limited performance influence of top managers receive strong empirical support from my findings, as no persistent changes following the turnover can be observed. I therefore draw the conclusion that individual top managers in a low discretion country seem somewhat interchangeable.

Instead, all of my findings indicate that it is not individual top managers in a turnover that influence stock price reactions, but rather information processing by capital market participants that does. In the chapter analyzing the first research objective, I show that if a top management turnover is expected, the information processing takes place before the turnover, while unexpected turnovers result in information processing and short-term uncertainty directly after the announcement. This is supported by my findings from the second research objective that show only short-term volatility increases in the month around a turnover, while no long-term volatility or systematic risk changes are observed. Finally, the findings from my third research objective also support the information processing view by showing that over the course of one year following the turnover, the turnover firms themselves are unaffected by the change, but that information signaling effects result in positive abnormal returns for intra-industry rivals. It therefore appears that effects from information processing have a significant

impact on stock price changes, even when the expected effects of the individual top managers are limited because of the low discretion context.

I used a number of factors consistently throughout my different research objectives to explain capital market reactions that can be compared for general conclusions. The first factor is the separation by turnover reason, namely, forced versus routine turnovers. My findings from the first research objective suggest that, unlike in high discretion countries, the forced/routine dichotomy (included only as a control variable) offers no explanatory power for the stock price development around top management turnovers. This is not surprising, because I have argued and shown that individual managers have only limited possibilities to influence company performance. My findings indicate, however, that the differentiation into forced and routine turnover is helpful in explaining the information processing that takes place when turnovers are announced. The results for my second research objective show that increases in short-term volatility are greater for forced turnovers than for routine turnovers. This can be explained by stronger information uncertainty due to signaling effects about the true meaning of forced turnovers and the more intense processing of a great deal of additional information often released with the turnover announcement. For my third research objective, I find that companies with forced turnovers experience a period of stagnation with no positive abnormal returns in the year following the turnover, while companies with routine turnovers do not experience such an intense transition. The positive information effects that lead to positive abnormal returns for intra-industry rivals are also greater for forced turnovers than for routine turnovers, suggesting that intra-industry rivals appear to experience more opportunities for exploiting the turnover firms' relatively weak situation. All of these findings strongly suggest that capital market participants regard forced turnovers as more disruptive than routine turnovers.

Another factor I used to explain capital market reactions is the differentiation into outsider and insider successions that has also been used in previous studies (Bonnier and Bruner, 1989; Furtado and Rozeff, 1987; Warner, Watts, and Wruck, 1988), because outsider successions are often considered to be more disruptive events than are

insider successions (Harris and Helfat, 1997). My findings suggest, however, that this differentiation does not help explain capital market reactions in a low discretion country, and I found no evidence for outsider successions being more disruptive. In the analysis for my first research objective, the insider versus outsider dichotomy was included as a control variable in the regression analyses, and it demonstrated no power in explaining short-term capital market reactions around top management turnovers. The results for my second research objective also indicated that short-term volatility effects were no different for outsider than for insider successions. Instead, the findings indicate the uncertainty resulting from information processing around top management turnover announcement is similar, and capital market participants do not view outsider successions as being more disruptive. In addition, the findings from my third research objective add to the inconclusive results from the differentiation into insider and outsider successions: The relative stagnation of turnover companies is found for both outsider and insider successions, showing no significant differences. Interestingly, I found that insider successions are followed by significantly greater abnormal returns for intra-industry rivals than are outsider successions. This does not necessarily imply that the succession type has a significant impact on the turnover firm itself. Instead, the most likely explanation is a possible reluctance of intra-industry rivals to take decisive measures immediately directed at exploiting the situation of the turnover firm before they know more about the nature of the possible changes initiated by the outside successor.

Finally, I can draw inferences from comparing the results for CEO versus CFO turnovers. Overall, all studies suggest that capital market participants do not differentiate between CEO and CFO turnovers. For the first research objective, I found that the stock price development does not significantly differ between CEO or CFO changes. This is supported by findings for my second research objective that turnover type explains no differences in short-term volatility. However, the long-term results show a higher level of volatility for CFO turnovers than for CEO turnovers in the three years following a turnover, possibly indicating a stronger influence of the CFO on decisions relevant for capital market participants. The results for the third research objective again show no differences between CEO and CFO turnover, indicating that

the transition period seems no different between the two turnover types, and also that the intra-industry rivals do not have different possibilities of exploiting the relative stagnation from the transition period of the turnover company. I view these findings as supportive in extending analyses of top management in Germany beyond the CEO and also including the CFO as an important top manager influencing financial decision. Moreover, such findings especially demonstrate that in a low discretion country like Germany, changes in the CEO position, who in other contexts is often considered the most important individual in a company (Mackey, 2008), will not lead to stronger capital market reactions.

V.3 Theoretical and practical contributions

V.3.1. Theoretical contributions

My dissertation was directed at adding to the knowledge concerning capital market reactions to top management turnovers in a low discretion environment. While providing valuable empirical insights, the dissertation also significantly contributes to the literature by advancing management theory in several important aspects.

First, this dissertation provides new insights into the managerial discretion construct (Hambrick and Finkelstein, 1987) and the possible influence of national systems limiting this discretion (Crossland, 2009; Crossland and Hambrick, 2007, 2011). Using a single low discretion country, I advance the theory on managerial discretion from a capital market perspective by deriving and testing hypotheses different from those in high discretion contexts. My empirical findings all support the argument that top managers in a low discretion country have only limited possibilities to influence company performance. The results further suggest that capital market participants are aware of this restricting role of managerial discretion, which is reflected in their evaluation of top management turnovers, leading to no stock price reaction attributable to the change of individual top managers.

Second, I contribute to both the capital market literature on information processing (Epstein and Schneider, 2008; Epstein and Turnbull, 1980; Fama, 1970, 1991; Graffin,

Carpenter, and Boivie, 2011; Zhang and Wiersema, 2009) as well as the literature on risk dynamics (Beatty and Zajac, 1987; Carlson, Fisher, and Giammarino, 2010; Zhang, 2006) in situations of top management turnovers. From a capital market perspective, information processing seems to be an important factor in determining stock price reactions. I use classical capital market theory to develop hypotheses on how stock price reactions are affected by the information processing around top management turnovers and show that capital markets discount the stock price during the time taken to process the information. Further, I add to the literature on volatility around top management turnovers by showing how the stock price volatility is affected through information processing of capital market participants (Cheung and Jackson, 2010; Clayton, Hartzell, and Rosenberg, 2005; Intintoli, 2011). I argue and show in a low discretion context that information processing creates uncertainty reflected in an increased level of volatility in the short-term, while long-term risk in terms of volatility and beta is unaffected. This supports the argument that short-term volatility stems from information processing instead of uncertainty over strategic change, which cannot be expected in a low discretion country. Hence, my findings improve the understanding of information processing and risk dynamics around top management turnovers, both in general as well as in a low discretion context in particular. They also add to prior studies that have shown that companies actively engage in providing additional information around top management turnover announcements with the goal of distracting observers from the turnover events themselves (Graffin, Carpenter, and Boivie, 2011).

Third, I extend prior literature on manager life cycles and transition-period effects following top management turnovers (Gabarro, 1987; Giambatista, 2004; Hambrick and Fukutomi, 1991; Vancil, 1987). While prior studies on transition-period effects have been primarily of a qualitative nature, I provide valuable insights by arguing theoretically that performance consequences during this period should be limited and offer quantitative empirical analyses of the issue. My findings provide support that a transition period exists that is independent of the turnover type (i.e., CEO or CFO), successor origin (i.e., outsider or insider) and that exists after forced turnovers as well.

Only in routine turnover cases does the transition period seem to be very limited or non-existent.

Fourth, my dissertation extends the competitive dynamics literature (Hughes-Morgan, Ferrier, and Labianca, 2011; Ketchen, Snow, and Hoover, 2004; Tsai, Su, and Chen, 2011) and argues that top management turnover is not only an issue concerning a single company but also is consequential for all other companies within an industry. My dissertation provides first evidence that intra-industry rivals are seen as having the potential to exploit a turnover company's relatively weak situation resulting from the new manager's transition period. The findings suggest that intra-industry rivals are able to achieve a temporal competitive advantage that translates into positive abnormal stock price reactions for them.

Finally, I also add to the field of upper echelons theory in general by extending research on the importance of top managers other than the CEO and also including additional relevant members, i.e. the CFO (Hambrick, 2007; Jackson, 1992). I argue that in a low discretion country and particularly in Germany, the CFO is equally important in influencing financial decision making in a company. Capital market participants should therefore regard the two positions in a similar manner, which is strongly supported by the findings from my analyses.

V.3.2. Practical contributions

In addition to the theoretical research contributions, my findings in this dissertation also highlight a number of issues of practical relevance. Generally, my findings show that top managers in a low discretion country are considered by capital market participants to be less consequential for company results than studies in other contexts have suggested. Instead, top managers seem rather interchangeable, which is reflected in stock prices reacting only to the signaling effects from the turnover itself and the processing of various types of information, and not to the individual managers changing in a turnover. This overall finding results in implications for different players both inside and outside the company.

Internally, both the supervisory board as well as the top management team overall are affected, as the actors who primarily determine the top management turnover processes. If uncertainty from information processing is driving stock price reactions around turnovers, it seems important for companies to actively manage this process in order to mitigate investor uncertainty. Companies could try to alleviate stock price effects from uncertainty by better planning, managing, and communicating the turnover to investors. The effects of purposely distributing additional information with a turnover announcement, as has been found in other studies (Graffin, Carpenter, and Boivie, 2011), clearly would seem illogical. Because the turnover itself is of less importance in a low discretion country, I expect releasing additional information would even further increase investor uncertainty and result in stronger stock price reactions around a top management turnover.

In addition to mitigating short-term stock price effects, internal actors can profit as well from optimizing the turnover process in their competitive situation. My results suggest that most top management turnovers (routine turnovers being the exception) are followed by a transition period characterized by relative stagnation and positive stock price effects for intra-industry rivals. The goal should be not only to minimize the disruption caused by the transition period but also to convince investors of the new manager's smooth transition so that stock price effects for intra-industry rivals will be minimized as well. The perception of a smooth turnover process also would decrease the likelihood that investors will reallocate funds during the transition period.

Externally, my findings highlight possible effects for capital market participants as well as intra-industry rivals of the turnover companies. I have shown that capital market participants actively engage in information processing around top management turnovers, which could lead to short-term stock price effects. Since the effects are temporally limited and do not persist, capital market participants might try to exploit these market anomalies and profit from the uncertainty. If stock prices systemically react in the same way around turnovers, these players can adapt their investment decisions to profit from a turnover event. For example, one way would be to shift

funds from the turnover firm to intra-industry rivals in order to profit from the positive information effects.

Finally, intra-industry rivals are affected by top management turnovers of their competitors as well. They appear able to exploit the turnover company's situation to achieve a temporal competitive advantage and positive abnormal returns for themselves. To the extent that possibilities exist to "watch" competitors more closely and also to anticipate top management turnovers, intra-industry rivals might be able to increase their competitive advantage even further by selecting more specifically directed and appropriate actions for their own benefit.

V.4 Limitations

My dissertation, like any other study, also has some limitations. I analyze the capital market reactions to top management turnovers in a low discretion context. In order to do so, I chose a single country that has been shown to provide relatively little discretion to its managers compared with, for example, the United States, in which most other similar studies have been conducted. Germany is a good choice, because on the one hand it has clear factors limiting the managerial discretion, and on the other hand it is a very large and developed economy. While I expect the results in other low discretion contexts to be similar to those found in Germany, I did not compare my results across other low discretion countries or extend them to other countries with high managerial discretion. In order to achieve a broader generalizability of the results, future studies may overcome this limitation and incorporate cross-country analyses in order to simultaneously conduct direct comparisons of capital market reactions in countries with differing managerial discretion.

The goal of my dissertation was to analyze capital market reactions to top management turnovers as an indication of how important top managers are perceived to be in a low-discretion context. However, accounting based measures present an alternative way that also has been used intensively in prior studies to measure the performance influence of top managers (Daily, Certo, and Dalton, 2000; Finkelstein and Hambrick,

1990; Ocasio, 1994; Zajac, 1990). Both measures have generally well-known advantages and disadvantages, and the appropriate choice depends on the analyzed context and must fit the respective research questions. Accounting measures are available on a quarterly or yearly basis and measure the realized short-term performance ex-post (Weisbach, 1988). However, they have been shown to be influenced by top management through various forms of earnings management (Benston, 1982; Geiger and North, 2006; Grossman and Hoskisson, 1998; Hambrick and Finkelstein, 1995; Jiang, Petroni, and Wang, 2010). In contrast, stock prices are available on a daily or even intradaily basis and are less likely to be manipulated by insiders (McWilliams and Siegel, 1997). However, they do not directly measure performance, but instead reflect expectations about future company performance by capital market participants (Chakravarthy, 1986; Keats and Hitt, 1988), based on the entirety of all publicly available information (Fama, 1970, 1991; MacKinlay, 1997). Yet a company's stock price is also determined by factors beyond the control of top managers, for example, when stock prices follow general market recessions. I chose to use event studies of capital market-based measures, because in using advanced methodology, such studies are perceived as presenting an unbiased performance estimator (Kesner and Sebor, 1994); are of particular interests to companies, as they can function in monitoring and disciplining top management (Easterbrook, 1984; Hillier, Linn, and McColgan, 2005; Rozeff, 1982); and in addition, often are linked to determining top manager compensation (Hambrick and Finkelstein, 1995; Jensen and Murphy, 1990). Furthermore, they have been shown as a viable method to analyze performance effects and investor reactions in a management turnover context (Daily, Certo, and Dalton, 2000; Finkelstein and Hambrick, 1990; Tian, Haleblan, and Rajagopalan, 2011). However, I am aware that accounting measures present an alternative form to measure top manager influence, and future studies may integrate them in order to validate my findings by testing the congruence between capital market- and accounting-based measures.

In this study, I theoretically argue that managerial discretion in Germany is lower than in other countries such as, for example, the United States. However, I do not measure the managerial discretion directly by considering which managerial actions are

affected by this limitation. While this seems less relevant for my first and second research objective in which I measure capital market expectations about these actions, a small limitation arises for my third research objective. I argue that the transition period of new managers depends on the low discretion context, but I neither determined the exact length of these periods, nor did I in particular analyze the actions of the managers during this period. Further, I did not specifically measure the action taken by intra-industry rivals to exploit the transition phase of turnover companies. Building on findings from this study, future researchers might therefore delve more deeply into this interesting topic and uncover additional valuable insights on analyzing particular managerial actions in more detail.

Finally, my study also is potentially limited by the focus on only the largest German companies listed on the DAX and MDAX indices. The choice to do so was based on reasons of reduced information asymmetry, availability of information on the turnovers, and the presence of established management turnover processes in those companies. If capital market reactions were different for smaller companies, this might somewhat reduce the generalizability of my results. However, I expect that managerial discretion in smaller companies tends to be even more limited, which would strengthen my argument of limited capital market reactions. Capital markets might need more time to process the information around a top management turnover and update performance expectations, because information on smaller companies is less easily obtained. This could lead to longer periods of uncertainty by capital market participants, resulting in longer stock price discounts for unexpected turnovers and a generally higher volatility around top management turnover announcements. However, the nonreaction of capital markets resulting from the limited influence of individual top managers due to the low discretion environment should be unaffected. A particular focus on smaller companies such as family firms seems nevertheless interesting and may provide valuable insights for these suppositions.

V.5 Further research

My dissertation provides valuable contributions for several theoretical as well as practical aspects of capital market reactions to top management turnovers in a low discretion country. By adding to the literature in this way, it also highlights several issues that are valuable for future research to pursue.

The limitations stated in the previous section provide for valuable future research, as reducing them would strengthen the findings from my research and offer an overall more consistent picture. In particular, it looks promising to compare capital market reactions with top management turnovers in a cross-country setting, comparing results both between different low discretion countries as well as between high and low discretion countries. Such an analysis could add to each of my research objectives by showing which effects turnover expectedness has in high discretion countries, deepening the understanding of short-term uncertainty and volatility resulting from an announcement, and also providing more evidence on transition-period performance effects as well as the reactions of intra-industry rivals. A cross-country comparison then could address a direct measurement of managerial discretion based on differing national systems including different specificities of governance systems. My results suggest that in some cases, such as the short-term capital market reactions from my first research objectives and the volatility effects from my second research objective, re-interpretations of prior studies in high discretion contexts may be necessary, because I was able to show in a different context that part of the explanation in prior studies might have been missing. I argue that these effects are also present in high discretion environments but have been neglected. In addition, isolating them in a high discretion context and showing how different reasons, like individual managerial influence and short-term uncertainty from information processing, act together to determine capital market reactions could be highly beneficial.

Apart from overcoming limitations from this study, other fruitful avenues for future research exist. First, my results have consistently shown that the simple dichotomy of outsider versus insider successions, although often used in high discretion contexts, is insufficient to explain capital market reactions in low discretion environments. The

information processing by capital market participants is not consistently different between insider and outsider successions. Rather, it seems that the signals to capital market participants need a finer-grained categorization of successor origin, along with more specific arguments on the perceptions by capital markets. One possible way might be the consideration of a degree of “outsiderness”, as was proposed by Karaevli (2007).

Second, I followed upper echelons theory and extended the analysis of managerial influence beyond the CEO and also included the CFO as an individual representing the top management team. While it was not the primary purpose of this study to show differences between capital market reactions to both CEO and CFO turnover, my results suggested that the CFO and the CEO are viewed as equally important in this context, and in some instances, CFO turnover resulted in an even stronger reaction by capital markets. It therefore appears necessary to expand the investigation concerning role difference and performance influence of the CFO compared with the CEO and consider including additional members of the top management team, showing their relevance in top management team performance influence.

Third, future research concerning the overall topic of national system-induced managerial discretion provides diverse possibilities for valuable future research. My study provided strong evidence for reduced managerial discretion in Germany, limiting the individual influence of top managers on firm performance. This limited influence should be seen not only in performance outcomes attributable to top managers but also in other aspects. Supervisory boards should be aware of this limited discretion in their selection and dismissal criteria, and the level of compensation should match the level of discretion as well. Hence, the possibilities to explore cross-national differences are abundant and will likely serve as topics of future research.

Finally, my research objectives analyzed capital market reactions to turnover announcements and showed systematic effects around turnover. Future research could therefore seek to explicitly test these market anomalies and possible ways of extracting money from these events.

V.6 Conclusion

Overall, my dissertation deepens the theoretical understanding of capital market reactions to top management turnover in a low discretion country and provides empirical insights into different aspects of market behavior around turnover events. It shows that individual top managers in a low discretion context are not perceived by capital market participants to exert much performance influence. Instead, investor uncertainty resulting from the processing of a diverse set of information released with the turnovers primarily determines capital market reactions around top management turnovers. It also shows that while turnover companies themselves do not benefit directly from top management turnover, their intra-industry rivals do, because they are able to exploit the turnover company's relatively weak situation, resulting in a temporal competitive advantage for rivals. I hope the insights from this dissertation improve the understanding of the complex mechanisms and effects of top management turnovers, as well as the importance capital markets attach to such events.

References

- Adams, J.C. and Mansi, S.A. 2009. CEO turnover and bondholder wealth. *Journal of Banking & Finance*, 33(3): 522-533.
- Aivazian, V.A., Lai, T.-k., and Rahaman, M. 2009. Unraveling the corporate "black box": How do CEOs create value for their firms? *Working Paper*. Available at University of Toronto: <http://www.ccf.org.cn/cicf2010/papers/20091208113136.pdf>.
- Alderfer, C.P. 1986. The invisible director on corporate boards. *Harvard Business Review*, 64(6): 38-52.
- Andres, C., Betzer, A., and Van den Bongard, I. 2011. Das Ende der Deutschland AG. *Kredit und Kapital*, 44(2): 185-216.
- Arthaud-Day, M.L., Certo, S.T., Dalton, C.M.D., and Dalton, D.R. 2006. A changing of the guard: Executive and director turnover following corporate financial restatements. *Academy of Management Journal*, 49(6): 1119-1136.
- Asness, C. and Smirlock, M. 1991. A note on REIT bankruptcy and intraindustry information transfers: An empirical analysis. *Journal of Banking & Finance*, 15(6): 1171-1182.
- Baiman, S. and Verrecchia, R.E. 1995. Earnings and price-based compensation contracts in the presence of discretionary trading and incomplete contracting. *Journal of Accounting and Economics*, 20(1): 93-121.
- Baker, H.K. and Phillips, A.L. 1999. Career paths of corporate CFOs and treasurers. *Financial Practice & Education*, 9(2): 38-50.
- Ball, R. and Kothari, S.P. 1989. Nonstationary expected returns: Implications for tests of market efficiency and serial correlation in returns. *Journal of Financial Economics*, 25(1): 51-74.
- Ballinger, G.A. and Schoorman, F.D. 2007. Individual reactions to leadership succession in workgroups. *Academy of Management Review*, 32(1): 118-136.
- Ballinger, G.A. and Marcel, J.J. 2010. The use of an interim CEO during succession episodes and firm performance. *Strategic Management Journal*, 31(3): 262-283.
- Barber, B.M. and Lyon, J.D. 1997. Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics*, 43(3): 341-372.
- Bartov, E. 1991. Open-market stock repurchases as signals for earnings and risk changes. *Journal of Accounting and Economics*, 14(3): 275-294.
- Baxter, J. and Chua, W.F. 2008. Be(com)ing the chief financial officer of an organisation: Experimenting with Bourdieu's practice theory. *Management Accounting Research*, 19(3): 212-230.

- Beatty, R.P. and Zajac, E.J. 1987. CEO change and firm performance in large corporations: Succession effects and manager effects. *Strategic Management Journal*, 8(4): 305-317.
- Becht, M. and Boehmer, E. 2003. Voting control in German corporations. *International Review of Law & Economics*, 23(1): 1-29.
- Beck, J.B. and Wiersema, M.F. 2011. CEO dismissal: The role of the broader governance context. In M.A. Carpenter (ed.), *The Handbook of Research on Top Management Teams*: 396-414. Cheltenham: Edward Elgar Publishing.
- Benston, G.J. 1982. Accounting numbers and economic values. *Antitrust Bulletin*, 27: 161-215.
- Berkovitch, E. and Israel, R. 1996. The design of internal control and capital structure. *Review of Financial Studies*, 9(1): 209-240.
- Bernard, V.L. and Thomas, J.K. 1989. Post-earnings-announcement drift: Delayed price response or risk premium? *Journal of Accounting Research*, 27(3): 1-36.
- Bhagat, S., Brickley, J.A., and Loewenstein, U.R.I. 1987. The pricing effects of interfirm cash tender offers. *Journal of Finance*, 42(4): 965-986.
- Bhushan, R. 1989. Collection of information about publicly traded firms: Theory and evidence. *Journal of Accounting and Economics*, 11(2-3): 183-206.
- Boehmer, E., Musumeci, J., and Poulsen, A.B. 1991. Event-study methodology under conditions of event-induced variance. *Journal of Financial Economics*, 30(2): 253-272.
- Boeker, W. 1992. Power and managerial dismissal: Scapegoating at the top. *Administrative Science Quarterly*, 37(3): 400-421.
- Bonnier, K.-A. and Bruner, R.F. 1989. An analysis of stock price reaction to management change in distressed firms. *Journal of Accounting and Economics*, 11(1): 95-106.
- Bookstaber, R.M. and Pomerantz, S. 1989. An information-based model of market volatility. *Financial Analysts Journal*, 45(6): 37-46.
- Borokhovich, K.A., Parrino, R., and Trapani, T. 1996. Outside directors and CEO selection. *Journal of Financial & Quantitative Analysis*, 31(3): 337-355.
- Börsen-Zeitung. 2005. Abgang mit Widersprüchen, *Börsen-Zeitung*.
- Bresser, R. and Thiele, R. 2008. Ehemalige Vorstandsvorsitzende als Aufsichtsratschefs: Evidenz zu ihrer Effektivität im Falle des erzwungenen Führungswechsels. *Zeitschrift für Betriebswirtschaft*, 78(2): 175-203.
- Bresser, R.K.F., Thiele, R.V., Biedermann, A., and Lüdeke, H. 2005. Entlassung des Vorstandsvorsitzenden und Unternehmenserfolg: Eine empirische Untersuchung der größten deutschen Aktiengesellschaften. *Zeitschrift für Betriebswirtschaft*, 75(12): 1165-1192.
- Breusch, T.S. and Pagan, A.R. 1979. A simple test for heteroscedasticity and random coefficient variation. *Econometrica*, 47(5): 1287-1294.

- Brickley, J.A. 2003. Empirical research on CEO turnover and firm-performance: A discussion. *Journal of Accounting and Economics*, 36(1-3): 227-233.
- Bromiley, P., Govekar, M., and Marcus, A. 1988. On using event-study methodology in strategic management research. *Technovation*, 8(1-3): 25-42.
- Brown, K.C., Harlow, W.V., and Tinic, S.M. 1988. Risk aversion, uncertain information, and market efficiency. *Journal of Financial Economics*, 22(2): 355-385.
- Brown, S.J. and Warner, J.B. 1985. Using daily stock returns: The case of event studies. *Journal of Financial Economics*, 14(1): 3-31.
- Burns, J.M. 2003. *Transforming Leadership - A New Pursuit of Leadership*. New York: Groce Press.
- Campa, J. and Hernando, I. 2008. The Reaction by Industry Insiders to M&As in the European Financial Industry. *Journal of Financial Services Research*, 33(2): 127-146.
- Cannella, A.A. and Lubatkin, M. 1993. Succession as a sociopolitical process: Internal impediments to outsider selection. *Academy of Management Journal*, 36(4): 763-793.
- Cannella, A.A. and Shen, W. 2001. So close and yet so far: Promotion versus exit for CEO heirs apparent. *Academy of Management Journal*, 44(2): 252-270.
- Carhart, M.M. 1997. On persistence in mutual fund performance. *Journal of Finance*, 52(1): 57-82.
- Carlson, M., Fisher, A., and Giammarino, R. 2004. Corporate investment and asset price dynamics: Implications for the cross-section of returns. *Journal of Finance*, 59(6): 2577-2603.
- Carlson, M., Fisher, A., and Giammarino, R. 2006. Corporate investment and asset price dynamics: Implications for SEO event studies and long-run performance. *Journal of Finance*, 61(3): 1009-1034.
- Carlson, M., Fisher, A., and Giammarino, R. 2010. SEO Risk Dynamics. *Review of Financial Studies*, 23(11): 4026-4077.
- Carpenter, M.A., Geletkanycz, M.A., and Sanders, W.G. 2004. Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management*, 30(6): 749-778.
- Certo, S.T. and Semadeni, M. 2006. Strategy research and panel data: Evidence and implications. *Journal of Management*, 32(3): 449-471.
- Chakravarthy, B.S. 1986. Measuring strategic performance. *Strategic Management Journal*, 7(5): 437-458.
- Chan, K.C. 1988. On the contrarian investment strategy. *Journal of Business*, 61(2): 147-163.

- Chatterjee, A. and Hambrick, D.C. 2007. It's all about me: Narcissistic chief executive officers and their effects on company strategy and performance. *Administrative Science Quarterly*, 52(3): 351-386.
- Chava, S. and Purnanandam, A. 2010. CEOs versus CFOs: Incentives and corporate policies. *Journal of Financial Economics*, 97(2): 263-278.
- Cheung, J. and Jackson, A.B. 2010. CEO Departures and Market Uncertainty. *Working Paper*. Available at SSRN: <http://ssrn.com/paper=1728582>.
- Child, J. 1972. Organizational Structure, Environment and Performance: The Role of Strategic Choice. *Sociology*, 6(1): 1-22.
- Child, J. 1997. Strategic choice in the analysis of action, structure, organizations and environment: Retrospect and prospect. *Organization Studies (Walter de Gruyter GmbH & Co. KG.)*, 18(1): 43-76.
- Clayton, M.C., Hartzell, J.C., and Rosenberg, J. 2005. The impact of CEO turnover on equity volatility. *Journal of Business*, 78(5): 1779-1808.
- Cohen, J. 1960. A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20(1): 37-46.
- Collier, B. and Wilson, M.J. 1994. Fortune 1,000 chief financial officers on business school education. *Financial Practice & Education*, 4(2): 47-58.
- Combs, J.G., Ketchen, D.J., Perryman, A.A., and Donahue, M.S. 2007. The moderating effect of CEO power on the board composition-firm performance relationship. *Journal of Management Studies*, 44(8): 1299-1323.
- Conyon, M.J. and Murphy, K.J. 2000. The prince and the pauper? CEO pay in the United States and United Kingdom. *Economic Journal*, 110(467): F640-F671.
- Cornell, B. 1978. Using the option pricing model to measure the uncertainty producing effect of major announcements. *Financial Management*, 7(1): 54-59.
- Cotei, C. and Farhat, J. 2011. Informational externalities of initial public offerings: Does venture capital backing matter? *Journal of Economics and Finance*: 1-20.
- Cremers, K.J.M., Petajisto, A., and Zitzewitz, E.W. 2010. Should benchmark indices have alpha? Revisiting performance evaluation. *Working Paper*. Available at SSRN: <http://ssrn.com/paper=1108856>.
- Crossland, C. 2009. Why do CEOs matter more in some countries than others? Managerial discretion at the national level. *Academy of Management Proceedings*: 1-6.
- Crossland, C. 2010. The buck stops here: How managerial discretion impacts firm performance-CEO dismissal sensitivity across countries, *Working Paper*.
- Crossland, C. and Hambrick, D.C. 2007. How national systems differ in their constraints on corporate executives: A study of CEO effects in three countries. *Strategic Management Journal*, 28(8): 767-789.

- Crossland, C. and Hambrick, D.C. 2011. Differences in managerial discretion across countries: How nation-level institutions affect the degree to which CEOs matter. *Strategic Management Journal*, 32(8): 797-819.
- Cuthbertson, K., Nitzsche, D., and O'Sullivan, N. 2008. UK mutual fund performance: Skill or luck? *Journal of Empirical Finance*, 15(4): 613-634.
- Daily, C.M., Certo, S.T., and Dalton, D.R. 2000. International experience in the executive suite: The path to prosperity? *Strategic Management Journal*, 21(4): 515-523.
- Dalton, D.R. and Kesner, I.F. 1985. Organizational performance as an antecedent of inside/outside chief executive succession: An empirical assessment. *Academy of Management Journal*, 28(4): 749-762.
- Dann, L.Y., Masulis, R.W., and Mayers, D. 1991. Repurchase tender offers and earnings information. *Journal of Accounting and Economics*, 14(3): 217-251.
- Datta, D.K. and Rajagopalan, N. 1998. Industry structure and CEO characteristics: An empirical study of succession events. *Strategic Management Journal*, 19(9): 833-852.
- Davidson, W.N., Worrell, D.L., and Dutia, D. 1993. The stock market effects of CEO succession in bankrupt firms. *Journal of Management*, 19(3): 517-533.
- Day, D.V. and Lord, R.G. 1988. Executive leadership and organizational performance: Suggestions for a new theory and methodology. *Journal of Management*, 14(3): 453-464.
- DeFond, M.L. and Park, C.W. 1999. The effect of competition on CEO turnover. *Journal of Accounting and Economics*, 27(1): 35-56.
- Denis, D.J. and Denis, D.K. 1995. Performance changes following top management dismissals. *Journal of Finance*, 50(4): 1029-1057.
- Deutsch, Y., Keil, T., and Laamanen, T. 2011. A dual agency view of board compensation: The joint effects of outside director and CEO stock options on firm risk. *Strategic Management Journal*, 32(2): 212-227.
- Dewatripont, M. and Tirole, J. 1994. A theory of debt and equity: Diversity of securities and manager-shareholder congruence. *Quarterly Journal of Economics*, 109(4): 1027-1054.
- DiMaggio, P.J. and Powell, W.W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields *American Sociological Review*, 48(2): 147-160.
- Dittmann, I., Maug, E., and Schneider, C. 2010. Bankers on the boards of German firms: What they do, what they are worth, and why they are (still) there. *Review of Finance*, 14(1): 35-71.
- Dodd, P. and Ruback, R. 1977. Tender offers and stockholder returns: An empirical analysis. *Journal of Financial Economics*, 5(3): 351-373.
- Dubofsky, D.A. 1991. Volatility increases subsequent to NYSE and AMEX stock splits. *Journal of Finance*, 46(1): 421-431.

-
- Easterbrook, F.H. 1984. Two Agency-Cost Explanations of Dividends. *American Economic Review*, 74(4): 650-659.
- Elsas, R. and Krahen, J.P. 2004. Universal banks and relationships with firms. In J.P. Krahen and R.H. Schmidt (eds.), *The German financial system*: 197-232. Oxford: Oxford University Press.
- Engel, E., Hayes, R.M., and Wang, X. 2003. CEO turnover and properties of accounting information. *Journal of Accounting and Economics*, 36(1-3): 197-226.
- Epstein, L.G. and Turnbull, S.M. 1980. Capital asset prices and the temporal resolution of uncertainty. *Journal of Finance*, 35(3): 627-643.
- Epstein, L.G. and Schneider, M. 2008. Ambiguity, information quality, and asset pricing. *Journal of Finance*, 63(1): 197-228.
- Faff, R.W. 2003. Creating Fama and French factors with style. *Financial Review*, 38(2): 311-322.
- Fama, E.F. 1970. Efficient capital markets: A review of theory and empirical work. *Journal of Finance*, 25(2): 383-417.
- Fama, E.F. 1980. Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2): 288-307.
- Fama, E.F. 1991. Efficient capital markets: II. *Journal of Finance*, 46(5): 1575-1617.
- Fama, E.F. and Miller, M.H. 1972. *The theory of finance*. Hinsdale, IL.: Holt, Rinehart & Winston.
- Fama, E.F. and French, K.R. 1992. The cross-section of expected stock returns. *Journal of Finance*, 47(2): 427-465.
- Fama, E.F. and French, K.R. 1993. Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33(1): 3-56.
- Fama, E.F., Fisher, L., Jensen, M.C., and Roll, R. 1969. The adjustment of stock prices to new information. *International Economic Review*, 10(1): 1-21.
- Farrell, K.A. and Whidbee, D.A. 2003. Impact of firm performance expectations on CEO turnover and replacement decisions. *Journal of Accounting and Economics*, 36(1-3): 165-196.
- Fee, C.E. and Hadlock, C.J. 2004. Management turnover across the corporate hierarchy. *Journal of Accounting and Economics*, 37(1): 3-38.
- Ferrier, W.J. and Hun, L. 2002. Strategic aggressiveness, variation, and surprise: How the sequential pattern of competitive rivalry influences stock market returns. *Journal of Managerial Issues*, 14(2): 162-180.
- Ferrier, W.J. and Lyon, D.W. 2004. Competitive repertoire simplicity and firm performance: The moderating role of top management team heterogeneity. *Managerial & Decision Economics*, 25(6/7): 317-327.

- Ferrier, W.J., Smith, K.G., and Grimm, C.M. 1999. The role of competitive action in market share erosion and industry dethronement: A study of industry leaders and challengers. *Academy of Management Journal*, 42(4): 372-388.
- Ferrier, W.J., Mac Fhionnlaioich, C., Smith, K.G., and Grimm, C.M. 2002. The impact of performance distress on aggressive competitive behavior: A reconciliation of conflicting views. *Managerial & Decision Economics*, 23(4/5): 301-316.
- Finkelstein, S. and Hambrick, D.C. 1990. Top-management-team tenure and organizational outcomes: The moderating role of managerial discretion. *Administrative Science Quarterly*, 35(3): 484-503.
- Finkelstein, S. and D'Aveni, R.A. 1994. CEO duality as a double-edged sword: How boards of directors balance entrenchment avoidance and unity of command *Academy of Management Journal*, 37(5): 1079-1108.
- Finkelstein, S. and Boyd, B.K. 1998. How much does the CEO matter? The role of managerial discretion in the setting of CEO compensation. *Academy of Management Journal*, 41(2): 179-199.
- Finkelstein, S., Hambrick, D., and Cannella, A. 2009. *Strategic leadership: Theory and research on executives, top management teams, and boards*: Oxford University Press, USA.
- Firth, M. 1976. The impact of earnings announcements on the share price behaviour of similar type firms. *Economic Journal*, 86(342): 296-306.
- Firth, M. 1996. Dividend changes, abnormal returns, and intra-industry firm valuations. *Journal of Financial & Quantitative Analysis*, 31(2): 189-211.
- Fleming, J., Kirby, C., and Ostdiek, B. 2001. The economic value of volatility timing. *Journal of Finance*, 56(1): 329-352.
- Francis, J., Schipper, K., and Vincent, L. 2002. Earnings announcements and competing information. *Journal of Accounting and Economics*, 33(3): 313-342.
- Frankfurter Allgemeine Zeitung. 2007. Kley löst Römer ab. *Frankfurter Allgemeine Zeitung*.
- Franks, J. and Mayer, C. 1998. Bank control, takeovers and corporate governance in Germany. *Journal of Banking & Finance*, 22(10-11): 1385-1403.
- Franks, J. and Mayer, C. 2001. Ownership and control of German Corporations. *Review of Financial Studies*, 14(4): 943-977.
- Franks, J., Mayer, C., and Wagner, H.F. 2006. The origins of the German corporation - finance, ownership and control. *Review of Finance*, 10(4): 537-585.
- Fredrickson, J.W., Hambrick, D.C., and Baumrin, S. 1988. A model of CEO dismissal. *Academy of Management Review*, 13(2): 255-270.
- Fuller, K., Netter, J., and Stegemoller, M. 2002. What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions. *Journal of Finance*, 57(4): 1763-1793.

- Furtado, E.P.H. and Rozeff, M.S. 1987. The wealth effects of company initiated management changes. *Journal of Financial Economics*, 18(1): 147-160.
- Furtado, E.P.H. and Karan, V. 1990. Causes, consequences, and shareholder wealth effects of management turnover: A review of the empirical evidence. *Financial Management*, 19(2): 60-75.
- Gabarro, J.J. 1987. *The dynamics of taking charge*. Boston: Harvard Business School Press.
- Garman, M.B. and Klass, M.J. 1980. On the estimation of security price volatilities from historical data. *Journal of Business*, 53(1): 67-78.
- Geiger, M.A. and North, D.S. 2006. Does hiring a new CFO change things? An investigation of changes in discretionary accruals. *Accounting Review*, 81(4): 781-809.
- Giambatista, R.C. 2004. Jumping through hoops: A longitudinal study of leader life cycles in the NBA. *The Leadership Quarterly*, 15(5): 607-624.
- Giambatista, R.C., Rowe, W.G., and Riaz, S. 2005. Nothing succeeds like succession: A critical review of leader succession literature since 1994. *Leadership Quarterly*, 16(6): 963-991.
- Gore, A.K., Matsunaga, S., and Yeung, E.P. 2011. The role of technical expertise in firm governance structure: Evidence from chief financial officer contractual incentives. *Strategic Management Journal*, 32(7): 771-786.
- Gorton, G. and Schmid, F.A. 2000. Universal banking and the performance of German firms. *Journal of Financial Economics*, 58(1-2): 29-80.
- Graffin, S.D., Carpenter, M.A., and Boivie, S. 2011. What's all that (strategic) noise? Anticipatory impression management in CEO succession. *Strategic Management Journal*, 32(7): 748-770.
- Gregory-Smith, I., Thompson, S., and Wright, P.W. 2009. Fired or retired? A competing risks analysis of chief executive turnover. *Economic Journal*, 119(536): 463-481.
- Greiner, L., Cummings, T., and Bhambri, A. 2003. When new CEOs succeed and fail:: 4-D theory of strategic transformation. *Organizational Dynamics*, 32(1): 1-16.
- Grinstein, Y. 2005. The disciplinary role of debt and equity contracts: Theory and tests. *SSRN eLibrary*.
- Grossman, W. and Hoskisson, R.E. 1998. CEO pay at the crossroads of Wall Street and Main: Toward the strategic design of executive compensation. *Academy of Management Executive*, 12(1): 43-57.
- Grusky, O. 1960. Administrative succession in formal organizations. *Social Forces*, 39(2): 105-115.
- Grusky, O. 1961. Corporate size, bureaucratization, and managerial succession. *American Journal of Sociology*, 67(3): 261-269.

- Grusky, O. 1964. Reply to: Scapegoating in baseball. *American Journal of Sociology*, 70(1): 72-76.
- Guthrie, J.P. and Datta, D.K. 1997. Contextual influences on executive selection: Firm characteristics and CEO experience. *Journal of Management Studies*, 34(4): 537-560.
- Hackbarth, D. and Morellec, E. 2008. Stock Returns in Mergers and Acquisitions. *Journal of Finance*, 63(3): 1213-1252.
- Hambrick, D.C. 2007. Upper echelons theory: An update. *Academy of Management Review*, 32(2): 334-343.
- Hambrick, D.C. and Mason, P.A. 1984. Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2): 193-206.
- Hambrick, D.C. and Finkelstein, S. 1987. Managerial discretion: A bridge between polar views of organizational outcomes *Research in Organizational Behavior*, 9: 369-406.
- Hambrick, D.C. and Fukutomi, G.D.S. 1991. The seasons of a CEO's tenure. *Academy of Management Review*, 16(4): 719-742.
- Hambrick, D.C. and D'Aveni, R.A. 1992. Top team deterioration as part of the downward spiral of large corporate bankruptcies. *Management Science*, 38(10): 1445-1466.
- Hambrick, D.C. and Abrahamson, E. 1995. Assessing managerial discretion across industries: A multimethod approach. *Academy of Management Journal*, 38(5): 1427-1441.
- Hambrick, D.C. and Finkelstein, S. 1995. The effects of ownership structure on conditions at the top: The case of CEO pay raises. *Strategic Management Journal*, 16(3): 175-193.
- Hannan, M.T. and Freeman, J. 1977. The Population Ecology of Organizations. *American Journal of Sociology*, 82(5): 929-964.
- Harris, D. and Helfat, C. 1997. Specificity of CEO human capital and compensation. *Strategic Management Journal*, 18(11): 895-920.
- Hayward, M.L.A. and Hambrick, D.C. 1997. Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. *Administrative Science Quarterly*, 42(1): 103-127.
- Hayward, M.L.A., Rindova, V.P., and Pollock, T.G. 2004. Believing one's own press: The causes and consequences of CEO celebrity. *Strategic Management Journal*, 25(7): 637-653.
- Helwege, J., Pirinsky, C., and Stulz, R.M. 2007. Why do firms become widely held? An analysis of the dynamics of corporate ownership. *Journal of Finance*, 62(3): 995-1028.
- Hertzel, M. and Jain, P.C. 1991. Earnings and risk changes around stock repurchase tender offers. *Journal of Accounting and Economics*, 14(3): 253-274.
- Hillier, D., Linn, S.C., and McColgan, P. 2005. Equity issuance, CEO turnover and corporate governance. *European Financial Management*, 11(4): 515-538.
- Holden, C.W. and Subrahmanyam, A. 2002. News Events, Information Acquisition, and Serial Correlation. *Journal of Business*, 75(1): 1-32.

- Höpner, A. 2006. BMW-Chef Panke geht ohne große Worte - '24 Jahre Spaß gehabt'. *DPA - AFX*.
- Hotchkiss, E.S. 1995. Postbankruptcy performance and management turnover. *Journal of Finance*, 50(1): 3-21.
- Hou, K. 2007. Industry information diffusion and the lead-lag effect in stock returns. *Review of Financial Studies*, 20(4): 1113-1138.
- Hughes-Morgan, M., Ferrier, W.J., and Labianca, G. 2011. The joint effect of top management team heterogeneity and competitive behavior on stock returns and risk. In M.A. Carpenter (ed.), *The Handbook of Research on Top Management Teams*: 261-283. Cheltenham: Edward Elgar Publishing.
- Huson, M.R., Parrino, R., and Starks, L.T. 2001. Internal monitoring mechanisms and CEO turnover: A long-term perspective. *Journal of Finance*, 56(6): 2265-2297.
- Huson, M.R., Malatesta, P.H., and Parrino, R. 2004. Managerial succession and firm performance. *Journal of Financial Economics*, 74(2): 237-275.
- Intintoli, V. 2011. The effects of succession choice surrounding CEO turnover announcements: Evidence from marathon successions. *Working Paper*. Available at SSRN: <http://ssrn.com/paper=1267429>.
- Jackson, S.E. 1992. Consequences of group composition for the interpersonal dynamics of strategic issue processing. *Advances in Strategic Management*, 8: 345-382.
- James, D.R. and Soref, M. 1981. Profit constraints on managerial autonomy: Managerial theory and the unmaking of the corporation president. *American Sociological Review*, 46(1): 1-18.
- Jayaraman, N. and Shastri, K. 1993. The effects of the announcements of dividend increases on stock return volatility: The evidence from the options market. *Journal of Business Finance & Accounting*, 20(5): 673-685.
- Jensen, M.C. and Murphy, K.J. 1990. Performance pay and top-management incentives. *Journal of Political Economy*, 98(2): 225-264.
- Jiang, J., Petroni, K.R., and Wang, I.Y. 2010. CFOs and CEOs: Who have the most influence on earnings management? *Journal of Financial Economics*, 96(3): 513-526.
- Johnson, N.J. 1978. Modified t tests and confidence intervals for asymmetrical populations. *Journal of the American Statistical Association*, 73(363): 536-544.
- Johnson, S., La Porta, R., Lopez-de-Silanes, F., and Shleifer, A. 2000. Tunneling. *American Economic Review*, 90(2): 22-27.
- Kalay, A. and Loewenstein, U. 1985. Predictable events and excess returns: The case of dividend announcements. *Journal of Financial Economics*, 14(3): 423-449.
- Kang, J.-K. and Shivdasani, A. 1995. Firm performance, corporate governance, and top executive turnover in Japan. *Journal of Financial Economics*, 38(1): 29-58.

- Karaevli, A. 2007. Performance consequences of new CEO outsidersness: Moderating effects of pre- and post-succession contexts. *Strategic Management Journal*, 28(7): 681-706.
- Keats, B.W. and Hitt, M.A. 1988. A casual model of linkages among environmental dimensions, macro organizational characteristics, and performance. *Academy of Management Journal*, 31(3): 570-598.
- Keown, A.J. and Pinkerton, J.M. 1981. Merger announcements and insider trading activity: An empirical investigation. *Journal of Finance*, 36(4): 855-869.
- Kesner, I.F. and Sebora, T.C. 1994. Executive succession: Past, present & future. *Journal of Management*, 20(2): 327-372.
- Kesner, I.F. and Dalton, D.R. 1994. Top management turnover and CEO succession: An investigation of the effects of turnover on performance. *Journal of Management Studies*, 31(5): 701-713.
- Ketchen, D.J., Snow, C.C., and Hoover, V.L. 2004. Research on competitive dynamics: Recent accomplishments and future challenges. *Journal of Management*, 30(6): 779-804.
- Khanna, N. and Poulsen, A.B. 1995. Managers of financially distressed firms: Villains or scapegoats? *Journal of Finance*, 50(3): 919-940.
- Khurana, R. 2001. Finding the right CEO: Why boards often make poor choices. *MIT Sloan Management Review*, 43(1): 91-95.
- Kim, Y., Lacina, M., and Park, M.S. 2008. Positive and negative information transfers from management forecasts. *Journal of Accounting Research*, 46(4): 885-908.
- Kind, A. and Schläpfer, Y. 2010. Is a CEO turnover good or bad news? *Working Paper*. Available at <http://ssrn.com/abstract=1679632>.
- Kotter, J.P. 1982. *The general managers*. New York: The Free Press.
- Krinsky, I. and Lee, J. 1996. Earnings announcements and the components of the bid-ask spread. *Journal of Finance*, 51(4): 1523-1535.
- Kutner, M.H., Nachtsheim, C.J., Neter, J., and Li, W. 2005. *Applied linear statistical models*. New York: McGraw-Hill.
- La Porta, R., Lopez-de-Silanes, F., and Shleifer, A. 1999. Corporate ownership around the world. *Journal of Finance*, 54(2): 471-517.
- Li, C., Sun, L., and Ettredge, M. 2010. Financial executive qualifications, financial executive turnover, and adverse SOX 404 opinions. *Journal of Accounting and Economics*, 50(1): 93-110.
- Li, J. and Tang, Y.I. 2010. CEO hubris and firm risk taking in China: The moderating role of managerial discretion. *Academy of Management Journal*, 53(1): 45-68.
- Lyon, J.D., Barber, B.M., and Tsai, C.-L. 1999. Improved methods for tests of long-run abnormal stock returns. *Journal of Finance*, 54(1): 165-201.

- Mackey, A. 2008. The effect of CEOs on firm performance. *Strategic Management Journal*, 29(12): 1357-1367.
- MacKinlay, A.C. 1997. Event studies in economics and finance. *Journal of Economic Literature*, 35(1): 13-39.
- Makino, S. and Delios, A. 2000. Competitive reaction, imitation and bunching on foreign entry decisions. *Academy of Management Proceedings & Membership Directory*: C1-C6.
- Manager Magazin. 2004. Grob verkalkuliert. *Manager Magazin*.
- Manager Magazin. 2005. Die Deutsche Bank hat die Geduld verloren, *Manager Magazin*.
- Manager Magazin. 2006. Erst Fusionsstrategie, dann Merck-Chef. *Manager Magazin*.
- Mandelker, G. 1974. Risk and return: The case of merging firms. *Journal of Financial Economics*, 1(4): 303-335.
- McWilliams, A. and Siegel, D. 1997. Event studies in management research: Theoretical and empirical issues. *Academy of Management Journal*, 40(3): 626-657.
- McWilliams, T.P. and McWilliams, V.B. 2000. Another look at theoretical and empirical issues in event study methodology. *Journal of Applied Business Research*, 16(3): 1-11.
- Menon, K. and Williams, D. 2008. Management turnover following auditor resignations. *Contemporary Accounting Research*, 25(2): 567-604.
- Mian, S. 2001. On the choice and replacement of chief financial officers. *Journal of Financial Economics*, 60(1): 143-175.
- Mietzner, M., Schweizer, D., and Tyrell, M. 2011. Intra-industry effects of shareholder activism in Germany - Is there a difference between hedge fund and private equity investments? *Schmalenbach Business Review*, 63(2): 151-185.
- Miller, D. and Chen, M.-J. 1994. Sources and consequences of competitive inertia: A study of the U.S. airline industry. *Administrative Science Quarterly*, 39(1): 1-23.
- Miller, D. and Chen, M.-J. 1996. The simplicity of competitive repertoires: An empirical analysis. *Strategic Management Journal*, 17(6): 419-439.
- Murphy, K.J. and Zimmerman, J.L. 1993. Financial performance surrounding CEO turnover. *Journal of Accounting and Economics*, 16(1-3): 273-315.
- Ocasio, W. 1994. Political dynamics and the circulation of power: CEO succession in U.S. industrial corporations, 1960-1990. *Administrative Science Quarterly*, 39(2): 285-312.
- Ocasio, W. and Kim, H. 1999. The circulation of corporate control: Selection of functional backgrounds of new CEOs in large U.S. manufacturing firms, 1981-1992. *Administrative Science Quarterly*, 44(3): 532-562.
- Ohlson, J.A. and Penman, S.H. 1985. Volatility increases subsequent to stock splits: An empirical aberration. *Journal of Financial Economics*, 14(2): 251-266.

- Otero-Neira, C., Varela, J., and Garcia, T. 2010. Competitive reaction to the introduction of a new product: An exploratory market signalling study. *Journal of Strategic Marketing*, 18(5): 379-394.
- Parrino, R. 1997. CEO turnover and outside succession: A cross-sectional analysis. *Journal of Financial Economics*, 46(2): 165-197.
- Perreault, W.D. and Leigh, L.E. 1989. Reliability of nominal data based on qualitative judgments. *Journal of Marketing Research*, 26(2): 135-148.
- Pham, V.T.L. 2007. Constructing Fama-French factors from style indexes: Japanese evidence. *Economics Bulletin*, 7(7): 1-10.
- Puffer, S.M. and Weintrop, J.B. 1991. Corporate performance and CEO turnover: The role of performance expectations. *Administrative Science Quarterly*, 36(1): 1-19.
- Quigley, T.J. and Hambrick, D.C. 2012. When the former CEO stays on as board chair: Effects on successor discretion, strategic change, and performance. *Strategic Management Journal*: Forthcoming.
- Reinganum, M.R. 1985. The effect of executive succession on stockholder wealth. *Administrative Science Quarterly*, 30(1): 46-60.
- Rowe, W.G., Cannella, J.A.A., Rankin, D., and Gorman, D. 2005. Leader succession and organizational performance: Integrating the common-sense, ritual scapegoating, and vicious-circle succession theories. *Leadership Quarterly*, 16(2): 197-219.
- Rozeff, M.S. 1982. Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial Research*, 5(3): 249-259.
- Schmidt, R.H. 2004. Corporate governance in Germany: An economic perspective. In J.P. Krahn and R.H. Schmidt (eds.), *The German Financial System*: 386-424. Oxford: Oxford University Press.
- Scholes, M. and Williams, J. 1977. Estimating betas from nonsynchronous data. *Journal of Financial Economics*, 5(3): 309-327.
- Shen, W. 2003. The dynamics of the CEO-board relationship: An evolutionary perspective. *Academy of Management Review*, 28(3): 466-476.
- Shen, W. and Cannella, A.A. 2002a. Revisiting the performance consequences of CEO succession: The impacts of successor type, postsuccession senior executive turnover, and departing CEO tenure. *Academy of Management Journal*, 45(4): 717-733.
- Shen, W. and Cannella, A.A. 2002b. Power dynamics within top management teams and their impacts on CEO dismissal followed by inside succession. *Academy of Management Journal*, 45(6): 1195-1206.
- Shen, W. and Cannella, A.A. 2003. Will succession planning increase shareholder wealth? Evidence from investor reactions to relay CEO successions. *Strategic Management Journal*, 24(2): 191-198.

- Shen, W. and Cho, T.S. 2005. Exploring involuntary executive turnover through a managerial discretion framework. *Academy of Management Review*, 30(4): 843-854.
- Thomas, J. and Zhang, F. 2008. Overreaction to intra-industry information transfers? *Journal of Accounting Research*, 46(4): 909-940.
- Tian, J., Haleblan, J., and Rajagopalan, N. 2011. The effects of board human and social capital on investor reactions to new CEO selection. *Strategic Management Journal*, 32(7): 731-747.
- Tsai, W., Su, K.-H., and Chen, M.-J. 2011. Seeing through the eyes of a rival: Competitor acumen based on rival-centric perceptions. *Academy of Management Journal*, 54(4): 761-778.
- Tuggle, C.S., Sirmon, D.G., Reutzel, C.R., and Bierman, L. 2010. Commanding board of director attention: Investigating how organizational performance and CEO duality affect board members' attention to monitoring. *Strategic Management Journal*, 31(9): 946-968.
- Vancil, R. 1987. *Passing the baton: Managing the process of CEO succession*. Boston, MA: Harvard Business School Press.
- Venkatesh, P.C. 1989. The impact of dividend initiation on the information content of earnings announcements and returns volatility. *Journal of Business*, 62(2): 175-197.
- Vijh, A.M. 1994. The spinoff and merger ex-date effects. *Journal of Finance*, 49(2): 581-609.
- Ward, A., Amason, A.C., Lee, P.M., and Graffin, S.D. 2011. The scapegoating premium: a rational view of new CEO compensation, *The Handbook of Research on Top Management Teams*: 349-374.
- Warner, J.B., Watts, R.L., and Wruck, K.H. 1988. Stock prices and top management changes. *Journal of Financial Economics*, 20: 461-492.
- Weir, C., Laing, D., and Wright, M. 2005. Incentive effects, monitoring mechanisms and the market for corporate control: An analysis of the factors affecting public to private transactions in the UK. *Journal of Business Finance & Accounting*, 32(5/6): 909-943.
- Weisbach, M.S. 1988. Outside directors and CEO turnover. *Journal of Financial Economics*, 20: 431-460.
- White, H. 1980. A heteroscedasticity-consistent covariance matrix estimator and a direct test for heteroscedasticity *Econometrica*, 48(4): 817-838.
- Wiersema, M. 2002. Holes at the top: Why CEO firings backfire. *Harvard Business Review*, 80(12): 70-78.
- Wiersema, M.F. 1992. Strategic consequences of executive succession within diversified firms. *Journal of Management Studies*, 29(1): 73-94.
- Wiersema, M.F. and Zhang, Y. 2011. CEO Dismissal: The role of investment analysts. *Strategic Management Journal*, 32(11): 1139-1250.

- Wilcoxon, F. 1945. Individual comparisons by ranking methods. *Biometrics Bulletin*, 1(6): 80-83.
- Witt, M.A. and Redding, G. 2009. Culture, meaning, and institutions: Executive rationale in Germany and Japan. *Journal of International Business Studies*, 40(5): 859-885.
- Worrell, D.L., Davidson, W.N., Chandy, P.R., and Garrison, S.L. 1986. Management turnover through deaths of key executives: Effects on investor wealth. *Academy of Management Journal*, 29(4): 674-694.
- Wowak, A.J. and Hambrick, D.C. 2010. A model of person-pay interaction: How executives vary in their responses to compensation arrangements. *Strategic Management Journal*, 31(8): 803-821.
- Wowak, A.J., Hambrick, D.C., and Henderson, A.D. 2011. Do CEOs encounter within-tenure settling up? A multiperiod perspective on executive pay and dismissal. *Academy of Management Journal*, 54(4): 719-739.
- Zajac, E.J. 1990. CEO selection, succession, compensation and firm performance: A theoretical integration and empirical analysis. *Strategic Management Journal*, 11(3): 217-230.
- Zander, K., Büttner, V., Hadem, M., Schäffer, U., and Richter, A. 2009. Unternehmenserfolg, Wechsel im Vorstandsvorsitz und Disziplinierung von Finanzvorständen. *Zeitschrift für Betriebswirtschaft*, 79(12): 1343-1386.
- Zhang, X.F. 2006. Information uncertainty and stock returns. *Journal of Finance*, 61(1): 105-136.
- Zhang, Y. and Rajagopalan, N. 2003. Explaining new CEO origin: Firm versus industry antecedents. *Academy of Management Journal*, 46(3): 327-338.
- Zhang, Y. and Rajagopalan, N. 2004. When the known devil is better than an unknown god: An empirical study of the antecedents and consequences of relay CEO successions. *Academy of Management Journal*, 47(4): 483-500.
- Zhang, Y. and Wiersema, M.F. 2009. Stock market reaction to CEO certification: The signaling role of CEO background. *Strategic Management Journal*, 30(7): 693-710.
- Zorn, D.M. 2004. Here a chief, there a chief: The rise of the CFO in the American firm. *American Sociological Review*, 69(3): 345-364.

Appendix

Appendix II.A - Mean, standard deviation, and correlations - unexpected subsample

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 CAR [0, +5]	0.00	0.12																
2 Turnover type (dummy)	0.46	0.50	-0.05															
3 Turnover reason (dummy)	0.52	0.50	-0.02	0.31***														
4 Successor origin (dummy)	0.55	0.50	-0.04	-0.20*	0.08													
5 Joint turnover (dummy)	0.04	0.20	-0.15	0.02	-0.11	0.08												
6 Age departing manager	52.30	7.11	-0.08	0.38***	0.04	-0.26**	0.14											
7 Age incoming manager	49.54	6.50	0.13	0.26**	0.28***	-0.15	0.01	0.13										
8 Tenure departing manager	10.97	9.82	-0.02	0.20*	0.02	-0.04	0.00	0.41***	-0.01									
9 Prior firm performance	-0.01	0.39	-0.21**	-0.10	-0.25**	-0.07	0.08	-0.06	-0.05	0.09								
10 Herfindahl-Hirschman Index	0.47	0.27	0.21**	-0.06	0.02	-0.09	-0.16	0.03	0.04	-0.16	-0.11							
11 Firm size	7.92	1.69	0.02	0.02	0.10	-0.19*	0.02	0.13	-0.01	0.15	0.05	0.08						
12 Return on assets	4.50	4.81	-0.01	-0.02	-0.11	-0.15	0.08	0.07	0.05	0.10	0.29***	-0.01	-0.26**					
13 Current ratio	1.44	0.62	-0.05	0.15	-0.02	-0.04	0.06	-0.01	0.22**	0.02	0.33***	-0.08	-0.29***	0.42***				
14 Market-to-book value	2.69	2.28	0.11	-0.15	-0.07	0.02	0.13	-0.16	-0.07	-0.06	0.08	0.01	-0.21**	0.41***	0.08			
15 Investment	0.28	0.48	0.09	0.11	-0.14	0.09	0.49***	0.09	-0.04	-0.01	0.03	-0.15	0.02	0.09	0.04	0.10		
16 Price/earnings ratio	17.10	37.13	0.14	-0.10	-0.20*	0.07	-0.03	0.03	-0.04	-0.05	0.02	0.04	-0.01	0.15	0.05	0.08	0.02	
17 Closely held shares	42.90	22.17	-0.20**	0.06	0.02	0.14	0.08	0.07	-0.14	-0.08	-0.02	0.10	-0.20*	0.08	0.09	-0.03	0.01	-0.01

N = 98.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

Appendix II.B - Mean, standard deviation, and correlations - expected sample

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1 CAR [-5, 0]	0.02	0.09																	
2 Turnover type (dummy)	0.51	0.50	0.01																
3 Turnover reason (dummy)	0.20	0.40	0.03	0.20*															
4 Successor origin (dummy)	0.41	0.49	0.12	-0.23**	0.19*														
5 Joint turnover (dummy)	0.06	0.24	0.01	0.08	-0.13	-0.13													
6 Age departing manager	58.38	7.75	-0.16	0.31***	-0.27***	-0.29***	0.16												
7 Age incoming manager	47.94	7.01	-0.04	0.31***	0.17*	-0.06	0.15	0.11											
8 Tenure departing manager	17.48	12.60	-0.08	0.22**	-0.34***	-0.29**	0.06	0.59***	0.10										
9 Prior firm performance	0.02	0.32	-0.23**	0.01	-0.20**	-0.15	-0.08	0.12	-0.04	0.25**									
10 Herfindahl-Hirschman Index	0.44	0.25	-0.09	-0.02	0.31***	0.30***	0.26**	0.00	0.05	-0.17*	-0.12								
11 Firm size	8.35	1.83	-0.04	-0.06	0.16	-0.08	-0.05	0.03	0.43***	0.15	0.10	-0.11							
12 Return on assets	4.46	5.21	-0.19*	0.05	-0.41***	-0.22**	0.01	0.22**	-0.18*	0.30***	0.33***	-0.16	-0.08						
13 Current ratio	1.68	0.98	-0.03	0.10	-0.08	0.03	-0.05	0.09	-0.15	0.11	0.20*	-0.04	-0.37***	0.41***					
14 Market-to-book value	2.90	3.10	0.38***	-0.02	-0.09	0.07	0.00	-0.18*	-0.13	-0.04	0.15	-0.05	-0.28*	0.17*	0.18*				
15 Investment	0.31	0.47	0.06	-0.09	-0.11	-0.21**	-0.02	-0.15	-0.25**	-0.04	0.05	-0.17	0.03	0.11	-0.02	0.01			
16 Price/earnings ratio	19.45	44.70	0.03	0.21**	-0.11	-0.14	0.27***	0.03	-0.02	-0.08	0.01	0.01	-0.19*	0.18*	0.20**	0.22**	0.03		
17 Closely held shares	37.68	21.70	-0.03	0.06	-0.12	0.03	0.02	-0.16	-0.12	-0.13	-0.06	-0.12	-0.27***	0.19*	0.14	0.05	0.06	0.17*	

N = 99.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

Appendix IIC - Mean, standard deviation, and correlations - entire sample

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 CAR [-5, +5]	0.01	0.14																	
2 Expectedness (dummy)	0.50	0.50	-0.14*																
3 Turnover type (dummy)	0.48	0.50	0.02	-0.05															
4 Turnover reason (dummy)	0.36	0.48	0.01	0.33***	0.23***														
5 Successor origin (dummy)	0.48	0.50	0.09	0.14*	-0.22***	0.16**													
6 Joint turnover (dummy)	0.05	0.22	-0.03	-0.05	0.05	-0.13*	-0.04												
7 Age departing manager	55.35	8.04	-0.10	-0.38***	0.33***	-0.22***	-0.30***	0.15**											
8 Age incoming manager	48.73	6.81	-0.02	0.12	0.28***	0.25***	-0.09	0.08	0.07										
9 Tenure departing manager	14.24	11.76	-0.06	-0.28***	0.21***	-0.23***	-0.21***	0.05	0.56***	0.02									
10 Prior firm performance	0.00	0.36	-0.23***	-0.05	-0.05	-0.23***	-0.11	0.01	0.04	-0.05	0.18**								
11 Herfindahl-Hirschman Index	0.46	0.26	0.00	0.06	-0.05	0.16**	0.10	0.06	-0.01	0.05	-0.17**	-0.11							
12 Firm size	8.13	1.77	-0.01	-0.12*	-0.02	0.08	-0.15**	-0.01	0.11	0.22***	0.18**	0.08	-0.03						
13 Return on assets	4.48	5.02	-0.21***	0.00	0.02	-0.23***	-0.18	0.04	0.14*	-0.07	0.21***	0.31***	-0.09	-0.16**					
14 Current ratio	1.56	0.83	-0.10	-0.14**	0.12*	-0.10	-0.02	0.00	0.10	-0.03	0.11	0.25***	-0.06	-0.31***	0.40***				
15 Market-to-book value	2.79	2.72	0.20***	-0.04	-0.07	-0.08	0.04	0.05	-0.14**	-0.11	-0.03	0.11	-0.02	-0.24***	0.27***	0.15**			
16 Investment	0.30	0.47	0.06	-0.03	0.01	-0.13*	-0.06	0.21***	-0.02	-0.15**	-0.02	0.04	-0.16**	0.03	0.10	0.01	0.05		
17 Price/earnings ratio	18.28	41.13	0.03	-0.03	0.07	-0.15**	-0.05	0.15**	0.04	-0.03	-0.06	0.02	0.02	-0.10	0.17**	0.15**	0.17**	0.02	
18 Closely held shares	40.27	22.09	-0.02	0.12*	0.05	0.00	0.10	0.04	-0.09	-0.12	-0.14*	-0.04	0.00	-0.24***	0.13*	0.10	0.02	0.03	0.08

N = 197.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

Appendix IV.A - Mean, standard deviation, and correlations - BHARs 150 days sample

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1 BHARs 150 days	0.09	0.25													
2 Turnover reason (dummy)	0.32	0.47	-0.02												
3 Successor origin (dummy)	0.39	0.49	-0.08	0.41***											
4 Turnover type (dummy)	0.53	0.50	-0.07	0.20**	0.09										
5 Joint turnover (dummy)	0.08	0.27	0.18**	-0.01	0.03	-0.11									
6 Tenure departing manager	14.25	12.16	0.02	-0.29***	-0.15*	0.09	-0.21***								
7 Prior stock performance	0.13	0.44	0.22***	0.01	-0.04	0.11	-0.06	0.08							
8 Return on assets t-1	2.95	7.99	-0.13	0.05	-0.14*	0.16*	0.04	0.14*	0.26***						
9 Herfindahl-Hirschman Index	0.27	0.13	0.17**	-0.04	0.13	0.07	0.31***	0.24***	0.01	0.05					
10 Firm size	9.07	2.62	-0.06	-0.24***	-0.31***	-0.03	-0.11	0.43***	0.10	0.13	-0.43***				
11 Current ratio	1.87	2.05	0.00	0.20**	-0.01	0.07	0.03	-0.08	-0.01	0.07	-0.08	-0.33***			
12 Investment	4.84	53.21	-0.22***	0.05	0.05	-0.06	-0.05	0.01	-0.04	0.06	-0.09	-0.08	-0.05		
13 Price/earnings ratio	39.87	182.46	0.03	0.00	-0.01	0.10	-0.03	0.14*	0.00	0.02	-0.09	-0.07	0.08	-0.04	
14 Closely held shares	65.93	29.67	0.07	0.08	0.15*	0.06	-0.01	-0.14*	-0.05	-0.07	0.06	-0.45***	0.12	0.00	0.18**

N = 148.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

Appendix IV.B - Mean, standard deviation, and correlations - BHARs 200 days sample

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1 BHARs 200 days	0.11	0.32													
2 Turnover reason (dummy)	0.32	0.47	0.07												
3 Successor origin (dummy)	0.39	0.49	-0.11	0.41***											
4 Turnover type (dummy)	0.53	0.50	0.00	0.20**	0.09										
5 Joint turnover (dummy)	0.08	0.27	0.15*	-0.01	0.03	-0.11									
6 Tenure departing manager	14.25	12.16	0.00	-0.29***	-0.15*	0.09	-0.21***								
7 Prior stock performance	0.13	0.44	0.24***	0.01	-0.04	0.11	-0.06	0.08							
8 Return on assets t-1	2.95	7.99	-0.10	0.05	-0.14*	0.16*	0.04	0.14*	0.26***						
9 Herfindahl-Hirschman Index	0.27	0.13	0.12	-0.04	0.13	0.07	0.31***	-0.24***	0.01	0.05					
10 Firm size	9.07	2.62	-0.05	-0.24***	-0.31***	-0.03	-0.11	0.43***	0.10	0.13	-0.43***				
11 Current ratio	1.87	2.05	0.06	0.20**	-0.01	0.07	0.03	-0.08	-0.01	0.07	-0.08	-0.33***			
12 Investment	4.84	53.21	-0.19**	0.05	0.05	-0.06	-0.05	0.01	-0.04	0.06	-0.09	-0.08	-0.05		
13 Price/earnings ratio	39.87	182.46	0.03	0.00	-0.01	0.10	-0.03	0.14*	0.00	0.02	-0.09	-0.07	0.08	-0.04	
14 Closely held shares	65.93	29.67	0.07	0.08	0.15*	0.06	-0.01	-0.14*	-0.05	-0.07	0.06	-0.45***	0.12	0.00	0.18**

N = 148.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.

Appendix IV.C - Mean, standard deviation, and correlations - BHARs 250 days sample

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1 BHARs 250 days	0.12	0.39													
2 Turnover reason (dummy)	0.32	0.47	0.08												
3 Successor origin (dummy)	0.39	0.49	-0.05	0.41***											
4 Turnover type (dummy)	0.53	0.50	0.00	0.20**	0.09										
5 Joint turnover (dummy)	0.08	0.27	0.15*	-0.01	0.03	-0.11									
6 Tenure departing manager	14.25	12.16	0.00	-0.29***	-0.15*	0.09	-0.21***								
7 Prior stock performance	0.13	0.44	0.22***	0.01	-0.04	0.11	-0.06	0.08							
8 Return on assets t-1	2.95	7.99	-0.06	0.05	-0.14*	0.16*	0.04	0.14*	0.26***						
9 Herfindahl-Hirschman Index	0.27	0.13	0.16*	-0.04	0.13	0.07	0.31***	-0.24***	0.01	0.05					
10 Firm size	9.07	2.62	-0.08	-0.24***	-0.31***	-0.03	-0.11	0.43***	0.10	0.13	-0.43***				
11 Current ratio	1.87	2.05	0.02	0.20**	-0.01	0.07	0.03	-0.08	-0.01	0.07	-0.08	-0.33***			
12 Investment	4.84	53.21	-0.14*	0.05	0.05	-0.06	-0.05	0.01	-0.04	0.06	-0.09	-0.08	-0.05		
13 Price/earnings ratio	39.87	182.46	0.02	0.00	-0.01	0.10	-0.03	0.14*	0.00	0.02	-0.09	-0.07	0.08	-0.04	
14 Closely held shares	65.93	29.67	0.07	0.08	0.15*	0.06	-0.01	-0.14*	-0.05	-0.07	0.06	-0.45***	0.12	0.00	0.18**

N = 148.

* Indicates statistical significance at the 10% level.

** Indicates statistical significance at the 5% level.

*** Indicates statistical significance at the 1% level.