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The Chairman of the Board – Leader or Lame Duck? An Empirical Analysis of the Importance of the Chairman in US Firms

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Abstract

Academic literature generally views the chairman of the board as a mere additional title for the CEO. I critically review this concept and explore a distinct chairman effect on company performance. For this purpose, I examine policy variable changes and stock market reactions to chairman turnovers for large US companies between 1998 and 2012. I find that chairman-CEOs are more entrenched and preserve their empire until their retirement. The chairman has only limited relevance to large companies, but for small companies, the chairman provides valuable knowledge and guidance.

Keywords: Chairman of the Board; Duality; Entrenchment

1. Introduction

For more than a decade, there has been a lively discussion about the influence of individuals on firms, with special attention being paid to the chief executive officer (CEO) (see, e.g., Bertrand and Schoar, 2003; Malmendier and Tate, 2009; Custódio and Metzger, 2013). Chairmanship, i.e., the position of the chairman of the board, has thus far been treated as nothing more than an additional title to the CEO in most of the literature.[1] However, chairmen such as Microsoft's Bill Gates, Morgan Stanley's John Mack, or Autodesk's Carol Bartz are perceived as powerful leaders of their companies, even after relinquishing the CEO position (see, e.g., Abell, 2009; LaCapra, 2011; Rushe, 2014). This paper thus asks how important chairmen are for companies and in which strategic areas they are most influential. To paint a detailed picture of the importance of chairmen for their companies, I conduct a broad scope investigation of policy variables and stock market reactions to measure the effects of chairman changes in firms in the Standard and Poor (S&P) 1500 index between 1998 and 2012.

Motivated by Jenter, Matveyev, and Roth (2016), I conduct event studies on stock returns around chairman departures. I find significantly negative returns before the chairman-CEO leaves for endogenous reasons, i.e., cases where the company decides to replace the chairman-CEO. The stock price stabilizes after the chairman-CEO relinquishes his/her position. This is consistent with chairmen-CEOs embodying the crisis of their firm and the market rates their departure as a fresh start. The results of a logistic regression on the likelihood for a chairman change event, in reference to Eisfeldt and Kuhnen (2013), further support this interpretation and find that negative stock performance is the

1 For the sake of readability, I use the form chairman in the following when referring to both male as well as female chairpersons.

single most important factor for endogenous chairman-CEO departures. Compared to forced CEO exits in which the CEO is not chairman, stock prices decline significantly more before chairman-CEOs are ousted, supporting the idea that chairmen-CEOs are entrenched in their firms and do not yield their position until the firm is in crisis.

Breaking down the stock market reactions by chairman, board, and company characteristics using regression analysis as in Nguyen and Nielsen (2010), I can draw a more differentiated picture. The position of the chairman has little influence in large companies, but in small firms, chairmen are valuable sources of knowledge and experience. Stock markets appreciate it when the chairman remains on the board, especially when there is a strong successor who is also CEO. There are also significantly positive effects for higher age and tenure of the leaving chairman, when they are one of the company's founders, and when their CEO tenure did not end recently. This also gives support to the idea of passing the baton and requiring the CEO successors to first prove themselves (see Vancil, 1987; Brickley, Coles, and Jarrell, 1997; Naveen, 2006).

Overall, my results indicate that chairmanship is a form of entrenchment for corporate leaders. This can be positive if the company is rather small and values the expertise and leadership abilities of the chairman. It can also be negative if the chairman sticks to his/her established position for too long and prevents change in the firm.

This paper proceeds as follows: first, I provide a review of the existing chairmanship literature in section 2. Subsequently, in section 3, I describe the data sources and in section 4 the construction of my chairman change data set which I use throughout the rest of the paper. I start my empirical research with an investigation of stock market reactions to chairman turnovers with an event study setting in section 5.1, followed by a logistic regression approach determining the driving factor of chairman turnovers in section 5.2 and a case study comparing ousted chairmen and forced CEO turnovers in section 5.3. In the next section 5.4, I perform a regression analysis of the stock market returns around the change events. Finally, in section 6, I provide a summary and discussion of my results as well as an outlook for further research.

2. Literature Review

So far, literature has dealt with chairmanship mainly as a characteristic of CEOs. Duality, i.e., when CEOs are also chairmen of the board, is a phenomenon that has been at the center of a wide range of discussions among academics, the public, and regulatory bodies (see, e.g., Dey, Engel, and Liu, 2011; Krause, Semadeni, and Cannella, 2014). Prior to reviewing the extant literature on the importance of the chairmen for their companies, it makes sense to first review the theories and evidence at hand on the implications of a dual CEO.

The chairman of the board is responsible for leading the company by setting the board agenda and controlling the meetings, scheduling regular and special shareholder meetings, and monitoring the board committees (Main, O'Reilly, and Wade, 1995; Sundaramurthy, Mahoney, and Mahoney, 1997; Arthur, 2001). With this formal power, the chairman should play an important role in monitoring the CEO (Fama and Jensen, 1983; Zajac and Westphal, 1994; Brickley, Coles, and Jarrell, 1997). Shareholder activists and regulatory bodies foster the idea that separate CEO and chairman positions increase independence and oversight over the executive management and thus decrease potential misconduct (Daily and Dalton, 1997). This assumption is based on classic agency theory. Fama and Jensen (1983) and Jensen (1993) argue that boards in which the CEO is also chairman are limited in their internal oversight of CEOs and their performance. Similarly, Hermalin and Weisbach (1998) and Arthur (2001) argue that the decision on chairman-CEO duality is the outcome of a bargaining process between the CEO and the board. More powerful CEOs who also acquire the chairman position reduce the company's ability to effectively monitor his or her performance and thus enforce entrenchment, i.e., he/she cannot easily be removed by the board.

The public pressure geared towards a separation of chairmanship and CEO positions turned out to be successful in changing best practices in corporate governance. The Cadbury Report in 1992 triggered a massive drop in dual structures in the United Kingdom (UK). For instance, Dahya, Galguera Garcia,

and van Bommel (2009) report a decrease from 63.6% in 1988 to 22.8% in 2000 of dual CEOs for the Financial Times 500 at the London Stock Exchange. In the United States (US), however, the number of CEOs also serving as chairmen seems to have remained quite stable until recently. Linck, Netter, and Yang (2008) find no time trend in duality between 1990 and 2004, with around 58.3% on average and more than 70% for large firm. Chhaochharia and Grinstein (2007) report no statistically significant change in duality of 65.6% to 72.1% among the S&P 1500 firms between 1997 and 2003. More recent studies, however, report a decline in dual structures in the US. For example, Yang and Zhao (2014) report a drop from over 80% in the 1980s to 54% in 2010 for large US firms. Krause, Semadeni, and Cannella (2014) mention that the share of firms choosing to separate the CEO and chairman positions has doubled to 40% since 1994. Dey, Engel, and Liu (2011) find a significantly higher number of firms splitting CEO and chairman positions in the years after the Sarbanes-Oxley Act (SOX) (2003 - 2006) compared to the years before (2001 – 2002).[2] Following the financial crisis of 2008, official rules were enacted pushing toward separation of CEO and chairman positions. As of 2010, the Dodd-Frank Act and SEC rules require listed firms to disclose the reasoning behind their board leadership structure.[3] The 2008 Troubled Asset Relief Program (TARP) required firms to separate the CEO and chairman titles to be eligible for funding (Yang and Zhao, 2014).

The question arises whether undifferentiated advocacy of splitting CEO and chairman positions is beneficial to the company and its shareholders. In the empirical literature, I do not find strong evidence for this assumption: Yermack (1996) and Larcker, Ormazabal, and Taylor (2011) show that there is no significant effect of duality on shareholder value. Daily and Dalton (1997), Dahya, McConnell, and Travlos (2002), and García-Meca and Sánchez-Ballesta (2009) find no improvements in executive monitoring with an independent chairman. A sizeable body of literature even denies any performance improvement after duality splits (see, e.g., Baliga, Moyer, and Rao, 1996; Dalton et al., 1998; Dahya and McConnell, 2007; Dahya, Galguera Garcia, and van Bommel, 2009; Iyengar and Zampelli, 2009, Boyd, Haynes, and Zona, 2011; Krause, Semadeni, and Cannella, 2014; Jayaraman, Nanda, and Ryan, Jr., 2016).

On the other hand, Goyal and Park (2002) and Chakraborty and Sheikh (2008) show that CEO duality reduces turnover sensitivity to firm performance. Rechner and Dalton (1991) and Pi and Timme (1993) find evidence of underperformance of dual companies. Dual CEOs reduce firm value as they are more likely to pass a "poison pill" (Mallette and Fowler, 1992). Similarly, Masulis, Wang, and Xie (2007) and Kim et al. (2009) find evidence of dual CEOs wasting firm resources and investing in excess diversification. Dechow, Sloan, and Sweeney (1996) and Davidson et al. (2004) report a positive relationship between earnings management and duality, and Core, Holthausen, and Larcker (1999) and Grinstein and Hribar (2004) find that dual CEOs extract more compensation. Tuggle et al. (2010), Bliss (2011), and Desender et al. (2013) find evidence of decreased monitoring performance of the board and audit quality with duality.

As agency theory has not yielded unequivocal empirical results showing the benefits of separate CEO and chairman positions, academic discussion developed and set forth alternative theories to explain the large number of dual CEOs. Based on the concepts of intrinsic motivation, the stewardship theory, as proposed by Donaldson and Davis (1991) and Davis, Schoorman, and Donaldson (1997), predicts that dual CEOs remove ambiguity over the division of power and thus enhance firm performance. Consistently, Stoeberl and Sherony (1985) and Anderson (1986) argue that the concentration of company leadership in a single person is advantageous as it fosters stability and improves communication in the firm. Finkelstein and D'Aveni (1994) find evidence that corroborates stewardship theory in cases of low firm performance, low informal CEO power, and less vigilant boards where duality is a favorable governance structure to ensure strong leadership. Musteen, Datta, and Kemmerer (2010) find that dual

2 It is worth mentioning that the SOX as one of the biggest reforms of public company law since the 1930s leaves out regulatory measures against dual CEOs, for which the legislation was harshly criticized (see, e.g., Green, 2004).

3 See Proxy Disclosure Enhancements, Securities and Exchange Commission Final Rule, adopted December 16, 2009, effective February 28, 2010.

firms have a higher corporate reputation and Yang and Zhao (2014) argue in favor of dual structures, especially for cases with high information costs and requirements for quick decisions. Furthermore, Byrd et al. (2012) report that thrifts were more likely to survive in the thrift crisis of the 1980s if they had a dual CEO as they undertook less aggressive lending policy.

Beyond these contrasting theories, many scholars support the idea that duality is the result of a firm-specific optimization process, weighing the costs and benefits of having a separate chairman. Brickley, Coles, and Jarrell (1997) argue in the question of separation of CEO and chairman positions that enforcing separation is suboptimal for most firms as it would cause additional costs for monitoring and information sharing. Similarly, Dey, Engel, and Liu (2011) promote self-selection of firms in setting up the leadership structure over a forced split of the two positions. The authors show that investor-induced splits of the CEO and chairman positions lead to lower performance outcomes. Boyd (1995) reports that duality can have positive or negative effects on performance, depending on industry conditions. Krause and Semadeni (2013) show that the separation of CEO and chairman positions has a positive effect on future performance when past performance was poor, but negative effects for high-performance firms. Faleye (2007) and Kim (2013) find that for more complex companies (consistent with higher cost of information sharing), CEOs are more likely to also be chairmen. Palmon and Wald (2002) and Harjoto and Jo (2009) show that CEO duality is positive for small, early-stage firms but harms the performance of large, mature companies. Braun and Sharma (2007) report that while the separation of the CEO and chairman can protect against the entrenchment of controlling families, this separation has no stand-alone effect.

One reason for these diverse and even contradictory findings on duality might be that it is often not clear how much the chairman position can actually be separated from the CEO position. Brickley, Coles, and Jarrell (1997) show that only about 14% of firms really separate the two positions; nearly 10% of firms are merely in a transitory stage of CEO-chairman succession with both positions temporarily split. Benz and Frey (2007) confirm these numbers: only 22.3% of the non-dual chairmen in the S&P 500 in 2004 were truly independent, 63.4% were former CEOs, and the rest were current or former executives. This pattern appears in my data set as well: most chairmen are former CEOs, and many of those CEOs stay on board as chairmen until their successors have proven themselves, frequently referred to as passing the baton strategy (see Vancil, 1987; Brickley, Coles, and Jarrell, 1997; Naveen; 2006). Beyond that, the construction of duality as a binary variable might also be flawed (Gove and Junkunc, 2013).

In light of this complex discussion about CEO duality, I cannot draw a final conclusion on the disadvantages and benefits of granting or stripping CEOs of the chairman position. The emphasis of my work, however, lies in the chairman position itself and its influence beyond its perception as a CEO attribute. Compared to the extensive duality literature, the topic of chairmanship has been treated rather sporadically in the literature so far. Quigley and Hambrick (2012) find that a large percentage of CEOs stays as chairmen after their term ends and thus prevent their successor from making independent strategic decisions. On the other hand, Maharjan (2014) finds evidence that firms are more interested in keeping CEOs on the board as chairmen when they possess special knowledge. Similary, Brickley, Linck, and Coles (1999) show that successful CEOs are more likely to stay on the board as chairmen after retirement. Fahlenbrach, Minton, and Pan (2011) provide empirical evidence for this hypothesis by showing that between 1994 and 2004 more than 50% of former CEOs were reappointed to the board at least once after their CEO term had ended and that firms with former CEOs on the board perform better. Peni (2014) explicitely investigates the impact of chairman and CEO characteristics on the firm performance and finds a positive relations between their experience and firm performance. However, Peni (2014) does not distinguish between dual and non-dual chairmen. In general, these investigations are focused more on chairmanship as the next step of a CEO career and do not explicitly deal with chairmanship as a distinct leadership position. In the UK, on the other hand, chairmen and their relation to the company management have become the topic of scientific research after the shifts in duality that arose following the Cadbury report. However, so far this has been only on a qualitative basis (see, e.g., Roberts and Stiles, 1999; Roberts, 2002; Owen and Kirchmaier, 2008). Waelchli and Zeller (2013) show that ageing chairmen have a negative effect on performance for unlisted companies. This

was, however, proven only on a data set of Swiss companies. Thus, my research tries to fill this gap in corporate governance research by using established empirical methods on a broad US data set to describe the individual influence of chairmen on their firms.

The literature provides an idea of the magnitude that can be expected for chairmen effects: Maharjan (2014) shows that passing the baton, or the shift from CEO to chairman, can be a disciplinary measure and substitute for the firing of a CEO, especially when the costs for direct firing are very high. This gives rise to the idea that chairmanship has a lower influence on the firm than the CEO position. Florou (2005) identifies further evidence of the limited individual importance of chairmen as he finds that independent chairmen are removed together with CEOs to make changes to the corporate governance structure of the company.

To summarize, the chairman position has been mostly ignored by corporate finance research in the US so far, although evidence exists that with a shift towards a more non-dual management structure, the importance of the chairman increases. I do not expect the effects attributed to the chairman to be of similar importance as CEO effects. However, the experience and knowledge of chairmen, especially as most of them are former CEOs, might be valuable to the company. On the other hand, I also have reason to believe that in certain situations old chairmen can hamper strategic change and performance shifts. This also supports the idea that dual chairmanship is a sign of managerial entrenchment.

3. Data Selection and Panel Construction

The first step in approaching the research question is determining the data source to use for my investigations. Consistent with the literature, there are three main sources for information on chairmen and directors: Standard and Poor's Execucomp, the Director and Officer Change data set provided by AuditAnalytics, and the Directors and Legacy Directors data sets provided by the Institutional Shareholder Services Inc. (ISS), formerly RiskMetrics (from here on ISS).

The most widely known data set for investigating individual leaders in firms is Execucomp. The database provides information about executive compensation collected from proxy statements for the S&P 1500 firms since 1994 (for use in literature, see, e.g., Chhaochharia and Grinstein, 2009; Billett, Mauer, and Zhang, 2010; Bebchuk, Cremers, and Peyer, 2011; Kaplan and Minton, 2012). The advantage of this data set is its consistency with Standard and Poor's Compustat, which is the main source on accounting-based data in the literature as well as for this investigation. The main disadvantage is the focus on executives, thus non-CEO chairmen are difficult to detect. An alternative approach to get information of non-executive chairmen would be the Director Compensation data set in Execucomp. However, up to 2005, until rule FAS 123 was mandated by the Security Exchange Commission (SEC), companies only had to provide information on director compensation on an aggregated level.[4] An investigation on non-executive chairmen prior to 2005 is not possible with Execucomp. Additionally, dual chairmen might not be directly identifiable either: Execucomp does not provide an unambiguous indicator of chairmanship. Rather, I would have to resort to a string-matching process searching for the title "chairman" in the title attribute of the respective executives. This turns out to be very spurious with many executives being identified as chairmen though they are actually chairmen of subsidiaries, vice chairmen or similar.

As I want to target chairmen turnovers for my empirical approaches, AuditAnalytics is a more appropriate choice. AuditAnalytics is especially known for data on auditing and legal notifications, but the database also provides information on 8-K and 8-K/A SEC filings concerning director and officer changes since 1999 (see for use in literature, e.g., Johnstone, Li, and Rupley, 2011; Singhvi, Rama, and Barua, 2013; Huang et al., 2014). The files also include the reasons and effective dates for director changes. For example, I can extract data on deceased directors. Together with the integrated chairman

4 See the press release of SEC on the changes to disclosure requirements concerning executive compensation and related matters, URL: https://www.sec.gov/news/press/2006/2006-123.htm, last viewed: 15.9.2016, and release nos. 33-8732A; 34-54302A; IC-27444A; file no. S7-03-06.

indicator variable, I could determine exogenous chairman disappearances.[5] However, there are several disadvantages to using AuditAnalytics: first, the data set does not provide further information on the board such as the board size or number of independent directors. Also, AuditAnalytics lacks a consistent director ID to track specific individuals. This is a distinct disadvantage as it requires string matching on the director names in any further research step, which is prone to errors.[6]

Finally, ISS is a database which is popular for investigations of governance and director effects (see, e.g., Faleye, Hoitash, and Hoitash, 2011; Hoechle et al., 2012; Masulis and Mobbs, 2014). The database covers all S&P 1500 companies starting in 1996 and provides data collected from the annual meetings of the companies. It thus covers all directors of the company, the entire board, and additionally individual characteristics such as outside directorships, voting power, and board tenure. This is especially useful for detailed investigations of chairman-effect interactions with governance controls. Moreover, I am not restrained to executive chairmen as would be the case with Execucomp. With this distinction, I can separate a CEO or executive effect from a chairman effect. There is one caveat, however: as mentioned by Coles, Daniel, and Naveen (2014), the data set is not consistent over all periods. The database has been acquired at least twice, it has altered its identifiers for the directors once, and in 2007 the entire structure of the data set was changed. For example, the famous GMI index is only available until 2006 after which ISS no longer collected the required inputs. I thus have to reconcile two different director identifiers and three different company identifiers to construct my final data set. One company identifier is from the Committee on Uniform Securities Identification Procedures (CUSIP), which is very useful for linking the ISS data with Compustat and data sets from the Center for Research in Security Prices (CRSP). It is also worth mentioning that before 2006 the CUSIP in ISS was treated as a header identifier, i.e., it is the most recent firm identifier for all observations up to 2006. After 2006, the CUSIP is a historic identifier, i.e., past records are not updated if the identifier changes. This is probably the single most difficult problem in working with ISS beyond 2006: if the CUSIP changed before and after 2006, e.g., due to mergers, I have neither a header nor a historic CUSIP for some observations.

To conclude, ISS provides the best basis for my research on chairmen effects. More precisely, I use the Legacy Directors and Directors data set provided by ISS via Wharton Research Data Services (WRDS).[7] I proceed by extracting the relevant information, i.e., name, age, and identifier of every chairman and CEO for all companies available in ISS, as well as the provided firm identifiers, firm names, annual shareholder meeting dates and respective years. Consistent with the recommendations from WRDS, I define chairman and CEO as those directors that bear the respective title and for whom the company is listed as their primary employer. This is necessary as there might be several directors with the nominal title of "CEO" or "Chairman". In total, my data set consist of 29,076 observations between 1996 and 2014 with 5,061 individual chairman and 6,679 individual CEO names.[8] I reach an index coverage of more than 90% on average at firm level, except for the year 1996, which is an outlier as it is the first year of the data collection. I exclude this year from the following investigations as well as the year 1997. I do this to ensure enough data for lagged investigations on the one hand, and on the other hand to allow the matching of these data with CEO changes of a previous investigation (see section 5.3). At the other end, I limit my data set to observations until the year 2012. This follows the same logic to identify long term effects following chairmen changes. My final panel, thus, consists of

5 As of September 2016, 406 chairmen are labelled as chairmen who left due to health reasons or death in AuditAnalytics.

6 This would be especially the case for chairmen leaving their position to their son or daughter with the same surname.

7 WRDS was used in preparing this work. This service and the data available there constitute valuable intellectual property and trade secrets of WRDS and/or its third-party suppliers.

8 These numbers should be treated carefully, however, as there are still different spellings of the same name included which inflates the total number. With the discontinued director and company IDs in my data set, however, the count of unique names gives a consistent overview of the dimensions of my panel. For the construction of the change data set, I use ID-based methods.

23,096 observations, 4,258 chairman names and 5,756 individual CEO names. I find a duality ratio, i.e., the number of cases in which the chairman is also CEO, of 58.34%, which is consistent with other recent research findings (see, e.g., Masulis, Wang, and Xie, 2012; Yang and Zhao, 2014; Bar-Hava et al., 2015; Liao, Mukherjee, and Wang, 2015).

To determine the influence of individual chairmen on their companies, the best method is to focus on change events in which chairmen leave the company (see, e.g., Bertrand and Schoar, 2003; Nguyen and Nielsen, 2010; Fee, Hadlock, and Pierce, 2013). For that purpose, I first identify those chairmen in my panel who do not reappear as chairman in the following years. To eliminate potential errors, these chairmen must not reappear as chairmen for the following three years, which is less than half of the average chairman tenure and thus not prone to omitting important observations. In total, I identify 3,343 chairman changes, and following the same procedure, 4,373 CEO changes in my panel. This equals a yearly chairman turnover of around 14.5%, and a CEO turnover rate of around 18.9%, which is close to the CEO turnover reported by Kaplan and Minton (2012) of around 16.8% after 2000. Since just checking which entries in a database do not reappear in the following years is a very technical way of determining potential chairman changes, I integrate AuditAnalytics data on director changes as an additional indicator of chairman departures. As previously described, AuditAnalytics collects reported director changes from 8-K and 8-K/A SEC files starting in 1999 and thus covers most of my investigation period. I mark all chairmen entries in my panel for which I can find a change notification indicating a chairman change in AuditAnalytics filed within two years around the respective shareholder meeting date in ISS.[9] In total, this adds 61 observations to my final data set, so about 4% of all observations.

As previously mentioned, I require some years of accounting data around my observations to investigate the long-term effects of chairman changes. Thus, I limit my investigation to potential change observations that have at least two years of relevant data leading up to and after the fiscal year end of the last observation of the chairman in my panel. I use data from Compustat for accounting data and monthly stock data from CRSP. This effectively excludes cases in which the firm disappears, e.g., due to acquisitions or bankruptcies, or the data coverage is not good enough. Furthermore, I restrict my observations to those cases in which the chairman is the only chairman, i.e., where no more than one chairman is included in the panel for the observation date. This excludes cases of co-chairmanship for which it could be difficult to determine a potentially leading chairman. I also require that the CEO of the company is known and unique in the case where the leaving chairman is in a dual position. In total, I am left with 2,366 chairman changes for my investigation, which I verify manually through a news search to determine the type of chairman turnover.

4. Sample Selection and Turnover Classification

Based on the remaining observations, identified in the previous section by data filtering, I conduct a news search on the disappearance events. My goal is to identify the type of turnover events and distinguish changes in leadership structure induced by policy changes and firm-wise deliberation over the tenure end of the chairman, which I will call endogenous changes, and cases of unanticipated or unavoidable changes in leadership position, over which the board has little or no influence, which I call exogenous changes (see Hermalin and Weisbach, 1998; Fee, Hadlock, and Pierce, 2013). I use LexisNexis and Factiva to search for news articles concerning the chairman turnover.

With the information from the news articles, I make the following distinctions: I do not account

9 AuditAnalytics reports every possible reason for filing an 8-K or 8-K/A filling, including categories like "Re-elected" and "Appointed". Thus, I restrict to categories which are associated with chairmen leaving the company, namely: "Employment Ceased", "Retired", "Resigned", "Dismissed", "Deceased", "Declined Re-election", "Personal Leave", "Not Re-elected", "Appointment Revoked/Not Accepted", "Retired", "Pursue Other Interests", "Too Many Commitments", "Other Opportunity", "Personal Reasons", "Disagreement w/ management or policies", "Personal / Health Reasons", "Other", "Conflict of Interest", "Expiration of Employment Agreement", "Dismissed for Cause", "Investigation (Internal or Other)", "Suspected or Determined Wrongdoing".

for interim positions, as these are not expected to have a lasting impact on the firm. I take the first available, non-interim chairman tenure, which does not end in a confounding event, and which does not end with a change to the CEO position as my relevant observation. As I assume the CEO position to be more important than the chairman position, a shift from the chairman position to the CEO position increases the power of an individual in the firm and would thus not provide much insight into the actual power of the chairman. If the chairman was also CEO of the company at any point, I include the latest non-interim CEO term before the chairman change event as CEO tenure observation.[10] I include periods as co-CEO and co-chairman for the tenure measures, unless the change event refers to a co-chairman, which I exclude. I argue that these phases of co-leadership as tenure parts are relevant, as the person I am investigating is in the company and in a leading position. I categorize a leaving chairman as dual if he or she also relinquishes the CEO position within a period of 180 days before or after the effective date of the chairman turnover. This equals half a fiscal year before to half a fiscal year after the exit date as chairman. This short period of time does not allow a distinction between chairman and CEO effects. Furthermore, with two position changes so close together, the reason for the exit from one position is presumably the same as for the resignation from the other position.

The tenure dates, i.e., tenure start and end, for the CEO and chairman positions of each individual are taken from BoardEx, if the news search does not provide any other information. I add as default day the 15th if no more precise tenure dates are available than the month. If no month is available, I use the default date of June 30th of the relevant year as a proxy. This only applies to tenure starts, for every observation the turnover month is identified precisely. Furthermore, additional information on attributes such as executive chairman is added from BoardEx. I also distinguish, based on BoardEx, fulltime employed directors (ED) and non-employed supervisory directors (SD) for the chairman position. I do this only for non-dual chairmen as CEO-chairmen are always employed executives. I include a variable indicating if the chairman was the founder or a co-founder of the company.

I generally exclude cases in which the change in chairmanship is accompanied or triggered by larger confounding events which fundamentally change the operational or strategic structure of the company, its access to capital markets, or its fundamental corporate governance. This mainly accounts for the change of chairmanship after the company was acquired or merged with another company, it spun off important subsidiaries (in some cases the incumbent chairman then chooses to stay with the newly created independent firm), it acquires an important subsidiary, or there is a buy-out.

For the categorization of the observations, I follow a similar approach as Fee, Hadlock, and Pierce (2013) by discriminating the observations based on the chairman's age on the relevant observation date in ISS: I exclude change events with chairmen older than 71 at the time of the last shareholder meeting they attend as chairman. Most mandatory retirement ages for directors are set before the age of 72 (Cline and Yore, 2016). For chairmen between the ages of 63 and 71, I assume a natural retirement as this bracket includes the normal retirement age of 65 (see, e.g., Jenter and Lewellen, 2015). I can regard these events as largely exogenous, if the chairman was not forced or there is not any other confounding event. Cases of health, death, personal, or family reasons for the chairman change in the age bracket are categorized as what they are. Although this categorization of retirements in the 63 and 71 age as quasi exogenous might appear arbitrary (see, e.g., Da Cunha, Igor Felizatti C., 2013), it makes sense here as I find almost no cases which are not due to retirement in that age bracket and beyond.[11] If the chairman is younger than 63, I investigate the case closely using three main categories: endogenous events, exogenous events, and unclassified cases.

I define my first main category, exogenous chairman turnovers, as cases in which the reasons for the event are death of the incumbent, retirement due to health, family or personal reasons, or natural retirements. I categorize as deaths and health related retirements not only unexpected events, like plane crashes or unexpected resignations, but also cases in which the death or retirement reason is

10 Notice that it is a common pattern that CEOs retire and then, after one or two years, also step down as chairman.

11 To be precise, I only find 30 non-retirement cases in that age bracket, compared to 550 cases of natural retirement.

a long-fought disease. I argue in these cases that the illness did not prevent the chairman from doing his/her job. By contrast, medical leaves for more than six months before relinquishing the office are considered endogenous. I argue that these cases rather indicate a slow decline in health and the premature leave enables a planned succession. I also assume leaves for family and personal reasons as exogenous, although I do not know what these reasons are exactly. I can assume, however, that the explicit mention of non-firm-related reasons is an indication of exogenous events. In fact, most media do not go very deep into detail on personal or family reasons. This might be due to a lack of information, restraint of the journalists, the company, or the chairman. Also, there might just be a lack of interest on the part of the readers for whom the relevant information is that the resignation is not an indication of firm problems.

Endogenous cases are defined as chairmen leaving for planned retirements, cases in which the incumbent is ousted, the chairman accepts a position in a different company, or the CEO and chairman positions are separated. Departures are classified as planned retirement if the turnover was announced at least six months before they left office (Eisfeldt and Kuhnen, 2013). I take as the announcement date the release time of the press reports first announcing the change event. I require these announcements to mention at least the six months of the year of the planned turnover (e.g., stepping down by the end of the year might mean a change between July and Dec) or the chairman declaring his/her intention to retire as soon as a successor is found. In this context, I do not account, however, for contract ends, general indications of desired retirement ages made more than two years before the actual event, and mandatory retirement ages. These dates are too vague and might change over time, especially as they do not signal the beginning of a planned succession process. As such, these announcements are considerably less compelling than announcing a clear fiscal year for the new chairman to begin his/her tenure or the announcement of the search for a new chairman.

The second category of endogenous events is cases in which the incumbent is ousted. I categorize chairman changes as forced removal if the board ends the contract with the chairman, the incumbent loses a proxy fight for the chairmanship, the board clearly states the loss of confidence in the chairman, or news articles suggest that he or she was pushed or ousted. I also regard those cases as endogenous in which the chairman leaves the company to take up a new position with another company or a political office and I can clearly say that this is the reason for the chairman leaving the firm. With this definition, I do not count as endogenous cases in which the chairman retires and takes on, e.g., the position as chairman of a company charity fund after leaving office or just indicates the desire to pursue other business opportunities. These cases are either voluntary occupations after retirement or are not concrete enough to be named as the reason for leaving the company at this specific point in time. Finally, I also count as endogenous cases for which the board of directors decided to separate the CEO and chairman positions, and the incumbent stays as CEO. I classify as suspected forced exits cases in which the chairman is below the age of 60 at the last available observation date in my panel and the case does not fall into any other category above. I subsume this category under the main category of endogenous events as I assume these to be similar to the cases of ousted chairmen.

Finally, I specify all remaining events not categorized by one of the previous categories as unclassified. In these cases, I cannot say if the departure was voluntary, involuntary, planned for a long time, or a sudden event.

Table 1 shows the descriptive statistics of the categorization after my news search of chairman changes which do not turn out to be errors in the panel, in ISS, or for which I do not find any further information. In total, I can classify 1,726 events into my categories. More precisely, I find 735 endogenous cases and 658 exogenous cases. With my definition of duality, I end up with 397 dual endogenous and 272 dual exogenous cases, leaving me with enough dual and non-dual cases to investigate both endogenous and exogenous cases. More strict definitions of duality would change this dramatically: in total, there are only 111 cases in which the chairman was not a previous CEO; 958 relinquished the CEO position less than a year before the term end as a chairman, 1185 within two years. Defining those cases as dual would leave slightly more than 100 observations of non-dual cases for the exogenous and 150 for the endogenous case. This confirms the findings of Brickley, Coles, and Jarrell (1997), Benz and Frey (2007), and Maharjan (2014) that chairmanship is a transitory or

Table 1: Descriptive statistics of change event categorization

Category	Observations	Share	Dual	Share of Category	Share of Total Dual
Endogenous	735	42.58%	397	54.01%	52.51%
Planned Retirement	141	8.17%	52	36.88%	6.88%
Ousted	80	4.63%	73	91.25%	9.66%
Acceptance of Another Position	45	2.61%	32	71.11%	4.23%
Suspected Forced	434	25.14%	233	53.69%	30.82%
Separation CEO-CM Positions	35	2.03%	7	20.00%	0.93%
Exogenous	658	38.12%	272	41.34%	35.98%
Death	38	2.20%	25	65.79%	3.31%
Health Reasons	20	1.16%	16	80.00%	2.12%
Family Reasons	28	1.62%	20	71.43%	2.65%
Personal Reasons	22	1.27%	15	68.18%	1.98%
Natural Retirement	550	31.87%	196	35.64%	25.93%
Unclassified	182	10.54%	87	47.80%	11.51%
Confounding Event	151	8.75%			
Total	1,726	100.00%	756	43.80%	100.00%

This table reports the sample distribution of all chairman change events from ISS in the years 1998 to 2012 for the S&P 1500 firms with at least two years of data in CRSP and Compustat around the last observation date. I categorize a leaving chairman as dual if he or she also relinquishes the CEO position within the period of 180 days before or after the exit date as chairman. I exclude cases with chairmen older than 71 at the time of the last shareholder meeting they attend as chairman, in which the chairman is a co-chairman or an interim chairman, not a chairman of that company, no sufficient information is found on the disappearance event, the departure event appears after the year 2014, or the chairman is still active. Endogenous events are defined as planned retirements, the chairman being ousted, the chairman accepts another position with another company, suspected forced change events, and the separation of CEO and chairman positions. Planned retirements are defined as retirements which were announced at least six months before the change event. Suspected forced exits are cases in which the chairman is below 60 and the news search does not provide sufficient evidence to classify the event into any of the previous categories. Exogenous events are cases for which the news search indicates exits due to death, health, family, or personal reason and natural retirements. Natural retirements are defined as exits of chairmen aged between 63 and 71, for which the news search gives no clear evidence for other exogenous, forced, or confounding events. Unclassified events are changes that cannot be categorized as endogenous or exogenous. Confounding events are mainly cases of chairman changes after the company was acquired or merged with another company, it spun off important subsidiaries, it acquired an important subsidiary, or there was a buy-out. The Observations column displays the number of observations for the respective category, Dual the number of dual cases. The Share (Share of Total Dual) column shows the share of the category of all observations (all dual observations). The Share of Category column displays the share of dual cases of the category observations

retirement position for CEOs in many cases. On the other hand, Table 2 shows that for non-dual cases, the average difference between CEO term and chairman term end is more than a year. This time interval should be long enough to determine a distinct chairman effect.

As my categorization shows, exogenous cases are dominated by the natural retirement category, as are the endogenous cases by the suspected forced category (this is also visible in the short announcement periods in Table 2 and the very long tenures for exogenous cases; see also Appendix Table A.12). These strong default categories for cases without further information provide by themselves some insight into the importance of the chairman: media does not cover the position of the chairman of the board as well as the CEO position. The chairman seems to be perceived as a position of little importance by the public.

Referring to the tenure statistics, Table 2 shows that chairmen, except for the endogenous dual

Table 2: Summary statistics of tenure parameters

	CM Tenure in Years	CEO Tenure in Years	Time between CEO End and CM End in Years	Time between Announcement and CM End in Years
Endogenous	7.55 (6.25)	8.40 (7.21)	1.73 (0.93)	0.49 (0.33)
Non-Dual Cases	8.79 (7.76)	9.18 (8.00)	2.30 (1.28)	0.60 (0.38)
Dual Cases	6.49 (5.35)	7.84 (6.70)	0.25 (0.25)	0.37 (0.31)
Exogenous	10.2 (8.32)	10.6 (8.58)	2.27 (1.10)	0.51 (0.36)
Non-Dual Cases	11.4 (9.53)	11.3 (9.21)	2.78 (1.66)	0.59 (0.41)
Dual Cases	8.60 (7.17)	9.82 (7.81)	0.29 (0.32)	0.43 (0.35)

The table reports, for each turnover category, the mean tenure as chairman, tenure as CEO, time between the end of the CEO term and the chairman term end, and the time between the announcement of the chairman change event and the actual change event in years. The respective median values are reported in parenthesis. The chairman tenure is the first available, non-interim chairman tenure for which I have data in my panel, which does not end in a confounding event and which does not end with a change to the CEO position. For the CEO tenure, I take the latest non-interim CEO term of the chairman before the chairman change event. The time between chairman and CEO term end is only calculated if the chairman held a relevant CEO position of the company before the chairman change event and the CEO term ended before that. I take the release time of the press reports first announcing at least the six months of the change event or the intention to retire as soon as a successor is found as the announcement date. Tenure dates are taken from BoardEx, if the news search does not provide any other information

cases, serve comparatively longer terms as CEOs than indicated in prior literature. For example, Kaplan and Minton (2012) speak of an average CEO tenure of less than seven years, Harford and Schonlau (2013) show a mean CEO tenure of 8.30 years and a median of seven years. I can explain this with the chairman position being additional merit for well-performing CEOs (see Brickley, Coles, and Jarrell, 1997; Brickley, Linck, and Coles, 1999; Linck, Netter, and Yang, 2008). This also explains why chairman tenures are shorter than CEO tenures. After successful CEOs have proven themselves, they are awarded with the additional position of chairman of the board (see Vancil, 1987; Brickley, Coles, and Jarrell, 1997; Naveen, 2006). Subsequently, these CEOs are more entrenched in their company. The high share of natural retirements in my data set provides evidence for this idea: dual CEOs, once having corroborated their position (after exceeding normal CEOs in tenure, which can be observed in the endogenous dual cases) are no longer leaving the company unexpectedly. They stay as powerful figures on the board after their active time until their retirement (see, e.g. Brickley, Linck, and Coles, 1999; Fahlenbrach, Minton, and Pan, 2011; Waelchli and Zeller, 2013; Maharjan, 2014). The observation that the tenures in non-dual cases are longer than in dual cases further supports the notion of an entrenched leader who stays on the board as long as possible, even after his/her CEO term.

The descriptive statistics thus confirm my expectations of duality enforcing the position of the CEO in the company. In the next steps, I empirically quantify the power of dual chairmen and investigate the effects of chairmanship on its own.

5. Analysis of the Impact of Chairman Change Events on the Firm

The following four sections investigate the quantitative effects of the chairman changes identified above. In order to provide a broad overview and understanding of potential chairman effects, I apply different methodological approaches to firm data around the change events. The first part, section 5.1, investigates monthly stock returns. First, I perform an event study, following the approach of Jenter, Matveyev, and Roth (2016). In section 5.2, I estimate a logistic model similar to Eisfeldt and Kuhnen (2013) to clarify the drivers of chairmen demission, followed by a case study between dismissals of dual CEOs and non-dual CEOs in section 5.3. I conclude this section with an explanatory regression

Table 3: Cumulative abnormal returns around chairman changes

		Cum. Market-Model Adj. Abnormal Returns				Cum. Market-Adj. Excess Returns			
	Event Window	Mean	p-value t-test	Median	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
Endogenous	[-3; -2]	-0.010	0.35	-0.016**	0.03	-0.000	0.95	-0.005	0.63
Non-Dual	[-3; -1]	-0.022	0.12	-0.032***	0.01	-0.003	0.79	-0.013	0.38
	[-3;0]	-0.012	0.44	-0.016	0.19	0.012	0.47	0.009	0.29
	[-3; +1]	-0.028	0.12	-0.022*	0.07	0.008	0.66	0.033	0.27
	[-3; +2]	-0.030	0.13	-0.024	0.11	0.007	0.71	0.022	0.16
	[-3; +3]	-0.021	0.33	0.004	0.54	0.024	0.27	0.031**	0.02
	[-3; +4]	-0.021	0.36	-0.017	0.28	0.030	0.20	0.033**	0.02
	[-3; +5]	-0.031	0.20	-0.019	0.21	0.029	0.24	0.036**	0.03
	[-3; +6]	-0.025	0.33	-0.013	0.29	0.038	0.14	0.053**	0.02
Exogenous	[-3; -2]	-0.014	0.13	-0.014**	0.03	0.000	0.94	0.008	0.94
Non-Dual	[-3; -1]	-0.023**	0.04	-0.018**	0.02	-0.002	0.82	0.007	0.97
	[-3;0]	-0.015	0.24	-0.012	0.11	0.009	0.46	0.008	0.19
	[-3; +1]	-0.008	0.58	-0.006	0.82	0.022	0.13	0.025***	0.01
	[-3; +2]	-0.016	0.31	-0.012	0.21	0.022	0.16	0.027**	0.04
	[-3; +3]	-0.020	0.24	-0.018	0.18	0.022	0.19	0.027**	0.01
	[-3; +4]	-0.014	0.42	-0.023	0.19	0.033*	0.07	0.025***	0.01
	[-3; +5]	-0.017	0.39	-0.036	0.11	0.036*	0.06	0.032***	0.01
	[-3; +6]	-0.020	0.34	-0.039*	0.09	0.037*	0.07	0.032***	0.00
Endogenous	[-3; -2]	-0.066***	0.00	-0.060***	0.00	-0.054***	0.00	-0.048***	0.00
Dual	[-3; -1]	-0.094***	0.00	-0.088***	0.00	-0.072***	0.00	-0.065***	0.00
	[-3;0]	-0.107***	0.00	-0.090***	0.00	-0.074***	0.00	-0.064***	0.00
	[-3; +1]	-0.133***	0.00	-0.101***	0.00	-0.096***	0.00	-0.056***	0.00
	[-3; +2]	-0.149***	0.00	-0.108***	0.00	-0.106***	0.00	-0.050***	0.00
	[-3; +3]	-0.137***	0.00	-0.094***	0.00	-0.088***	0.00	-0.051***	0.00
	[-3; +4]	-0.140***	0.00	-0.103***	0.00	-0.084***	0.00	-0.047***	0.00
	[-3; +5]	-0.117***	0.00	-0.095***	0.00	-0.051**	0.02	-0.039**	0.04

(Contd...)

Table 3: ***(Continued)***

	Cum. Market-Model Adj. Abnormal Returns					Cum. Market-Adj. Excess Returns			
	Event Window	**Mean**	**p-value t-test**	**Median**	**p-value Wil. test**	**Mean**	**p-value t-test**	**Median**	**p-value Wil. test**
	[-3; +6]	-0.116***	0.00	-0.081***	0.00	-0.048**	0.03	-0.041*	0.05
Exogenous	[-3; -2]	-0.017*	0.05	-0.017**	0.05	-0.010	0.25	-0.003	0.34
Dual	[-3; -1]	-0.011	0.32	-0.004	0.24	-0.005	0.61	-0.004	0.77
	[-3;0]	-0.018	0.16	-0.007	0.19	-0.008	0.50	-0.008	0.67
	[-3; +1]	-0.027*	0.06	-0.019	0.10	-0.014	0.33	0.002	0.82
	[-3; +2]	-0.024	0.13	-0.024*	0.09	-0.003	0.81	0.000	0.95
	[-3; +3]	-0.028*	0.09	-0.028*	0.05	-0.006	0.73	0.002	0.92
	[-3; +4]	-0.014	0.43	-0.025	0.11	0.013	0.45	0.011	0.42
	[-3; +5]	0.001	0.96	-0.031	0.30	0.034*	0.08	0.023*	0.09
	[-3; +6]	-0.001	0.94	-0.031	0.31	0.033*	0.10	0.015	0.14

The table reports cumulative abnormal monthly returns for the chairman change types and event periods indicated in the rows. Date zero is defined as the month end immediately before the change event. Cumulative abnormal returns are calculated as the sum of market-model adjusted abnormal returns, and the sum of the market-adjusted excess returns, respectively, using raw, unwinsorized monthly returns for the event periods. Both cumulative abnormal return types, as indicated in the column headers, are then winsorized at the 1% and 99% level. For the market-model adjusted abnormal returns, for every firm, a market model is estimated in the window [-66; -7] before the change event. Monthly stock returns are defined as in Appendix A.1. The CRSP value -weighted index serves as market portfolio. The market model for the abnormal returns uses the estimated coefficients. The abnormal returns are defined by the following model see list of abbreviations for the definitions:

$$AR_{i,t} = R_{i,t} - \hat{\alpha}_i - \hat{\beta}_i * R_{m,t} \quad (1)$$

Market-adjusted excess returns are defined as the monthly returns of the event period minus the market portfolio return for the respective period. OLS standard errors are used to calculate the t-test statistics for the means of the cumulative abnormal returns. The Wilcoxon signed-rank test is used to calculate the p-values for the medians. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively

analysis of event study returns similar to Nguyen and Nielsen (2010), in section 5.4.

5.1. Event study on the stock market reaction to chairman turnovers

I want to measure the effect of a chairman change by investigating stock price reactions around the chairman turnover event. According to the Efficient Market Hypothesis (Fama, 1970), these stock price reactions should include all information associated with the change in the individual leadership structure of the firm. In the subsequent event study, I largely follow the approach of Jenter, Matveyev, and Roth (2016) and investigate monthly stock price reactions around the chairman change event.

I use monthly total stock returns provided by CRSP, i.e., buy-and-hold returns adjusted for dividends and stock splits or similar changes in the stock structure. In the case of several price quotes for the same company and period, due to listings on several stock exchanges, I take the return with the highest number of shares outstanding for the respective period. I define the end of the month immediately before the change event as date zero. As market portfolio return, I use the monthly value-weighted index return from CRSP. For the abnormal market model-adjusted return, I use the 60-month period starting five and a half years, i.e., 66 months, before the change event as the estimation period for alpha and beta. This leaves an event period of six months around the turnover event, which is consistent with my definition of duality. Market-model-adjusted abnormal returns are calculated as the stock return for the specific month in the event period minus the estimated alpha minus the estimated beta times the market return in the respective month. Market-adjusted excess returns, on the other hand, are calculated as the simple difference between the stock return and the respective market return on the event date, which equals an alpha of zero and a beta of one for my market model. As in Jenter, Matveyev, and Roth (2016), I winsorize the resulting abnormal returns and the respective cumulative return at the 1% and 99% level. I use OLS regression standard errors to calculate the t-statistics for the abnormal returns and the cumulative returns. This deviates from Jenter, Matveyev, and Roth (2016), but Ford, Jackson, and Skinner (2010) show that heteroskedasticity corrected standard errors inflate the t-values in the absence of heteroskedasticity. Testing the market model abnormal returns with the Breusch-Pagan test shows no heteroskedasticity for my observations. Using unwinsorized abnormal returns, I calculate cumulative abnormal returns by summing the marked-model adjusted and the market-adjusted excess stock returns, respectively. Table 3 gives the results for the cumulative returns, starting on date minus three, i.e., three months before the change event.

Looking at the results for the cumulative stock returns, only the dual endogenous cases have a negative stock performance development with up to minus 14.9% for the market-model adjusted and minus 10.6% for the market-adjusted excess returns until the first full month after the change event, i.e., event date plus two. The cumulated returns, however, remain stable after the change event, i.e., the stock returns are significantly negative only until around the change (see also the abnormal return results in Appendix Table A.14, and the cumulative abnormal return results after the chairman change in Table A.15). This pattern is also consistent for different event periods. Non-dual exogenous departures show significant positive returns of ca. 2 to 3% only for the for the market-adjusted returns after the event, and mostly only the median returns are significant.

Thus, stock prices drop before the change of a dual chairman. The question arises, however, whether the turnover causes the drop or the turnover is the response to the negative stock performance. I approach this question by first reviewing the stock performance around the announcement of the change event. I examine those cases in which the change was announced at least three months before the turnover event. This is close to the median time between announcement and change event for dual endogenous cases, as reported in Table 2. In total, I find 87 observations of announcements for dual endogenous departures. In Table 4, I repeat the same procedure as above but with the month before the announcement of the turnover as date zero.

In contrast to Table 3, there is no considerable effect around the announcement date for dual endogenous departures or any other category, which remain unreported. This is also not driven by planned retirements; I observe 35 suspected forced, four ousted, and three acceptances of another position cases in this dual endogenous data set. Thus, the market does not react to the announcement of a chairman-CEO leaving the company, rather the chairman-CEO change happens in reaction to the drop in market performance.

Table 4: CCumulative abnormal returns around change announcements, dual endogenous cases.

		Cum. Market-Model Adj. Abnormal Returns			Cum. Market-Adj. Excess Returns			
	Event Window	Mean	p-value t-test	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
Endogenous	[-3; -2]	-0.007	0.64	0.37	0.003	0.85	-0.005	0.82
Dual	[-3; -1]	-0.009	0.64	0.51	0.008	0.66	-0.001	0.77
	[-3;0]	-0.028	0.23	0.17	-0.008	0.72	-0.008	0.62
	[-3; +1]	-0.023	0.36	0.58	0.003	0.91	0.007	0.82
	[-3; +2]	-0.011	0.68	0.68	0.019	0.49	0.009	0.72
	[-3; +3]	-0.032	0.30	0.42	0.007	0.81	0.037	0.91
	[-3; +4]	-0.042	0.20	0.40	0.011	0.74	0.011	0.74
	[-3; +5]	-0.043	0.22	0.43	0.009	0.78	0.046	0.52
	[-3; +6]	-0.052	0.15	0.35	0.002	0.94	0.046	0.53

Date zero is defined as the month end immediately before the announcement of the change event. Cases are included if the change event occurs not closer than three months after the announcement date. The methods and descriptions are symmetrical to those of Table 3.

5.2. Logistic regression analysis of chairman turnovers

To further explore the notion that the dual endogenous chairman change event is induced by a performance downturn, I set up a logistic model to estimate the likelihood of a chairman turnover. This approach is inspired by Eisfeldt and Kuhnen (2013), who use a similar model with ROA and stock performance to determine the likelihood of CEO turnover types. For this, I use almost the entire panel of chairmen and CEO observations.[12] In my basic setting, I include four-digit industry-adjusted ROA and annual stock return as independent variables, accounting for firm performance.[13] Furthermore, I include the already previously used controls, natural logarithm of total assets, market leverage, market-to-book, natural logarithm of firm age, board size, share of independent board member, and the Attendance Problem dummy. Additionally, I want to control for potential characteristics of the chairmen in place which could affect the change decision. These are the voting power of the chairman, i.e., the share of total votes at the shareholder meeting that the chairman holds, the board tenure of the chairman, the difference in the board tenure to the CEO, the share of board members with a longer board tenure than the chairman, the number of outside directorships held on other company boards, and the age of the chairman.[14] Most of these variables are also proxies for the entrenchment of the chairman, compared to the board and the CEO, but also for the merit and prestige of the incumbent (see, e.g. Fama and Jensen, 1983; Denis, Denis, and Sarin, 1997). I winsorize all company data, including ROA and annual stock return, and leave total assets unedited. I define as change event the last fiscal year before the turnover event. All variables are collected for the respective fiscal years. I include firm fixed effects and year fixed effects to account for changes in the economic cycle. Standard errors are clustered at the firm level to control for within-firm serial correlation. My results remain unchanged if I apply industry fixed

12 More specifically, I include all firm-years in my panel which are no more than 10 years off from any change event, which encompass almost the entire data set. My results do not change with a short period of time frames around the change events.

13 These variables are significantly positively correlated to each other; however, this is at a level of ca. 20% and thus is not critical for potential variance inflation.

14 As well as the controls, I also test these variables in the regression approach for variance inflation as described in the section 5.4. By definition, there is a correlation between these variables (e.g., between board tenure and the share of more experienced board members and age), nevertheless, the variance inflation is on a rather low level and below any critical value of multicollinearity.

Table 5: Logistic models for chairman turnovers

	Exogenous			Endogenous			Endogenous		
				Non-Dual Cases			Dual Cases		
Industry- adjusted ROA	-6.2304**	-4.4921*	-2.9561*	-2.8318	-2.5781	-3.5837**	-4.2248*	-2.4795	-2.9450*
	(-2.42)	(-1.95)	(-1.84)	(-1.16)	(-1.00)	(-1.96)	(-1.74)	(-1.26)	(-1.82)
Industry- adjusted	0.3436	0.3825	0.0990	0.1615	0.1602	-0.0677	-1.0934***	-1.0539***	-1.0254***
Stock Return	(1.31)	(1.50)	(0.49)	(0.43)	(0.49)	(-0.29)	(-3.02)	(-3.25)	(-3.87)
Voting Power	-0.0415	-0.0057		-0.0012	0.0270		-0.0373	0.0048	
	(-0.48)	(-0.09)		(-0.01)	(0.71)		(-0.75)	(0.08)	
Board Tenure	0.0383			-0.0316			0.1343**		
	(0.58)			(-0.49)			(2.10)		
Difference to Board	0.0651***			0.1300**			-0.1513**		
Tenure of CEO	(2.62)			(2.56)			(-2.42)		
Board Percent Longer	-1.7978			-3.6385***			-3.4942***		
Director than CM	(-1.46)			(-3.09)			(-3.38)		
Oustside Directorships	0.1479	0.1165		0.4244	0.3178		-0.1071	0.0879	
	(0.79)	(0.74)		(1.48)	(1.51)		(-0.45)	(0.48)	
Age CM	0.5533***	0.6378***	0.5838***	-0.0736	0.0422	0.0751***	-0.1179***	-0.0184	-0.0105
	(5.57)	(6.34)	(8.49)	(-1.48)	(1.13)	(2.82)	(-2.68)	(-0.72)	(-0.63)
log (Total Assets)	0.1210	0.1579	0.1779	-0.9977**	-0.7848**	-0.3921	-0.7959	-0.5233	0.2821
	(0.27)	(0.33)	(0.56)	(-2.23)	(-1.98)	(-1.53)	(-1.64)	(-1.18)	(0.97)
Market Leverage	0.7252	0.8396		3.3795*	3.2747**		3.1282**	2.7841**	
	(0.54)	(0.63)		(1.80)	(2.01)		(2.45)	(2.53)	
Market- to-Book	0.0355	0.0347		0.0016	-0.0750		0.0568	0.0962	
	(0.18)	(0.18)		(0.00)	(-0.43)		(0.23)	(0.43)	
log	0.9116	1.1302		1.9717	1.0736		0.3442	0.4918	
(Firm Age)	(1.38)	(1.48)		(1.61)	(1.31)		(0.49)	(0.82)	
Board Size	0.1820	0.1986*		0.2816**	0.2493**		0.1306	0.1551*	
	(1.57)	(1.83)		(2.08)	(2.39)		(1.13)	(1.68)	
Board Share Independent	-1.0641	-1.7974		-0.6556	-1.5628		2.2245	1.6631	
	(-0.64)	(-1.24)		(-0.41)	(-1.03)		(1.33)	(1.08)	

(Contd...)

Table 5: ***(Continued)***

	Exogenous			Endogenous			Endogenous		
				Non-Dual Cases			Dual Cases		
Attendance Problem	-4.9812	-3.8539		-0.8294	-1.4833		-1.0188	-0.5028	
	(-1.49)	(-1.14)		(-0.25)	(-0.48)		(-0.35)	(-0.19)	
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,346	3,399	5,528	1,497	1,518	2,362	1,829	1,870	2,995
Pseudo - R square	0.472	0.442	0.391	0.338	0.270	0.179	0.311	0.246	0.186
Clustered at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The table reports the coefficient estimates of logistic regressions for the likelihood of chairman turnovers. The dependent variable equals one if a chairman change, defined according to the categories in the header, occurs in the following year. All variables are measured at the end of the fiscal year. The variables are defined in Appendix A.1. Log (Total Assets) and log (Firm Age) are defined as the natural logarithm of total assets and firm age, respectively. Industry-adjusted ROA and Industry-adjusted Stock Return are defined as the ROA and annual stock return adjusted for the 4-digit SIC industry median of the respective year. Year fixed effects are for calendar years of the fiscal year ends. Standard errors are clustered at firm level. All variables are winsorized for the 1% and the 99% level. *z*-Statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively

effects, exclude year fixed effects, cluster standard errors at industry level, do not cluster the standard errors, use two-digit industry-adjusted ROA and annual stock return, or simple ROA and annual stock return (see for the example of industry fixed effects and clustering at industry level, as used in Eisfeldt and Kuhnen (2013), Appendix Table A.17). The results for the non-dual and dual exogenous cases are consistent with the displayed regression results for both sets combined.

The result, reported in Table 5, support the idea that stock performance strongly affects the probability of being removed from the CEO and chairman position. We observe this impact of the stock performance on the likelihood of turnover only in the endogenous dual cases with a one percent decrease in the industry-adjusted stock return increasing the likelihood of chairman departure by 0.64 to 0.67 percent.[15] There is also some influence of ROA on the decision to remove a chairman, but not as significant as the stock performance. To alleviate concerns of potential multicollinearity, I repeat my approach with two alternative settings: first, I remove all potentially multicollinear variables from my regression which might proxy for the chairman age, i.e., board tenure, percentage of directors with a longer tenure and difference in board tenure to the CEO. Furthermore, I implement only those controls used by Eisfeldt and Kuhnen (2013), i.e., age and natural logarithm of total assets. These test variations do not change my results. This finding is consistent with the literature that CEO turnover is strongly negatively correlated with industry-adjusted stock performance (see Almeida, Campello, and Weisbach, 2004; Kaplan and Minton, 2012; Maharjan, 2014; Jenter and Kanaan, 2015).

One additional result is notable: in the endogenous dual case, the age variable changes its sign compared to the exogenous cases. Older chairmen are more likely to leave exogenously whereas older chairmen-CEOs are less likely to be replaced. It appears that after chairmen-CEOs have established themselves in their firm they are less likely to lose their job and rather retire as chairmen (see also Appendix Table A.17).

All in all, chairmen-CEOs tend to lose their jobs when the company performs badly on the stock market. It is not the decision of the chairman-CEOs to terminate their employment that causes the underperformance, as observable in Table 4. They rather are the symbols of the underperformance and best serve their company by being removed. This also explains why the negative trend in the stock performance almost instantly stops after the change event.

5.3. Case study on ousted dual CEO and forced CEO turnovers

In the previous sections, we observed a strongly negative stock return before the change event for dual CEOs. This indicates a removal of the dual CEO after poor stock performance, which is not surprising concerning the long-standing literature on CEO turnover sensitivity towards stock performance (see, e.g., Holmstrom, 1982; Warner, Watts, and Wruck, 1988; Barro and Barro, 1990; Gibbons and Murphy, 1990). One question that follows is how the dismissal of a chairman-CEO differs from that of an ousted CEO who is not chairman. For that purpose, I compare the changes in policy variables and stock returns for ousted chairmen-CEOs to those of forced exits of non-dual CEOs for the period of 1998 to 2010 on the subset of the largest firm in my panel, the S&P 500 members. This is useful to alleviate potential biases due to small firm effects.[16] I use a difference-in-differences approach inspired by Fracassi and Tate (2012) and compare the stock market reactions around the turnovers for these two data sets with the same event study method described in section 5.1. The results are reported in Table 6 and Table 7, respectively.

15 The coefficients form the logitic model are -1.02 to -1.09, thus exp(-1.02) = 0.36 to exp(-1.09) = 0.33.

16 As CEO turnovers are not the primary purpose of this research paper, I am very grateful to Dr. Daniel Urban for providing a classified data set of CEO changes to me. I trim my panel to fit to that data set, i.e., exclude the years 2011 and 2012, and focus on the S&P 500. As the classification is according to Huson, Parrino, and Starks (2001), and I end up with a relatively low number of non-dual CEO observations, I limit my chairman data set to ousted cases which is consistent with the definition of forced CEOs and sets the number of observations about equal.

Table 6: Cumulative abnormal return comparison dual ousted and non-dual forced CEOs

		Cum. Market-Model Adj. Abnormal Returns				Cum. Market-Adj. Excess Returns			
	Event Window	Mean	p-value t-test	Median	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
Ousted	[-3; -2]	-0.115***	0.00	-0.109***	0.00	-0.111***	0.00	-0.077***	0.00
Dual	[-3; -1]	-0.150***	0.00	-0.134***	0.00	-0.135***	0.00	-0.128***	0.00
	[-3;0]	-0.205***	0.00	-0.191***	0.00	-0.184***	0.00	-0.125***	0.00
	[-3; +1]	-0.283***	0.00	-0.239***	0.00	-0.254***	0.00	-0.178***	0.00
	[-3; +2]	-0.319***	0.00	-0.242***	0.00	-0.284***	0.00	-0.208***	0.00
	[-3; +3]	-0.260***	0.00	-0.191***	0.00	-0.220***	0.00	-0.207***	0.00
	[-3; +4]	-0.285***	0.00	-0.194***	0.00	-0.234***	0.00	-0.111***	0.00
	[-3; +5]	-0.283***	0.00	-0.183***	0.00	-0.218***	0.00	-0.152**	0.02
	[-3; +6]	-0.308***	0.00	-0.178***	0.00	-0.236***	0.00	-0.134***	0.01
CEO only	[-3; -2]	-0.066***	0.00	-0.035***	0.00	-0.071***	0.00	-0.040***	0.00
Forced	[-3; -1]	-0.119***	0.00	-0.079***	0.00	-0.125***	0.00	-0.083***	0.00
	[-3;0]	-0.119***	0.00	-0.084***	0.00	-0.130***	0.00	-0.123***	0.00
	[-3; +1]	-0.168***	0.00	-0.122***	0.00	-0.188***	0.00	-0.117***	0.00
	[-3; +2]	-0.234***	0.00	-0.159***	0.00	-0.253***	0.00	-0.095***	0.00
	[-3; +3]	-0.220***	0.00	-0.128***	0.00	-0.235***	0.00	-0.116***	0.00
	[-3; +4]	-0.249***	0.00	-0.148***	0.00	-0.276***	0.00	-0.131***	0.00
	[-3; +5]	-0.251***	0.00	-0.173***	0.00	-0.283***	0.00	-0.151***	0.00
	[-3; +6]	-0.236***	0.00	-0.154***	0.00	-0.269***	0.00	-0.124***	0.00
Differences	[-3; -2]	-0.048	0.15	-0.074	0.10	-0.036	0.32	-0.040	0.31
	[-3; -1]	-0.060	0.21	-0.057	0.17	-0.044	0.40	-0.052	0.46
	[-3;0]	-0.158**	0.01	-0.120**	0.01	-0.135**	0.04	-0.070*	0.09
	[-3; +1]	-0.172**	0.04	-0.170**	0.04	-0.140	0.11	-0.178	0.12
	[-3; +2]	-0.113	0.23	-0.052	0.31	-0.086	0.39	-0.142	0.49
	[-3; +3]	-0.087	0.37	-0.062	0.42	-0.063	0.55	-0.131	0.85
	[-3; +4]	-0.078	0.49	-0.031	0.55	-0.040	0.74	-0.081	0.84
	[-3; +5]	-0.103	0.41	-0.009	0.52	-0.063	0.64	-0.063	0.77
	[-3; +6]	-0.117	0.37	-0.023	0.46	-0.078	0.58	-0.039	0.73

The table reports in the first two panels the cumulative abnormal returns for dual ousted chairmen change events and CEO changes who are not chairmen, labelled as Forced CEO only, for the period of 1998 to 2010 for the S&P 500 firms. All settings are equivalent to Table 3. Panel three reports the difference in the means and medians between ousted chairmen and forced CEOs for the respective event periods. p-values of t-tests are reported for the differences between the means, Wilcoxon signed-rank test p-values for the differences in the medians. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively

Table 7: Difference-in-differences event study results for comparison dual ousted chairmen and non-dual forced CEOs

Event Window	**[-2; +2]**					
Treatment	**Dual Ousted**					
Control	**Forced CEO only**					
	Asset Growth	**Investment**	**Leverage**	**ROA**	**Tobin's Q**	**Cash Flow**
Treatment Group Indicator	-0.0790 (-0.86)	-0.0377 (-0.96)	0.2158 (1.42)	-0.0084 (-0.38)	0.1574 (1.02)	-0.0144 (-0.83)
Post-Treatment Indicator	-0.0130 (-0.31)	0.0071 (0.15)	-0.1664 (-0.94)	0.0049 (0.59)	-0.1032 (-1.17)	0.0068 (0.61)
DID Indicator	-0.0946* (-1.76)	-0.0108 (-0.27)	0.2012 (1.19)	-0.0270* (-1.93)	-0.0296 (-0.19)	-0.0406** (-2.36)
log (Total Assets)	0.3040*** (2.97)	0.0824 (1.45)	-0.7205 (-1.14)	0.0142 (0.76)	-0.2726 (-1.41)	0.0716*** (3.32)
Market Leverage	-0.2364 (-0.97)	-0.1531 (-0.88)	1.5534 (1.46)	-0.0365 (-0.93)	-0.7388** (-2.00)	-0.0386 (-0.78)
Market-to-Book	-0.0047 (-0.11)	0.0580 (0.96)	-0.2085 (-1.18)	0.0414*** (4.20)		0.0499*** (4.55)
log (Firm Age)	-0.5234*** (-3.28)	0.0819 (0.95)	0.5191 (0.94)	-0.0387 (-1.41)	-0.3427 (-1.18)	-0.0597* (-1.68)
Board Size	-0.0050 (-0.29)	-0.0136 (-0.80)	-0.0141 (-0.77)	0.0009 (0.58)	0.0246 (1.06)	-0.0019 (-0.69)
Board Share Independent	-0.1141 (-0.47)	-0.1987 (-1.41)	-0.2230 (-0.98)	-0.0626 (-1.60)	-0.3243 (-0.88)	-0.0615 (-1.41)
Attendance Problem	-0.0489 (-0.10)	-2.3981 (-0.94)	-0.2378 (-0.51)	-0.0034 (-0.05)	0.2845 (0.33)	-0.0711 (-0.54)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R square	0.335	0.381	0.481	0.853	0.807	0.710
Observations	440	402	440	440	440	440
Clustered at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes
Event Window:	**[-1; +2]**					
	Asset Growth	**Investment**	**Leverage**	**ROA**	**Tobin's Q**	**Cash Flow**
Treatment Group Indicator	-0.0909 (-0.82)	-0.0209 (-0.47)	0.2790 (1.49)	-0.0179 (-0.59)	0.1759 (1.07)	-0.0221 (-0.92)
Post-Treatment Indicator	0.0150 (0.30)	0.0189 (0.43)	-0.1683 (-0.99)	-0.0003 (-0.04)	-0.0647 (-0.70)	0.0095 (0.75)
DID Indicator	-0.1210** (-2.41)	-0.0465 (-0.96)	0.1691 (1.28)	-0.0223 (-1.62)	-0.0503 (-0.33)	-0.0410** (-2.45)
log (Total Assets)	0.4645*** (3.38)	0.0476 (0.73)	-0.9363 (-1.11)	0.0214 (0.88)	-0.1873 (-1.00)	0.0953*** (3.00)
Market Leverage	-0.1645 (-0.62)	-0.1238 (-0.71)	1.4562 (1.25)	-0.0297 (-0.71)	-0.5741** (-1.98)	-0.0195 (-0.33)
Market-to-Book	0.0318 (0.47)	0.0827 (0.86)	-0.3468 (-1.61)	0.0432*** (4.23)		0.0452*** (2.87)
log (Firm Age)	-0.3492 (-0.93)	0.1062 (0.64)	0.5802 (0.81)	-0.0001 (-0.00)	-0.1544 (-0.33)	-0.0818* (-1.89)

(Contd...)

Table 7: ***(Continued)***

Event Window	[-2; +2]					
Treatment	Dual Ousted					
Control	Forced CEO only					
	Asset Growth	Investment	Leverage	ROA	Tobin's Q	Cash Flow
Board Size	0.0061 (0.34)	-0.0202 (-0.77)	0.0094 (0.40)	0.0011 (0.60)	0.0424 (1.54)	-0.0001 (-0.04)
Board Share Independent	-0.1568 (-0.54)	-0.2133 (-1.13)	-0.1701 (-0.77)	-0.0724* (-1.76)	-0.1796 (-0.42)	-0.0449 (-0.82)
Attendance Problem	-0.0167 (-0.02)	-2.7910 (-0.85)	-0.0141 (-0.02)	-0.0066 (-0.08)	0.9460 (0.91)	-0.0818 (-0.64)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R square	0.399	0.428	0.512	0.859	0.838	0.709
Observations	349	319	349	349	349	349
Clustered at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes

The table reports the estimates of difference-in-differences regressions. The dependent variables are the 4-digit SIC code industry-adjusted variables identified in the column headers. Year zero is defined as the last fiscal year before the change event. All variables are measured at the end of the respective fiscal year. All variables are defined in Appendix A.1. Log (Total Assets) and log (Firm Age) are the natural logarithm of total assets and firm age, respectively. For firms with multiple events, every event is included individually. The Treatment Group Indicator equals one if the respective firm is in the treatment group. The treatment group are the ousted dual chairmen, the non-dual CEO are the control group, labelled as Forced CEO only. The Post-Treatment Indicator equals one for every observation after the change event. The DID Indicator is the interaction of the Treatment Group Indicator and the Post-Treatment Indicator. The results for asset growth are normalized by 100. All standard errors are clustered at the firm level, firm fixed effects are included. *t*-Statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively

For my event study research on corporate level, I focus on four policy variables which would indicate chairman style effects, similar to Fee, Hadlock, and Pierce (2013): return on asset (ROA), leverage, investment, and asset growth. Asset growth captures a wide range of growth types, including acquisition and divestment decisions of the firm. Investment measures the firm's capital spending intensity and thus its growth strategy. ROA is a general measure of accounting performance and leverage is an important indicator of the firm's financing policy. All these variables are dependent on choices made by the company and are potentially influenced by the chairman. To gain deeper insight into the potential operative influence of the chairmen, I additionally investigate cash flow. Furthermore, chairmen might have an indirect effect on the company value by preserving company knowledge (Maharjan, 2014) and influencing the long-term strategy (Quigley and Hambrick, 2012). I thus also include Tobin's Q to investigate the long-term growth opportunities and the firm value associated with chairmen effects (see, as references for the use of Tobin's Q, e.g., Yermack, 1996; Villalonga and Amit, 2006; Fracassi and Tate, 2012).

As in Fee, Hadlock, and Pierce (2013), I use industry-adjusted variables. I also follow their approach using four-digit Standard Industry Classification (SIC) codes rather than two-digit codes to define the relevant industries for the firms. There are three reasons for this: on the one hand, two-digit codes are not ideal measures of industry performance (e.g., using two-digit SIC codes, Boeing would be grouped into the same industry as Ferrari, Toyota, and Harley-Davidson). Second, I use the entire Compustat universe which covers more than 171,000 firm-year observations between 1998 and 2012 and leaves enough comparable firms for industry adjustments. Finally, there is only a very small difference between the two- and four-digit industry-adjusted variables: the variables are significantly positively related to each other in my change event data set with correlation coefficients of 0.77 to 0.92.

I perform my industry adjustment of the policy variables by subtracting the respective industry median based on peer-observations in a time bracket of six months before or after the respective observation date. This means that I include all observations of the respective industry in the comparison sample in which the particular fiscal year ends no more than six months prior to or after my policy variable observation. This ensures that the majority of the economic development of the fiscal year is covered by the peer firms. This is superior to the simple match using fiscal years, which in an extreme case causes virtually no overlapping of the economic periods (e.g., it could be the case that the fiscal year of an observation ends in June. By using the plain fiscal year provided by Compustat, that very fiscal year would comprise of all firms with fiscal year ends between June of that calendar year and May of the next year).

I use two sets of controls for company variables and for board characteristics which might cause changes in the policy variables but are not under the control of the chairman. However, I want to make sure that I do not cause multicollinearity issues or reduce the power of the regression approach by including too many correlated variables. I use the set of common controls as in section 5.4 that shows good statistical behavior, is economically meaningful, and is frequently used in literature (see, e.g. Nguyen and Nielsen, 2010; Fracassi and Tate, 2012; Hoechle et al., 2012; Masulis, Wang, and Xie, 2012; Masulis and Mobbs, 2014). On the company level, I use the natural logarithm of inflation-adjusted total assets, the market-to-book ratio, the market leverage, and the natural logarithm of the age of the firm. These variables determine the overall framework of managerial decisions. Second, I include the board size, the share of independent directors on the board and the percentage of directors attending fewer than 75% of the board meetings (Attendance Problem) to control for changes in the governance structure of the company. All these variables account for the degree of board power, which could influence the individual chairman's power. The only challenge occurs in the analysis of Tobin's Q as an outcome as in this case I have to remove market-to-book as a control; the correlation to the dependent variable would cause the regression to break down. Following the approach of Fee, Hadlock, and Pierce (2013), I could also include cash flow as an additional control. This does not, however, change the results.

For the difference-in-differences setting, I define the post-treatment variable as a binary variable taking the value of one after the change event and zero before. Similarly, I define the treatment variable as one for the treatment group and zero for the control group. The difference-in-differences indicator

Table 8: Regression analysis of stock price reactions to chairman change events, value-weighted case.

Event Window [- 2; + 1]	Endogeneous Cases					Exogeneous Cases				
Value Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Dual Indicator	-0.7917**	-0.8644***				0.0618	-0.0893			
	(-2.12)	(-3.41)				(0.24)	(-0.50)			
Founder Indicator	-0.2788	0.0448				0.2225	0.2863			
	(-0.55)	(0.12)				(0.91)	(1.07)			
Executive CM Indicator	-0.6781	-0.4022				0.1663	0.2619			
	(-0.84)	(-0.76)				(0.70)	(0.71)			
Voting Power CM	0.0081		0.0079			-0.0017		-0.0026		
	(0.38)		(0.39)			(-0.32)		(-0.58)		
Board Tenure CM	-0.0222		0.0000			0.0205		0.0000		
	(-0.60)		(0.14)			(0.86)		(0.40)		
Difference to Board Tenure of CEO	0.0215		0.0003			0.0028		0.0000		
	(0.69)		(1.29)			(0.24)		(0.24)		
Board Percent longer Director than CM	-0.0557		-0.0026			-0.3671		-0.0044		
	(-0.07)		(-0.38)			(-0.96)		(-1.15)		
Oustside Directorships	-0.1926		-0.0024			0.0261		0.0006		
	(-1.08)		(-1.58)			(0.40)		(0.77)		
Age CM	0.0190		0.0003			-0.0074		-0.0001		
	(0.62)		(1.13)			(-0.40)		(-0.84)		
Tenure CM in Years	0.0329			0.0268		-0.0222			-0.0198	
	(0.85)			(0.95)		(-1.20)			(-1.33)	
Tenure CEO in Years	0.0317			0.0001		-0.0062			0.0000	
	(0.87)			(0.52)		(-0.42)			(0.65)	
Time between CEO End and CM End in Years	-0.0407			0.0004		0.0170			0.0010*	
	(-0.51)			(0.67)		(0.91)			(1.75)	

(Contd...)

Table 8: ***(Continued)***

Event Window [- 2; + 1]	Endogeneous Cases					Exogeneous Cases				
Value Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Time between Announcement and CM End in Years	0.0942			0.0030		1.4308**			0.0077*	
	(0.22)			(1.01)		(2.43)			(1.64)	
Employed Indicator	0.2012			0.0029		-0.2349			-0.0015	
	(0.48)			(0.97)		(-1.07)			(-0.75)	
CM remains on Board Indicator	-0.0950				0.1462	0.0558				0.1444
	(-0.22)				(0.44)	(0.25)				(0.67)
Active on other Boards after Leave Indicator	-0.3287				-0.2694	0.2494				0.0165
	(-0.84)				(-0.93)	(0.93)				(0.06)
Successor is CEO Indicator	0.0556				0.1712	-0.1899				-0.2920**
	(0.16)				(0.61)	(-1.63)				(-1.97)
log (Total Assets)	-0.5794***	-0.6127***	-0.5712***	-0.6229***	-0.6253***	0.0789	0.1331**	0.0783	0.1426	0.1489
	(-4.63)	(-6.51)	(-4.77)	(-6.57)	(-6.34)	(0.56)	(2.06)	(0.55)	(1.34)	(1.27)
Market Leverage	0.7736	0.6260	0.7078	0.5809	0.4578	0.0098	-0.0266	0.2275	-0.1096	-0.1008
	(1.07)	(1.05)	(1.01)	(0.97)	(0.74)	(0.02)	(-0.05)	(0.51)	(-0.25)	(-0.21)
Market-to-Book	-0.3381**	-0.3560***	-0.3314**	-0.3537***	-0.3474***	0.0577	0.0882	0.0908	0.0789	0.1045
	(-2.46)	(-3.06)	(-2.48)	(-3.01)	(-2.93)	(0.50)	(1.00)	(0.69)	(0.66)	(0.81)
log (Firm Age)	0.2908	0.2943*	0.2483	0.2158	0.2843*	-0.0113	0.0263	0.0345	0.0012	0.0240
	(1.38)	(1.87)	(1.24)	(1.36)	(1.77)	(-0.10)	(0.22)	(0.35)	(0.01)	(0.25)
Board Size	0.1544**	0.1597***	0.1620**	0.1753***	0.1767***	-0.0368	-0.0098	-0.0468	-0.0129	-0.0073
	(2.31)	(2.85)	(2.52)	(3.12)	(3.10)	(-0.87)	(-0.26)	(-1.04)	(-0.32)	(-0.19)
Board Share Independent	0.8585	0.3431	0.5738	0.2534	0.0082	-0.1616	0.0604	-0.0138	-0.0547	-0.0227
	(0.82)	(0.39)	(0.57)	(0.28)	(0.00)	(-0.30)	(0.08)	(-0.02)	(-0.09)	(-0.04)
Attendence Problem	3.1700	2.8719	2.8403	2.1755	2.7908	0.4045	1.8950	-0.0865	2.5012	2.0599
	(1.03)	(1.07)	(0.94)	(0.80)	(1.02)	(0.44)	(0.97)	(-0.09)	(1.62)	(1.23)

(Contd...)

Table 8: ***(Continued)***

Event Window [- 2; + 1]	Endogeneous Cases					Exogeneous Cases				
Value Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
FF Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	588	722	588	722	713	497	656	497	656	646
R square	0.086	0.086	0.086	0.091	0.083	0.067	0.087	0.067	0.106	0.089
Heteroscedasticity corrected	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes

This table shows the coefficient estimates of the stock price reaction to the chairman change events. The dependent variable is the cross-section of cumulative market-model adjusted monthly abnormal stock returns from minus two to plus one, with zero defined as the last month end before the change event. For the value-weighted return cases, the abnormal return observations are weighted with the market capitalization (outstanding shares multiplied with the closing price of the respective month end, normalized to values between 0 and 1) before the cumulation. For better visibility, the estimates are scaled by 100. The independent variables are measured for the last fiscal year before the change event. All variables are defined in Appendix A.1. Log (Total Assets) and log (Firm Age) are defined as the natural logarithm of total assets and firm age, respectively. The industry fixed effects reflect Fama and French's five industry classes. The year fixed effects are for calendar years of the fiscal year ends in the panel. White's heteroskedasticity-corrected covariance matrices are used for p-values if the respective Breusch-Pagan test statistics is significant at the 5% level. All variables are winsorized at the 1% and the 99% level. *t*-Statistics are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively

is the interaction of these two dummies. Furthermore, as in Fracassi and Tate (2012), I cluster standard errors at the firm level to control for serial correlation at firm level. I also use firm fixed effects, as the authors propose. I am concerned, however, that by applying firm fixed effects I cause overfitting in the model, as there is only one turnover event in my sample for the majority of firms in my sample. Thus, I redo my difference-in-differences approaches with Fama-French five industries fixed effects instead. My results remain unchanged by this.

My results show that chairmanship is an additional entrenchment for CEOs, making it less likely for them to be ousted (see, e.g., Hazarika, Karpoff, and Nahata, 2012). The stock performance is significantly worse for chairmen-CEO around the change event compared to the non-dual CEOs by 7 to 17% (on the event date 3 to 9%, see Appendix Table A.16). Although there is no significant difference beyond that, I observe that the stock price does not rebound, i.e., it does not go up for either case after the change event. So, the drop in stock performance must be more severe to cause a dual CEO to be removed than for the removal of a non-dual CEO (see also the results for the abnormal returns in Appendix Table A.16).

Concerning the policy variables, the industry-adjusted cash flow of firms that oust their chairman-CEO is about 4% lower than for non-chairman CEOs after the change event. Also, the industry-adjusted asset growth decreases by 9 to 12% following chairman-CEOs being fired compared to non-dual CEOs. These effects are also stable without controls and in different control settings (see Appendix Table A.13). The hampered growth and operating performance after chairman-CEO dismissal can have two explanations: first, the economic situation of the firm ousting a chairman-CEO is worse than for firm ousting a non-dual CEO. This suggests that cash flow (and asset growth) is rather a given firm factors for the decision to oust a CEO than under deliberation of the (new) CEO. Cash flow as operational performance measure is a very popular measure for CEO performance in compensation contracts (Nwaeze, Yang, and Yin, 2006). Thus, it is subject to CEO control, to a certain extend at least. However, I find cash flow to be a very fundamental company parameter which influences many other firm metrics like cash holdings (Almeida, Campello, and Weisbach, 2004), investment (Broussard, Buchenroth, and Pilotte, 2004), or even the stock price (Pan, Wang, and Weisbach, 2015). We can doubt that the loss of the managerial skills of the CEO is sufficient to influence this fundamental measure significantly more than accounting-based performance (ROA), investment decisions, or the capital structure of the company (leverage) over such a short period of two years. I argue that, in the short run, cash flow rather provides the economic framework for the CEO to make his/her decision about, e.g., growth strategy and leverage. This is also supposedly the reasoning for Fee, Hadlock, and Pierce (2013) to use cash flow as a control in their analysis.[17]

In this context, chairman-CEOs are more entrenched than non-dual CEOs and do not get fired until the prespectives for their companies worsen and they are viewed as the face of the crisis (see, e.g., also the argument of Malmendier and Tate (2009) that CEOs are the face of the firm).[18] This also explains why the stock price declines around the change event: the stock market revalues the company on a lower level. Also, the significantly lower ROA of 2.7% for ousted dual chairmen after the change event in the first panel of Table 7 gives evidence for the tense economic situation of the firm. In this framework of a crisis, the companies do not or cannot change their fundamental policies, which would also explain the lack of a consistent change in leverage or investment.

The entrenchment argument also opens the second line of reasoning behind the drop in cash flow and the shrinking of the firm: the end of empire building. Taking a closer look at the components of the firm performance variables, the two main differences between cash flow and ROA are the inclusion of non-operating income and depreciations. Entrenched chairman-CEOs are more prone to empire building and investing in non-core business (see, e.g., Jensen, 1986; Shleifer

17 See Fee, Hadlock, and Pierce (2013), p. 598.

18 In fact, over the following two years there is a significant decrease in cash flow for chairman-CEO ousting firms of -2.77% (p-value: 0.09332) and a shrinking of total assets of -9.9989% (p-value: 0.0205), compared to an insignificant change in cash flow of -0.87% (p-value: 0.4226) and also insignificant book asset decrease of -3.660% (p-value: 0.2397) for non-dual CEO.

and Vishny, 1989; Stulz, 1990; Hope and Thomas, 2008). When they are removed, the company refocuses on its core business, gets rid of superfluous divisions (consistent with negative asset growth, see Weisbach, 1995), and reduces non-operating and special items in the income statement (consistent with the reduced cash flow). A more efficient, smaller company is eventually valued relatively more, but first the market value in absolute terms would decrease when removing excess business ventures, which is consistent with the results from my event study. In this context, these old leaders preserve their empire as long as possible until their retirement. Although this explanation seems appealing, however, I do not find corresponding announcements of major structural changes around the chairman change events (I excluded these cases as confounding events), and there still is no change in other core variables like leverage and investment. A more detailed investigation of these aspects, which would also have to include an analysis of acquisition decisions, is beyond the scope of this work however.

Thus, I find further support for the idea that the role of the chairman is not by itself an important role but enforces entrenchment and decreases performance sensitivity CEO turnovers. In a crisis, chairmen-CEOs are perceived as liabilities to their company, maybe also due to empire building of the dual chairman before the crisis, and guard their position under even more unfavorable circumstances than non-dual CEOs. Nevertheless, these inferences are limited by the sample size of my study. I only have 56 observations for forced CEO departures and 71 for ousted chairman-CEOs. These are too few observations to warrant a final conclusion. This also explains why I do not find a significant difference in the compensation for the two data sets although I would expect this from the literature (see Core, Holthausen, and Larcker, 1999; Grinstein and Hribar, 2004). My results might motivate, though, further research about the differences between chairmen-CEO and non-dual CEO dismissals.

5.4. Regression analysis of abnormal returns around chairman turnovers

In this section, I investigate what drives the stock market reactions to chairman changes. Inspired by Nguyen and Nielsen (2010), I perform a regression analysis on the cumulative market-model adjusted stock returns, as calculated in section 5.1.

As seen in section 5.1, the stock market predominately reacts to chairman changes in the time before or at the change event. Thus, I focus on the cumulative market-model adjusted monthly abnormal returns from minus two to plus one, where zero is the month end immediately before the chairman change event. This makes economically sense as I account for the quarter of a year before the change event with the three observations between minus two and zero, and the reaction around the change event itself (which lies between zero and plus one). As in previous sections, I winsorize at the 1% and 99% level all stock returns and the company accounting data for the entire change data set, except for total assets.

For the dependent variable in my regressions, I follow two approaches: first, as in Nguyen and Nielsen (2010), I use market value-weighted stock returns. I do this by multiplying every stock return with the respective market value defined as the product of shares outstanding and the closing price at the end of the month for every return observation. I normalize the weighted returns by the maximum market value in my change panel for the respective month relative to the change event, e.g., all observations for month zero are weighted with a value between zero and one, according to the relative market capitalization for that date relative to the date zero observation.[19] My second approach uses unweighted cumulative market-model adjusted stock returns. If I use the value weighting to control for smaller firms, as Nguyen and Nielsen (2010) argue, unweighted returns shed light on the behavior of smaller firms.

The next question to ask is which independent variables should be included. There are several

19 I can alleviate concerns about the fact that I do not normalize all observations with one common value as market capitalization is strongly serially correlated, almost always with a correlation coefficient of around 0.99. It would not change much, thus, if I picked, for example, the market cap in t=0 as weighting for all observations.

characteristics of the chairman, board, and the firm itself which could be interesting to investigate. However, in order not to spur the regression with multicollinearity, I must choose those variables that combine economical meaning and behave well statistically. I combine three approaches to select the most suitable variables: first, a stepwise model selection process using the Akaike Information Criterion (AIC) gives an indication of suitable variable combinations. Second, I use a ridge regression to select variables that show little multicollinearity. Finally, variance inflation factor (VIF) estimates control for the correlation of the independent variables in every regression setting. The model selection process optimizes the AIC for different combinations of parameters. As I want to cover different economically relevant characteristics, I specify three subcategories of controls: company variables which include company data as controls such as total assets and market leverage, board characteristics which encompass governance characteristics such as board size or busy board indicators, and finally chairman characteristics like tenure and age. I conduct the model selection process for different combinations of industry and year fixed effects as well as for equally and value-weighted cumulative returns. This gives an indication of the relevant controls which explain common portions of stock return variation but are not associated to chairman changes. I check the selected variable combinations via ridge regression, encompassing all variables, industry and year fixed effects. A ridge regression mitigates the effect of multicollinearity by adding a correction parameter which reduces the variance of estimators at the expense of biased estimates (Hoerl and Kennard, 1970). For a larger correction parameter, the estimates approach zero, as do their variances. The speed at which this happens, however, can be used as an indication of the contribution of the variable to multicollinearity, i.e., more multicollinear variables are more affected by the correction. Thus, I search for those variables that have the most stable coefficient estimates over different correction parameter settings. This leaves me with the final selection of controls for my regression. As a final check on multicollinearity, I calculate the VIF for every regression I perform. My final parameters, which have the best behavior concerning multicollinearity as well as economical meaning, show no problematic level of variance inflation in any of my regressions.[20] I thus select as controls the natural logarithm of total assets, market leverage, market-to-book ratio, and the natural logarithm of firm age as firm level controls, and the board size, share of independent board member, and the percentage of directors attending fewer than 75% of meetings (Attendance Problem) as board controls. These variables are also used in the literature (see, e.g., Nguyen and Nielsen, 2010; Fracassi and Tate, 2012; Masulis and Mobbs, 2014). Additionally, I include industry fixed effects based on Fama-French's five industry classification (Nguyen and Nielsen, 2010). Furthermore, I include year fixed effects to control for variations in the business cycle (see, e.g., Eisfeldt and Kuhnen, 2013). All variables are chosen for the last fiscal year before the chairman change.

The variables relevant for this study, however, are the chairman characteristics. As I want to draw a broad picture of what influences the returns, I include a large set of variables, conditional on good statistical behavior and economic non-redundancy with other variables. To specify the position of the chairman in the firm, I include, aside from the already defined duality indicator variable, also a founder dummy which is one if I found evidence in the news search that the chairman was also one of the company's founders, and an executive chairman indicator dummy variable, which takes the value of one if the chairman is identified as executive chairman in the last position before leaving the company in BoardEx. To additionally investigate the influence of the chairman on the board, I include a voting power variable, i.e., the share of voting rights held by the chairman, the tenure on the board, the difference in the board tenure compared to the CEO, the percentage of board members which have a longer tenure than the chairman, the number of outside directorships held by the chairman, and the age of the chairman. All these variables are taken from ISS. Furthermore, I want to control for parameters of the tenure structure with the tenure in years as chairman and the tenure in years as CEO, the time between the CEO and chairman tenure end (as I outlined earlier, a majority of chairmen also served as CEOs prior to their chairman term end; I take the last non-interim CEO term before the turnover for this variable), the time between announcement and chairman tenure end, and

20 A problematic level for VIFs would be a value of four, i.e., doubling the standard error of the estimate due to multicollinearity.

finally an employment indicator which takes a value of one if the non-dual chairman was a fulltime employed director in the last position before leaving the chairman poste (dual chairmen are always employed, so I exclude these cases for the variable). All these variables are taken from BoardEx, or, if other information is available, from my news search. Finally, I also control for what happens after the chairman tenure ends. Specifically, I include three dummy variables. The first dummy is one if the chairman stays as director on the board after his/her tenure has ended. The second variable, Active on other Boards after Exit, is one if the chairman can be found on another board of the ISS universe after leaving the company. Finally, I include an indicator variable which equals one if the successor as chairman is also CEO of the company. I collect all information for these variables from ISS and my panel. As I am concerned about heteroskedasticity due to time-varying noise levels, I examine every regression for heteroskedasticity by using the Breusch-Pagan test and correct with White's heteroskedasticity-corrected covariance matrix if I find heteroskedasticity at the 5% significance level.

I report the results for value-weighted cases in Table 8 and Table 10, and for equally weighted cases in Table 9 and Table 11.[21] In Table 8 and Table 9, I perform for every category first a regression with all parameters included, followed by four regressions for every chairman parameter category, as described above, to minimize problems of multicollinearity. For Table 10 and Table 11, I only report the regression results with all variables included.

For the value-weighted cumulative stock returns in Table 8, there is no significant coefficient for chairman characteristics, except for the strongly negative duality indicator in the endogenous cases. The coefficient for the time between announcement and chairman tenure end in the exogenous cases does not persist in a regression analysis without other variables except for the controls (see Appendix Table A.20). This confirms my previous results from the policy variable investigation that chairmen seem to matter little in very large companies.

For the equally weighted cases in Table 9, we see more significant results. In the endogenous cases, there is a positive effect of 0.78 to 0.9% for every additional year of age of the chairman. Similarly, every additional year of tenure as chairman for the leaving chairman has a positive effect of 0.59 to 0.64%, and every additional year between the CEO tenure end and the chairman tenure end of 1.19 to 1.7%.[22] The market apparently reacts positively when a non-executive chairman leaves the company after a long tenure. The results for the exogenous cases support this view; there is a positive impact for the founder indicator of 7.3 to 10.1%, the chairman age (0.85 to 0.87% for every year), for chairmen who stay on the board (5.1 to 7.7%), and for chairmen who are succeeded by the CEO as chairman (4.0 to 6.7%).[23] The negative impact of the employment indicator for exogenous departure cases and the negative estimate for executive chairmen in endogenous cases do not survive in regressions without other independent variables except for the controls (see Appendix Table A.21 and Table A.22).

The stock market reacts positively when an old influential chairman frees up his/her post but continues to provide knowledge to the company as a board member. For exogenous cases, a strong dual successor has a positive impact, too. This is consistent with the idea that smaller companies are more in need of a leadership figure. Experienced chairmen are valuable advisors to the executive leaders of the firm, especially as they are frequently former CEOs (see Adams and Ferreira, 2007; Maharjan, 2014).

Chairmen are significantly younger in the endogenous cases than in the exogenous cases (54.57 years compared to 64.27 years, on average). This explains why there is still such a negative value for executive chairmen leaving the firm. When the chairman leaves while being a central part of

21 Due to space restriction, I do not report the estimates for the controls. See Appendix Table A.18, Table A.19, Table A.27, and Table A.28.

22 Interestingly, the duality indicator does not have a significant impact in the presence of other variables. Nevertheless, we could argue that the time between CEO and chairman end is a proxy for duality.

23 As the exogenous cases are driven by retirements, the dummy for whether the chairman stays stays on the board is meaningful also in case of exogeneous departures.

Table 9: Regression analysis of stock price reactions to chairman change events, equally weighted case.

Event Window [- 2; + 1]	Endogeneous Cases					Exogeneous Cases				
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Dual Indicator	-0.0432	-0.1012***				0.0029	-0.0201			
	(-1.33)	(-4.66)				(0.10)	(-1.10)			
Founder Indicator	-0.0265	0.0026				0.1012***	0.0731**			
	(-0.60)	(0.06)				(2.77)	(2.47)			
Executive CM Indicator	-0.1086**	-0.0783**				0.0881*	0.0059			
	(-2.30)	(-2.53)				(1.81)	(0.19)			
Voting Power CM	0.0004		0.0009			-0.0000		-0.0004		
	(0.34)		(0.70)			(-0.07)		(-0.50)		
Board Tenure CM	-0.0056*		-0.0021			0.0002		-0.0004		
	(-1.87)		(-0.87)			(0.10)		(-0.28)		
Difference to Board Tenure of CEO	0.0030		0.0055***			-0.0017		-0.0016		
	(1.37)		(2.58)			(-1.11)		(-1.18)		
Board Percent longer Director than CM	-0.0646		-0.0828			-0.0608		-0.0702		
	(-1.08)		(-1.43)			(-1.03)		(-1.20)		
Oustside Directorships	0.0069		0.0027			0.0052		0.0144		
	(0.53)		(0.21)			(0.51)		(1.57)		
Age CM	0.0078***		0.0090***			0.0087**		0.0085**		
	(2.63)		(3.29)			(2.52)		(2.45)		
Tenure CM in Years	0.0064*			0.0059**		-0.0013			0.0017	
	(1.75)			(2.16)		(-0.61)			(0.97)	
Tenure CEO in Years	-0.0010			-0.0019		-0.0014			-0.0016	
	(-0.35)			(-0.73)		(-0.80)			(-1.04)	
Time between CEO End and CM End in Years	0.0119**			0.0170***		0.0030			0.0040	
	(1.97)			(2.95)		(0.57)			(1.12)	
Time between Announcement and CM End in Years	0.0230			0.0372*		0.0813**			0.0363	
	(0.78)			(1.66)		(2.13)			(1.34)	

(Contd...)

Table 9: ***(Continued)***

Event Window [- 2; + 1]	**Endogeneous Cases**					**Exogeneous Cases**				
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Employed Indicator	0.0222			0.0091		-0.0618**			-0.0375*	
	(0.75)			(0.37)		(-2.10)			(-1.80)	
CM remains on Board	0.0395				0.0660**	0.0505*				0.0773***
Indicator	(1.15)				(2.34)	(1.77)				(3.68)
Active on other Boards after	-0.0091				0.0123	0.0345				0.0346
Leave Indicator	(-0.29)				(0.47)	(0.98)				(1.43)
Successor is CEO Indicator	0.0126				0.0340	0.0666**				0.0404**
	(0.43)				(1.31)	(2.58)				(1.96)
log (Total Assets)	-0.0213*	-0.0188**	-0.0208*	-0.0179*	-0.0226**	-0.0098	0.0013	-0.0088	0.0023	-0.0029
	(-1.87)	(-2.04)	(-1.81)	(-1.95)	(-2.29)	(-1.00)	(0.20)	(-0.90)	(0.33)	(-0.41)
Market Leverage	-0.1268*	-0.1395**	-0.1307*	-0.1427**	-0.1462**	-0.0898	-0.0599	-0.1081	-0.0738	-0.0370
	(-1.73)	(-2.12)	(-1.75)	(-2.15)	(-2.14)	(-1.11)	(-0.91)	(-1.36)	(-1.12)	(-0.58)
Market-to-Book	-0.0420***	-0.0408***	-0.0401***	-0.0401***	-0.0410***	-0.0173	-0.0088	-0.0146	-0.0080	-0.0063
	(-3.04)	(-3.26)	(-2.87)	(-3.16)	(-3.13)	(-1.58)	(-0.93)	(-1.33)	(-0.83)	(-0.64)
log (Firm Age)	0.0437**	0.0550***	0.0418**	0.0451***	0.0498***	0.0210	0.0301***	0.0241*	0.0265**	0.0251**
	(2.36)	(3.44)	(2.34)	(2.91)	(3.09)	(1.42)	(2.62)	(1.68)	(2.28)	(2.23)
Board Size	0.0017	0.0032	0.0024	0.0050	0.0040	0.0055	0.0039	0.0050	0.0037	0.0012
	(0.32)	(0.69)	(0.47)	(1.06)	(0.83)	(1.24)	(1.06)	(1.10)	(1.01)	(0.33)
Board Share Independent	0.1829*	0.1342	0.1276	0.1562*	0.0995	-0.1161	-0.0490	-0.0960	-0.0750	-0.1069
	(1.91)	(1.44)	(1.32)	(1.66)	(1.08)	(-1.47)	(-0.72)	(-1.26)	(-1.08)	(-1.60)
Attendence Problem	0.5124*	0.5843**	0.4833	0.5090*	0.5085*	0.0752	0.0233	0.0712	0.0812	0.0762
	(1.65)	(2.09)	(1.53)	(1.78)	(1.78)	(0.33)	(0.10)	(0.30)	(0.37)	(0.35)
FF Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	588	722	588	722	713	497	656	497	656	646
R square	0.141	0.129	0.141	0.136	0.113	0.138	0.099	0.138	0.097	0.113
Heteroscedasticity corrected	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The dependent variables are unweighted returns, all other settings are equal to Table 8

Table 10: Regression analysis of stock price reactions to chairman change events, value-weighted case, separate dual and non-dual.

Event Window [- 2; + 1]				
Value Weighted Returns	**Endogeneous Cases - Non-Dual**	**Endogeneous Cases - Dual**	**Exogeneous Cases - Non-Dual**	**Exogeneous Cases - Dual**
Founder Indicator	-0.2842 (-0.68)	-0.0055 (-0.00)	-0.0428 (-0.31)	1.3263*(1.67)
Executive CM Indicator	-0.1053 (-0.19)	-3.5776 (-0.70)	0.1758 (0.80)	1.0961 (1.14)
Voting Power CM	0.0300 (1.03)	0.0056 (0.18)	0.0057 (0.94)	-0.0003 (-0.02)
Board Tenure CM	-0.0315 (-0.95)	0.0354 (0.50)	-0.0137 (-1.54)	0.0725 (1.37)
Difference to Board Tenure of CEO	0.0142 (0.62)	0.0398 (0.36)	0.0067 (0.95)	0.1057 (0.93)
Board Percent longer Director than CM	-0.8552 (-1.18)	1.2312 (1.01)	-0.1028 (-0.31)	-0.8332 (-1.11)
Oustside Directorships	-0.1023 (-0.60)	-0.3267 (-1.08)	0.0441 (0.77)	-0.0170 (-0.10)
Age CM	0.0452 (1.62)	-0.0056 (-0.10)	0.0308***(2.77)	-0.0126 (-0.42)
Tenure CM in Years	0.0024 (0.07)	0.0586 (0.68)	0.0095 (1.05)	-0.0953*(-1.77)
Tenure CEO in Years	0.0436 (1.50)	-0.0216 (-0.23)	0.0053 (0.77)	-0.0458 (-1.02)
Time between CEO End and CM End in Years	0.0179 (0.35)	0.9758 (0.43)	0.0093 (0.66)	-2.0295 (-1.39)
Time between Announcement and CM End in Years	-0.3660 (-1.13)	0.3236 (0.31)	1.3716*(1.80)	2.1931**(2.32)
Employed Indicator	-0.1117 (-0.34)	0.9211 (0.87)	-0.1206 (-0.81)	-0.8636 (-1.34)
CM remains on Board Indicator	-0.1436 (-0.41)	0.3798 (0.36)	-0.1834 (-1.17)	0.2411 (0.50)
Active on other Boards after Leave Indicator	0.0562 (0.13)	-0.5283 (-0.84)	-0.1924 (-0.74)	0.8776 (1.53)
Successor is CEO Indicator	0.1717 (0.50)	0.3629 (0.60)	-0.1025 (-0.84)	-0.3954 (-1.45)
log (Total Assets)	0.0595 (0.50)	-1.0954***(-4.92)	-0.0075 (-0.09)	0.0832 (0.34)
Market Leverage	-0.3598 (-0.49)	1.5571 (1.29)	-0.4711 (-1.33)	0.1198 (0.15)
Market-to-Book	-0.1027 (-0.88)	-0.6341**(-2.44)	0.0124 (0.17)	-0.0126 (-0.03)
log (Firm Age)	0.1406 (0.71)	0.3177 (0.89)	0.1089 (1.32)	-0.1517 (-0.81)
Board Size	0.0123 (0.19)	0.2665**(2.26)	0.0107 (0.39)	-0.0431 (-0.61)
Board Share Independent	0.5693 (0.60)	1.1756 (0.62)	-0.4389 (-1.29)	0.2857 (0.26)
Attendence Problem	2.6628 (0.91)	3.3921 (0.65)	0.6741 (0.99)	-2.0741 (-0.53)
FF Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	284	313	284	204
R square	0.232	0.183	0.232	0.246
Heteroscedasticity corrected	Yes	No	Yes	Yes

All settings are equal to Table 8, column (1).

the management team, this is valued negatively. At the same time, the significantly positive coefficient for age, tenure, and the difference to the tenure as CEO for the endogenous cases provide evidence that the market is relieved when an old leader makes room for a new generation. Firms with endogenous chairman departures might need a chairman which is more integrated in the operations of the firm and thus actively decide on the position.

Consistent with the strong results for equally weighted cases, small companies assumedly suffer more from empire building by the strong chairman. The market reacts positively when the company can shift its growth strategy after the retirement or removal of the chairman, or even the founder for exogenous cases. These results are consistent with Waelchli and Zeller (2013) who show that ageing chairmen have a negative effect on performance for unlisted companies and no significant effect for larger listed firms.

As a side note, it is interesting that in the exogenous value-weighted cases, in the aftermath of the change event, there is a negative reaction for duality and a positive coefficient if the chairman is active on other boards after leaving the company (see Appendix Table A.23 and Table A.24). This supports the view that natural retirements are quasi exogenous. When a company loses its leader, it still shows a very negative stock market reaction. When that leader refocuses on other positions, however, the reaction is less severe. This indicates an internal succession process before the chairman leaves the board exogenously. As all other coefficients are insignificant, I can confirm the result of the event study that effects are only observable up to the change event.

Table 10 and Table 11 report regression results for the four main cases of chairman departures: dual or non-dual and endogenous or exogenous, respectively. For the value-weighted cases, endogenous shifts lead to almost no significant estimates. This can also be seen in the results for regressions with only one variable of interest as independent variable (see Table A.25). For exogenous cases, age is a strong driver of stock price reactions in non-dual observations. This is consistent with the notion that older chairmen are frequently engaged in a passing the baton process and the market appreciates when the succession process is finished (see Vancil, 1987; Brickley, Coles, and Jarrell, 1997; Naveen, 2006). Also, the significant positive impacts of time between announcement and chairman term end for dual cases can be interpreted as the positive impact of a well-planned retirement process. At the same time, endogenous removals of a chairman seem to not be part of a succession process but proof of the relative power of the board over the chairman. This explains the missing significant estimates for any chairman characteristic.

Analyzing the equally weighted cases, most results in Table 11 are driven by non-dual cases. For endogenous cases, there is a positive impact of age (1.43% per year of age), the time between CEO tenure end and chairman tenure end (1.56% per year), and if the successor is CEO (9.16% if yes).[24] Consistent with the age criterion, the negative estimate for the share of directors with longer tenure (estimate of -18.53%) means that the returns are more positive for older relatively more experienced chairmen leaving the company. These findings are consistent with the idea of passing the baton and older chairmen opening room for new generations, which can be observed in Table 9. The significant age estimate for dual exogenous cases (1.53% per year) could also be interpreted as a reaction to a generational change. These results furthermore support the hypothesis that the market expects the excessive growth to be more easily reversible if the former CEO's empire building has stopped more recently and there is a strong successor in place.

The non-dual cases drive the results also in the exogenous cases, except for the age coefficient. The founder indicator coefficient is significantly positive for both dual and non-dual cases (8.31 and 13.96%, respectively), the age estimate has a very positive impact for dual cases, and the employment variable estimate is negative for non-dual cases (minus 8.81%).[25] Compared to the endogenous cases, this might indicate a different kind of empire building: with the exogenous departures being generally

24 The coefficient estimate for the indicator if the chairman stays on the board is not significant without other variables. See Appendix Table A.26.

25 The estimates for the time between announcement and chairman tenure end and the dummy if the successor is CEO is not significant without other variables. See Appendix Table A.26.

Table 11: Regression analysis of stock price reactions to chairman change events, equally weighted case, separate dual and non-dual.

Event Window [- 2; + 1]				
Equally Weighted Returns	**Endogeneous Cases - Non-Dual**	**Endogeneous Cases - Dual**	**Exogeneous Cases - Non-Dual**	**Exogeneous Cases - Dual**
Founder Indicator	-0.0303 (-0.55)	-0.0386 (-0.48)	0.0831**(2.05)	0.1396*(1.89)
Executive CM Indicator	-0.0187 (-0.25)	-0.2197 (-1.44)	0.0622 (1.11)	0.1091 (0.86)
Voting Power CM	0.0015 (0.40)	0.0020 (1.50)	0.0004 (0.17)	0.0002 (0.12)
Board Tenure CM	-0.0049 (-1.13)	-0.0049 (-1.07)	0.0027 (1.02)	-0.0026 (-0.74)
Difference to Board Tenure of CEO	-0.0005 (-0.18)	0.0122 (2.14)	-0.0026 (-1.49)	-0.0000 (-0.00)
Board Percent longer Director than CM	-0.1853*(-1.95)	0.0405 (0.47)	-0.0811 (-1.07)	-0.0200 (-0.21)
Oustside Directorships	-0.0029 (-0.13)	0.0070 (0.37)	0.0118 (0.96)	-0.0009 (-0.04)
Age CM	0.0143***(3.93)	-0.0006 (-0.14)	0.0051 (0.90)	0.0153***(3.72)
Tenure CM in Years	0.0046 (1.11)	0.0099 (1.10)	-0.0014 (-0.57)	-0.0025 (-0.47)
Tenure CEO in Years	-0.0005 (-0.14)	0.0003 (0.05)	-0.0020 (-0.93)	-0.0017 (-0.35)
Time between CEO End and CM End in Years	0.0156**(2.37)	0.1712 (1.20)	0.0031 (0.62)	0.1927 (1.20)
Time between Announcement and CM End in Years	-0.0183 (-0.43)	0.1159 (1.58)	0.1168*(1.78)	0.0208 (0.30)
Employed Indicator	0.0390 (0.92)	-0.0800 (-1.31)	-0.0881**(-2.38)	-0.0200 (-0.27)
CM remains on Board Indicator	0.0770*(1.69)	0.0277 (0.37)	0.0321 (0.85)	0.0552 (0.94)
Active on other Boards after Leave Indicator	0.0399 (0.72)	-0.0324 (-0.87)	0.0451 (0.93)	0.0114 (0.19)
Successor is CEO Indicator	0.0916**(2.07)	-0.0308 (-0.72)	0.0675*(1.95)	0.0624 (1.49)
log (Total Assets)	-0.0147 (-0.96)	-0.0182 (-0.94)	-0.0059 (-0.44)	-0.0004 (-0.02)
Market Leverage	-0.0518 (-0.54)	-0.1567 (-1.49)	-0.0841 (-0.71)	-0.1022 (-0.93)
Market-to-Book	-0.0422***(-2.77)	-0.0462***(-2.92)	-0.0071 (-0.48)	-0.0398*(-1.74)
log (Firm Age)	0.0029 (0.11)	0.0561**(2.11)	0.0483**(2.15)	0.0033 (0.13)
Board Size	-0.0006 (-0.07)	0.0033 (0.41)	0.0013 (0.19)	0.0071 (0.92)
Board Share Independent	0.2673**(2.16)	0.1206 (0.96)	-0.1371 (-1.30)	-0.2512 (-1.60)
Attendence Problem	0.5152 (1.34)	0.4704 (1.12)	0.3045 (1.18)	-0.6989 (-1.38)
FF Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	284	313	284	204
R square	0.187	0.208	0.187	0.346
Heteroscedasticity corrected	Yes	Yes	Yes	No

The dependent variables are unweighted returns, all other settings are equal to Table 8, columns (1)

an older chairman, there is a more structural empire built up over a longer period of time (maybe even since the founding, which explains the positive estimate for the founder indicator) for which the company needs a more elaborate strategy to reverse. The market, thus, appreciates the end of the chairmanship and waits for strategic changes of the company. In endogenous cases, on the other hand, a strong successor is already enough to roll back the empire of the predecessor. By definition, in these cases the company has more control over the chairman turnover event and thus can better enforce these policy changes.

All in all, the chairman is not very important for larger firms. For smaller companies, however, chairmen are valuable as sources of experience and leadership but can be a burden if they stick to their positions for too long. These effects are mainly driven by non-dual cases, which supports the idea of passing the baton and chairmanship as interim step toward leaving the firm. Also, the notion of a shift away from an empire preserved by the older chairman finds support in these results.

6. Summary and Conclusion

This study investigates the importance of the position of the chairman of the board and its economic impact on the company. I investigate chairman change events for the S&P 1500 firms between 1998 and 2012 in terms of policy variables and stock market reactions. With a difference-in-differences approach comparing ousted chairman-CEOs to non-dual CEOs, I find significant downsizing and a drop in cash flow if the departing CEO is also chairman. This is evidence for excessive non-core business ("empire"), built by the chairman, frequently the former CEO, which is ultimately discontinued by his/her successor (Weisbach, 1995). However, both asset growth and cash flow are fundamental measures and I cannot rule out a second explanation: a strong entrenchment of chairman-CEOs who do not leave the company until faced with a structural crisis with limited growth and decreased operating performance.

This second interpretation is also consistent with my analysis of stock market reactions to chairmanship turnovers. My event study approach finds significantly negative stock market performance only for endogenous chairman-CEO dismissals. At the time of the announcement of the turnover, however, I find no significant effect, indicating that chairman removals follow bad market performances and not vice versa. A supplementary logit regression similarly shows a strong impact of negative industry-adjusted stock performance on the likelihood of a chairman-CEO dismissal. My regression analysis on the drivers of stock market reactions also buttresses the notion that the chairman-CEO has only limited importance in large companies. I find almost no significant influence of chairman characteristics on value-weighted abnormal stock returns around the change event.

On the other hand, for equally weighted cases that place more weight on smaller firms, I find significantly positive effects of age and tenure-related measures, if the chairman was one of the company founders, as well as for cases in which the chairman remains on the board and when there is a strong successor who is also CEO. This is consistent with the idea that smaller firms need more guidance and that the knowledge of the chairman has a high value for them. Older chairmen, however, can also hamper the development of a company by preserving their former empires (see Harjoto and Jo, 2009; Quigley and Hambrick, 2012; Maharjan, 2014).

There are some limitations to my approach. I observe an uneven distribution of observations among my subcategories. My endogenous data set mostly consists of cases with not enough information to clarify the reason for the chairman change, and thus I have to declare these cases by default as suspected forced departures. For exogenous cases, my dataset is even more dominated by the default category, natural retirement. As I did a very thorough news search and investigated every single observation, I can attribute this lack of detailed information to missing media coverage. I also observe only a small number of death or health related exogenous changes and few cases of explicitly forced chairman dismissals. One explanation could be the passing the baton theory where the planning process precludes extreme change events. This hypothesis might be worth of further research. I can also not rule out flaws in the methods applied, even though I corroborated all my results by varying the regression settings and variable compositions. Eventually, the number of observations is relatively small, thus I can only

conduct a case study for the comparison between forced dual and non-dual CEO turnovers. Also, the number of death- and health-related turnover events, which is the core data set for exogenous turnover events, is too small to show significant results in any of my analysis approaches. A broader observation base could offer better insights into the distinctive effects of chairmen in different types of companies and industries.

My research nevertheless offers a sound and detailed analysis of the importance of the position of the chairman of the board. As expected, I find only minor chairman effects in large firms. I show, however, that non-CEO chairmen are important to small companies. I also identify several other phenomena which are worth further investigation. It might be interesting, for example, to investigate the M&A policy of companies with a strong chairman as my findings on asset growth indicate shifts in firm acquisition behavior after chairman changes. My results on the stock market reaction before the dismissal of chairman-CEOs give rise to the general question about the influence of individuals on companies of different sizes as well as what role chairmen play as formal leaders in a crisis. Also, the market value of knowledge and experience on the board appears to be an interesting topic for further research in light of my regression analysis results. Beyond this, I hope to broaden the scope of research on leadership positions in firms. Non-CEO positions like the office of the president are still blank spots in corporate finance literature. With the increasing pressure on firms to split the CEO and chairman positions, I also expect the role of the chairman of the board to gain more importance in the future.

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Appendices

A.1: Variable definitions

Name	Description	Source
Active on other Boards after Exit Indicator	Dummy variable equals one if the chairman is active on other boards in the ISS universe after relinquishing the chairman position of the company	ISS
Age CM	Age of the chairman in years	ISS
Annual Stock Return	Closing price fiscal year end divided by adjustment factor (company) - cumulative by ex-date, plus dividends per share for fiscal year end divided by adjustment factor (company) - cumulative by ex-date, divided by closing price fiscal year end divided by adjustment factor minus one (company) - cumulative by ex-date for the previous year [(Item 24 (t) / Item 27 (t) + Item 26 (t) / Item 27 (t)) / (Item 24 (t-1) / Item 27 (t-1)) - 1]	Compustat
Asset Growth	Growth rate of inflation adjusted (i.a.) total assets from prior year to current year in percent [(i.a. Item 6 (t) - i.a. Item 6(t - 1)) / i.a. Item 6 (t - 1) * 100]	Compustat
Attendance Problem	Number of directors attending fewer than 75% of board meeting divided by board size [ATTEND_LESS75 / Board Size]	ISS
Board Percent longer Director than CM	Percent of the directors whose tenure started earlier than the board tenure of the chairman	ISS
Board Share Independent	Number of independent directors on the board divided by number of directors on the board [Count Independent Directors / Board Size]	ISS
Board Size	Number of directors on the board	ISS
Board Tenure	Number of years on the board	ISS
Cash Flow	Income before extraordinary items plus depreciation, normalized by start of year total book assets [(Item 14 + Item 18) / Item 6 (t-1)]	Compustat
CEO Tenure in Years	Time in years serving as CEO before the chairman tenure end	BoardEx / News Search

(Contd...)

A.1: ***(Continued)***

Name	Description	Source
CM remains on Board Indicator	Dummy variable equals one if the chairman stays on the board after relinquishing the chairman position	ISS
CM Tenure in Years	Time in years serving as chairman	BoardEx / News Search
Count Independent Directors	Number of independent directors on the board	ISS
Difference to Board Tenure of CEO	Difference in years between the board tenure of the CEO and the board tenure of the chairman	ISS
Dual Indicator	Dummy variable equals one if the chairman is also CEO of the company	ISS / News Search
Employed Indicator	Dummy variable equals one if the chairman is a fulltime employed directors in the last position before relinquishing the chairmanship	BoardEx
Executive CM Indicator	Dummy variable equals one if the chairman is executive chairman of the company in the last position before relinquishing his/her post	BoardEx
Firm Age	Number of years between fiscal year (FYEAR) and CRSP listing year (LISTYEAR); for values of zero or below, adjusted to one	Compustat / CRSP
Founder Indicator	Dummy variable equals one if the chairman is also (co-) founder of the company	BoardEx / News Search
Inflation-adjusted Total Assets	Inflation-adjusted total assets to dollar value in 2007	Compustat / US Bureau of Labor Statistics
Investment	Capital expenditures, normalized by net property plant, and equipment at the beginning of the fiscal year [Item 128 / (start of period Item 8; Item 8 (t-1))	Compustat
Leverage	Long-term debt plus debt in current liability, divided by long-term debt plus debt in current liability plus common/ordinary equity [(Item 9 + Item 34) / (Item 9 + Item 34 + Item 60)]	Compustat
Market Equity	Common shares outstanding multiplied by closing price fiscal year end [Item 199 × Item 24]	Compustat
Market Leverage	Long-term debt plus debt in current liability, divided by market equity plus long-term debt plus debt in current liability [(Item 9 + Item 34 + Item 199 × Item 25) / (Item 9 + Item 34)]	Compustat
Market-to-Book	Long-term debt plus debt in current liability plus market equity, divided by total assets [(Item 9 + Item 34 + Item 199 × Item 25) / Item 6]	Compustat
Monthly Market Value	Number of publicly held shares multiplied by closing price at the end of the month [SHROUT * PRC]	CRSP
Monthly Stock Return	Change in the total value of an investment in a common stock over one month per dollar of initial investment [RET]	CRSP
Oustside Directorships	Number of directorships held on other major companies' boards	ISS

(Contd...)

A.1: ***(Continued)***

Name	Description	Source
Return on Assets (ROA)	Operating income after depreciation, divided by average assets [Item 178 / (average of start and end of year Item 6; (Item 6 (t-1) + Item 6 (t)) / 2)]	Compustat
Successor is CEO Indicator	Dummy variable equals one if the successor of the chairman is also CEO	ISS
Time between Announcement and CM End in Years	Time in years between the announcement of relinquishing the chairman position and end of the chairman term	BoardEx / News Search
Time between CEO End and CM End in Years	Time in years between the tenure end as CEO and the tenure end as chairman	BoardEx / News Search
Tobins Q	Total asset plus market equity minus book equity minus deferred taxes, divided by total assets [(Item 6 + Item 199 × Item 25 − Item 60 − Item 74) / Item 6]	Compustat
Total Assets	Book value of total assets at the fiscal year end [Item 6]	Compustat
Voting Power CM	Percent of total voting rights held by the chairman	ISS

The above table give an overview of the used variables, their definitions, and the data sources of the variables. I provide, if possible, in brackets the mathematical structure and indicate estimation periods, where not all components are measured for the same point in time, with time indices *t* in parenthesis following the respective item.

Table A 12: Augmented descriptive statistics tenure parameters

	Non-Dual				Dual			
	CM Tenure in Years	CEO Tenure in Years	Time between CEO End and CM End in Years	Time between Announcement and CM End in Years	CM Tenure in Years	CEO Tenure in Years	Time between CEO End and CM End in Years	Time between Announcement and CM End in Years
Endogenous	8.80	7.69	1.94	0.33	6.50	7.84	0.07	0.16
Planned Retirement	9.29	9.43	1.15	1.04	7.21	8.16	0.13	0.75
Ousted	10.92	10.26	2.19	0.05	6.04	7.98	0.02	0.03
Acceptance of Another Position	7.47	7.02	1.29	0.14	5.89	6.52	0.07	0.06
Suspected Forced	8.40	6.56	2.35	0.08	6.45	7.77	0.07	0.09
Separation CEO-CM Positions	10.18	9.97	1.69	0.00	10.59	12.51	0.29	0.02
Exogenous	11.48	9.88	2.44	0.08	8.60	9.82	0.09	0.09
Death	16.16	11.47	3.88	0.00	8.07	10.46	0.05	0.00
Health Reasons	13.28	14.57	1.42	0.14	10.72	13.39	0.03	0.00
Family Reasons	9.29	5.48	1.81	0.13	7.60	9.15	0.03	0.09
Personal Reasons	9.22	9.11	2.07	0.04	3.71	4.87	0.03	0.01
Natural Retirement	11.38	9.89	2.42	0.08	8.97	9.89	0.11	0.11
Unclassified	9.04	9.46	1.83	0.12	7.40	9.14	0.11	0.20

The table reports the means of the tenure variables in the columns, as defined in Table 2, for the subcategories in the rows separated between non-dual and dual cases

Table A 13: Difference-in-differences event study results on policy variables for ousted chairmen compared to non-dual forced CEOs without controls.

Event Window	**[-2; +2]**					
Treatment	**Dual Ousted**					
Control	**Forced CEO only**					
	Asset Growth	**Investment**	**Leverage**	**ROA**	**Tobin's Q**	**Cash Flow**
Treatment Group Indicator	0.0532*(1.84)	0.0220 (0.99)	-0.1268 (-1.36)	0.0310 (1.40)	0.2351 (1.21)	0.0370**(2.55)
Post-Treatment Indicator	-0.0897**(-2.45)	0.0023 (0.06)	0.0008 (0.01)	-0.0211***(-2.67)	-0.2059***(-2.69)	-0.0215**(-2.20)
DID Indicator	-0.0979*(-1.68)	-0.0552 (-1.34)	0.3887*(1.74)	-0.0179 (-1.08)	-0.0159 (-0.11)	-0.0405**(-1.98)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R square	0.230	0.309	0.392	0.769	0.787	0.600
Observations	477	435	476	477	477	477
Clustered at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes
Event Window	**[-1; +2]**					
Treatment:	**Dual Ousted**					
Control	**Forced CEO only**					
	Asset Growth	**Investment**	**Leverage**	**ROA**	**Tobin's Q**	**Cash Flow**
Treatment Group Indicator	0.0614 (1.23)	0.0427 (1.33)	-0.1605 (-1.33)	0.0213 (0.75)	0.2072 (1.08)	0.0369*(1.83)
Post-Treatment Indicator	-0.0563*(-1.79)	0.0240 (0.41)	-0.0033 (-0.04)	-0.0181**(-2.31)	-0.1309*(-1.90)	-0.0171*(-1.71)
DID Indicator	-0.1399**(-2.29)	-0.0924 (-1.47)	0.3879*(1.68)	-0.0139 (-0.85)	-0.0201 (-0.15)	-0.0431**(-2.11)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R square	0.272	0.361	0.419	0.771	0.823	0.602
Observations	381	349	381	381	381	381
Clustered at Firm Level	Yes	Yes	Yes	Yes	Yes	Yes

The table reports the results of the difference-in-differences approach for my case study without controls. The settings and descriptions are symmetrical to Table 7

Table A 14: Abnormal returns around chairman changes

		Market-Model Adj. Abnormal Returns				Market-Adj. Excess Returns			
	Event Date	Mean	p-value t-test	Medianz	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
Endogenous	-6	-0.004	0.58	-0.009	0.16	0.003	0.66	0.004	0.93
Non-Dual	-5	-0.007	0.36	-0.010*	0.07	0.006	0.40	0.002	0.62
	-4	-0.011	0.18	-0.011*	0.07	-0.001	0.88	0.000	0.83
	-3	-0.004	0.60	-0.008	0.18	-0.000	0.93	-0.003	0.52
	-2	-0.009	0.23	-0.012**	0.02	-0.001	0.87	-0.006	0.43
	-1	-0.014*	0.09	-0.005*	0.06	-0.005	0.49	0.000	0.69
	0	0.006	0.41	0.003	0.56	0.015*	0.07	0.003	0.13
	+1	-0.014*	0.09	-0.013**	0.01	-0.005	0.53	-0.002	0.44
	+2	-0.004	0.56	-0.010	0.31	0.000	0.94	-0.002	0.96
	+3	0.006	0.43	0.001	0.57	0.012	0.13	0.010*	0.07
	+4	-0.002	0.76	-0.003	0.56	0.005	0.50	0.003	0.52
	+5	-0.013*	0.09	-0.006*	0.09	-0.007	0.36	0.001	0.69
	+6	0.007	0.37	0.002	0.45	0.007	0.36	0.006	0.14
Exogenous	-6	-0.009	0.14	-0.006**	0.05	-0.001	0.77	-0.005	0.70
Non-Dual	-5	-0.009	0.16	-0.008**	0.04	-0.003	0.62	-0.006	0.29
	-4	-0.005	0.37	-0.003	0.23	0.000	0.91	0.000	0.93
	-3	-0.011*	0.08	-0.008**	0.04	-0.003	0.57	-0.002	0.59
	-2	-0.003	0.59	-0.005	0.28	0.003	0.60	0.003	0.68
	-1	-0.009	0.16	-0.006	0.25	-0.003	0.63	-0.000	0.81
	0	0.005	0.42	-0.005	0.69	0.010	0.11	0.003	0.22
	+1	0.006	0.32	0.009	0.18	0.011*	0.08	0.014**	0.01
	+2	-0.009	0.16	-0.008**	0.01	-0.002	0.71	-0.003	0.18
	+3	-0.004	0.49	-0.004	0.28	-0.000	1.00	0.003	0.84
	+4	0.004	0.52	0.000	0.96	0.008	0.18	0.003	0.27
	+5	-0.004	0.46	-0.002	0.20	9.046	0.99	0.000	0.94
	+6	-0.001	0.79	-0.002	0.41	0.003	0.56	0.001	0.61

(Contd...)

Table A 14: ***(Continued)***

	Market-Model Adj. Abnormal Returns					Market-Adj. Excess Returns			
	Event Date	Mean	p-value t-test	Medianz	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
Endogenous	-6	-0.025***	0.00	-0.025***	0.00	-0.016**	0.02	-0.013***	0.01
Dual	-5	-0.016**	0.02	-0.013***	0.00	-0.011	0.12	-0.014**	0.03
	-4	-0.018***	0.01	-0.012***	0.00	-0.016**	0.02	-0.009**	0.03
	-3	-0.030***	0.00	-0.030***	0.00	-0.024***	0.00	-0.019***	0.00
	-2	-0.036***	0.00	-0.030***	0.00	-0.030***	0.00	-0.026***	0.00
	-1	-0.030***	0.00	-0.021***	0.00	-0.019***	0.01	-0.010***	0.00
	0	-0.023***	0.00	-0.013***	0.00	-0.015**	0.03	-0.008**	0.05
	+1	-0.029***	0.00	-0.023***	0.00	-0.024***	0.00	-0.016**	0.01
	+2	-0.020***	0.00	-0.018***	0.00	-0.013*	0.07	-0.009*	0.09
	+3	0.011*	0.10	-0.006	0.92	0.017**	0.01	0.001	0.34
	+4	-0.011	0.11	-0.001	0.16	-0.005	0.44	-0.000	0.59
	+5	0.009	0.18	-0.000	0.83	0.017**	0.02	0.010	0.19
	+6	-0.001	0.88	-0.004	0.36	0.003	0.60	-0.002	0.68
Exogenous	-6	-0.010	0.11	-0.006	0.13	-0.007	0.22	-0.003	0.45
Dual	-5	-0.013**	0.03	-0.023***	0.00	-0.010	0.12	-0.018**	0.02
	-4	0.005	0.36	-0.003	1.00	0.007	0.22	0.001	0.43
	-3	-0.011*	0.08	-0.012**	0.02	-0.007	0.26	-0.010	0.13
	-2	-0.008	0.18	-0.009*	0.10	-0.005	0.41	-0.002	0.38
	-1	0.003	0.56	0.006	0.40	0.004	0.47	0.005	0.27
	0	-0.006	0.33	-0.004	0.47	-0.003	0.55	0.001	0.82
	+1	-0.011*	0.07	-0.015*	0.06	-0.007	0.27	-0.002	0.37
	+2	-0.007	0.28	-0.008*	0.06	-0.001	0.81	-0.002	0.61
	+3	-0.005	0.40	-0.005	0.29	-0.003	0.58	0.000	0.60
	+4	0.006	0.28	-0.001	0.87	0.012*	0.05	0.008	0.17
	+5	0.012*	0.06	-0.002	0.34	0.016**	0.01	0.004*	0.07
	+6	-0.004	0.51	-0.005	0.38	-0.001	0.78	0.005	0.80

The table reports the market-model adjusted monthly abnormal returns and market-adjusted excess returns around chairman turnovers as described in Table 3. The returns are winsorized at the 1% and 99% level, everything else remains equal to Table 3

Table A 15: Cumulative abnormal returns after chairman changes.

	Cum. Market-Model Adj. Abnormal Returns					Cum. Market-Adj. Excess Returns			
	Event Window	Mean	p-value t-test	Median	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
Endogenous	[+2; +3]	0.004	0.67	0.000	0.64	0.015	0.20	0.023**	0.01
Non-Dual	[+2; +4]	0.002	0.84	0.006	0.92	0.022	0.12	0.015**	0.04
	[+2; +5]	-0.011	0.48	8.855	0.57	0.018	0.26	0.022*	0.06
	[+2; +6]	-0.003	0.83	-0.018	0.67	0.026	0.15	0.033**	0.02
Exogenous	[+2; +3]	-0.012	0.18	-0.015**	0.02	-0.000	0.92	0.001	0.66
Non-Dual	[+2; +4]	-0.009	0.43	-0.010*	0.07	0.007	0.50	0.005	0.64
	[+2; +5]	-0.011	0.36	-0.020*	0.09	0.008	0.54	0.004	0.51
	[+2; +6]	-0.014	0.32	-0.021*	0.06	0.011	0.43	0.001	0.39
Endogenous	[+2; +3]	-0.007	0.48	-0.016	0.14	0.006	0.52	0.000	0.78
Dual	[+2; +4]	-0.013	0.28	-0.018*	0.09	0.005	0.65	-0.000	0.96
	[+2; +5]	0.005	0.72	-0.004	0.59	0.030**	0.03	0.015	0.11
	[+2; +6]	0.004	0.79	-0.005	0.93	0.037**	0.02	0.017*	0.07
Exogenous	[+2; +3]	-0.011	0.19	-0.008*	0.06	-0.004	0.65	-0.001	0.72
Dual	[+2; +4]	-0.000	0.96	-0.009	0.46	0.012	0.28	0.012	0.24
	[+2; +5]	0.014	0.25	-0.008	0.87	0.031**	0.01	0.010**	0.05
	[+2; +6]	0.008	0.55	-0.003	0.97	0.030**	0.04	0.019*	0.06

The table reports cumulative abnormal returns as in Table 3 for the event period plus 2 to plus 6. Everything else remains equal

Table A 16: Abnormal return comparison dual ousted and non-dual forced CEOs

	Market-Model Adj. Abnormal Returns					Market-Adj. Excess Returns			
	Event Date	Mean	p-value t-test	Median	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
Ousted	-6	-0.043***	0.01	-0.043***	0.01	-0.036**	0.02	-0.036**	0.02
Dual	-5	-0.014	0.37	0.019	0.81	-0.008	0.60	0.019	0.95
	-4	0.001	0.95	-0.024	0.33	0.006	0.69	-0.013	0.80
	-3	-0.051***	0.00	-0.055***	0.00	-0.049***	0.00	-0.025***	0.01
	-2	-0.061***	0.00	-0.053***	0.00	-0.062***	0.00	-0.049***	0.00

(Contd...)

Table A 16: ***(Continued)***

		Market-Model Adj. Abnormal Returns				Market-Adj. Excess Returns			
	Event Date	Mean	p-value t-test	Median	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
	-1	-0.040**	0.01	-0.013**	0.05	-0.025	0.11	-0.006	0.17
	0	-0.066***	0.00	-0.051***	0.00	-0.059***	0.00	-0.052***	0.00
	+1	-0.082***	0.00	-0.065***	0.01	-0.079***	0.00	-0.045**	0.01
	+2	-0.032**	0.04	-0.032**	0.03	-0.026*	0.10	-0.030*	0.08
	+3	0.046***	0.00	-0.003	0.58	0.054***	0.00	0.005	0.33
	+4	-0.021	0.17	-0.021	0.16	-0.014	0.37	-0.008	0.32
	+5	0.003	0.83	-0.012	0.71	0.016	0.30	-0.011	0.98
	+6	-0.024	0.12	-0.017	0.13	-0.017	0.28	-0.006	0.22
CEO only	-6	-0.019	0.10	-0.014	0.11	-0.022*	0.06	-0.007	0.11
Forced	-5	-0.015	0.18	-0.004	0.24	-0.012	0.30	-0.001	0.36
	-4	-0.008	0.48	-0.016	0.40	-0.005	0.64	-0.022	0.33
	-3	-0.037***	0.00	-0.030***	0.01	-0.042***	0.00	-0.048***	0.00
	-2	-0.026**	0.03	-0.014**	0.03	-0.026**	0.03	-0.015*	0.07
	-1	-0.053***	0.00	-0.047***	0.00	-0.054***	0.00	-0.044***	0.00
	0	-0.004	0.72	-0.016	0.49	-0.010	0.36	-0.023	0.25
	+1	-0.045***	0.00	-0.028**	0.03	-0.053***	0.00	-0.020**	0.03
	+2	-0.063***	0.00	-0.013***	0.00	-0.061***	0.00	-0.023***	0.00
	+3	0.007	0.52	-0.004	0.46	0.008	0.47	-0.003	0.67
	+4	-0.026**	0.03	-0.006	0.55	-0.041***	0.00	-0.014	0.12
	+5	0.000	0.95	-0.010	0.91	-0.005	0.65	-0.006	0.87
	+6	0.018	0.12	0.003	0.57	0.016	0.16	-0.000	0.79
Differences	-6	-0.013	0.59	-0.022	0.67	-0.002	0.91	-0.015	0.84
	-5	-0.027	0.31	-0.005	0.72	-0.022	0.40	0.001	0.80
	-4	-0.024	0.19	-0.014	0.32	-0.021	0.24	-0.004	0.59
	-3	-0.021	0.37	-0.025	0.42	-0.010	0.67	0.017	0.91
	-2	-0.030	0.15	-0.031	0.13	-0.028	0.22	-0.034	0.25

(Contd...)

Table A 16: ***(Continued)***

	Market-Model Adj. Abnormal Returns				Market-Adj. Excess Returns			
Event Date	Mean	p-value t-test	Median	p-value Wil. test	Mean	p-value t-test	Median	p-value Wil. test
-1	-0.013	0.65	0.016	0.90	-0.009	0.76	0.019	0.74
0	-0.091***	0.00	-0.048**	0.01	-0.084***	0.01	-0.031**	0.02
+1	-0.019	0.60	-0.069	0.54	-0.009	0.80	-0.024	0.91
+2	0.057**	0.02	0.000	0.12	0.050*	0.05	0.004	0.17
+3	0.025	0.58	-0.008	0.60	0.027	0.53	0.019	0.62
+4	0.008	0.80	-0.012	0.82	0.022	0.50	0.011	0.62
+5	-0.031	0.19	-0.012	0.28	-0.025	0.31	-0.011	0.27
+6	-0.017	0.54	-0.007	0.75	-0.016	0.58	0.004	0.88

The table reports the market-model adjusted monthly abnormal returns and market-adjusted excess returns around chairman turnovers for ousted dual cases and non-dual forced CEO turnovers as in Table 6. The returns are winsorized at the 1% and 99% level. Panel three report the difference between ousted dual chairman abnormal returns and non-dual forced CEO returns, equivalent to panel three of Table 6. Everything else remains equal to Table A.14

Table A 17: Logistic models for chairman turnovers with industry correction

	Exogenous			Endogenous			Endogenous		
				Non-Dual Cases			Dual Cases		
Industry- adjusted ROA	-1.1533	-1.1216	-0.6273	-1.3648*	-0.8705	-1.1645	-0.8386	-0.7784	-1.2543***
	(-0.98)	(-1.11)	(-1.46)	(-1.79)	(-1.13)	(-1.57)	(-0.85)	(-0.84)	(-2.82)
Industry- adjusted Stock	-0.0062	0.0159	-0.1710	-0.1351	-0.1324	-0.1951	-1.1864***	-1.1627***	-1.2028***
Return	(-0.02)	(0.08)	(-0.95)	(-0.88)	(-0.75)	(-1.00)	(-7.80)	(-5.80)	(-8.29)
Voting Power	-0.0237***	-0.0223***		-0.0081***	0.0082		0.0123	0.0154*	
	(-2.60)	(-2.75)		(-3.04)	(1.23)		(1.26)	(1.80)	
Board Tenure	-0.0382***			-0.0357***			0.0139		
	(-7.10)			(-3.60)			(1.10)		
Difference to Board	0.0468***			0.0690***			-0.0691**		
Tenure of CEO	(9.97)			(4.35)			(-2.28)		
Board Percent Longer	-1.4799***			-1.7053***			-1.0260***		
Director than CM	(-5.56)			(-4.78)			(-5.00)		

(Contd...)

Table A 17: ***(Continued)***

	Exogenous			Endogenous			Endogenous		
				Non-Dual Cases			Dual Cases		
Oustside Directorships	0.1546***	0.1871***		0.1424*	0.1742**		0.0681	0.1155	
	(4.56)	(4.99)		(1.65)	(2.14)		(0.95)	(1.52)	
Age CM	0.1774***	0.1991***	0.2157***	-0.0210	0.0009	0.0161	-0.0162**	-0.0131***	-0.0105***
	(6.24)	(6.81)	(6.93)	(-1.59)	(0.08)	(1.13)	(-2.24)	(-4.52)	(-3.65)
log (Total Assets)	-0.2724***	-0.2632***	-0.0711**	-0.2415***	-0.2281***	-0.1845***	-0.2570***	-0.2589***	-0.1685***
	(-7.13)	(-6.42)	(-2.47)	(-3.36)	(-3.42)	(-12.1)	(-5.79)	(-7.81)	(-4.18)
Market Leverage	1.1194***	1.1842***		0.6484	0.6270**		1.0031***	1.0988***	
	(4.78)	(5.24)		(1.39)	(2.16)		(5.40)	(7.12)	
Market- to-Book	0.0685	0.0805*		-0.0659	-0.0650		0.0574	0.0518	
	(1.07)	(1.86)		(-1.06)	(-1.09)		(0.54)	(0.49)	
log (Firm Age)	0.0668	-0.0179		-0.1867*	-0.2797**		-0.1771***	-0.2650***	
	(0.84)	(-0.25)		(-1.82)	(-2.28)		(-2.75)	(-6.38)	
Board Size	0.0404*	0.0426		0.1118*	0.0959		0.0923***	0.1032***	
	(1.91)	(1.62)		(1.95)	(1.55)		(2.86)	(4.27)	
Board Share Independent	-0.0152	0.0134		-1.6332***	-1.8028***		0.6525	0.3734	
	(-0.04)	(0.04)		(-3.77)	(-5.10)		(1.58)	(1.14)	
Attendance Problem	-2.0931*	-1.8962		-1.7786	-2.4055		-1.0333	-0.7614	
	(-1.82)	(-1.46)		(-1.14)	(-1.42)		(-1.13)	(-0.78)	
Industry Fixed Effekts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3346	3399	5528	1497	1518	2362	1829	1870	2995
Pseudo - R square	0.187	0.164	0.197	0.119	0.079	0.078	0.098	0.081	0.098
Clustered at Industry Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The table shows the logistic models as in Table 5 with Fama-French five industry fixed effects instead of firm fixed effects and at industry level clustered standard errors. Everything else remains equal.

Table A 18: Regression analysis of stock price reactions to chairman change events, value-weighted case with controls displayed

Event Window [-2; +1]	Endogenous Cases					Exogenous Cases				
Value Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Dual Indicator	-0.7917**	-0.8644***				0.0618	-0.0893			
	(-2.12)	(-3.41)				(0.24)	(-0.50)			
Founder Indicator	-0.2788	0.0448				0.2225	0.2863			
	(-0.55)	(0.12)				(0.91)	(1.07)			
Executive CM Indicator	-0.6781	-0.4022				0.1663	0.2619			
	(-0.84)	(-0.76)				(0.70)	(0.71)			
Voting Power CM	0.0081		0.0079			-0.0017		-0.0026		
	(0.38)		(0.39)			(-0.32)		(-0.58)		
Board Tenure	-0.0222		0.0000			0.0205		0.0000		
	(-0.60)		(0.14)			(0.86)		(0.40)		
Difference to Board Tenure of CEO	0.0215		0.0003			0.0028		0.0000		
	(0.69)		(1.29)			(0.24)		(0.24)		
Board Percent Longer Director than CM	-0.0557		-0.0026			-0.3671		-0.0044		
	(-0.07)		(-0.38)			(-0.96)		(-1.15)		
Oustside Directorships	-0.1926		-0.0024			0.0261		0.0006		
	(-1.08)		(-1.58)			(0.40)		(0.77)		
Age CM	0.0190		0.0003			-0.0074		-0.0001		
	(0.62)		(1.13)			(-0.40)		(-0.84)		
CM Tenure in Years	0.0329			0.0268		-0.0222			-0.0198	
	(0.85)			(0.95)		(-1.20)			(-1.33)	
CEO Tenure in Years	0.0317			0.0001		-0.0062			0.0000	
	(0.87)			(0.52)		(-0.42)			(0.65)	
Time between CEO End and CM End in Years	-0.0407			0.0004		0.0170			0.0010*	
	(-0.51)			(0.67)		(0.91)			(1.75)	
Time between Announcement and CM End in Years	0.0942			0.0030		1.4308**			0.0077*	
	(0.22)			(1.01)		(2.43)			(1.64)	

(Contd...)

Table A 18: ***(Continued)***

Event Window [-2; +1]	Endogenous Cases					Exogenous Cases				
Value Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Employed Indicator	0.2012			0.0029		-0.2349			-0.0015	
	(0.48)			(0.97)		(-1.07)			(-0.75)	
CM remains on Board	-0.0950				0.1462	0.0558				0.1444
Indicator	(-0.22)				(0.44)	(0.25)				(0.67)
Active on other Boards	-0.3287				-0.2694	0.2494				0.0165
after Exit Indicator	(-0.84)				(-0.93)	(0.93)				(0.06)
Successor is CEO	0.0556				0.1712	-0.1899				-0.2920**
Indicator	(0.16)				(0.61)	(-1.63)				(-1.97)
log (Total Assets)	-0.5794***	-0.6127***	-0.5712***	-0.6229***	-0.6253***	0.0789	0.1331**	0.0783	0.1426	0.1489
	(-4.63)	(-6.51)	(-4.77)	(-6.57)	(-6.34)	(0.56)	(2.06)	(0.55)	(1.34)	(1.27)
Market Leverage	0.7736	0.6260	0.7078	0.5809	0.4578	0.0098	-0.0266	0.2275	-0.1096	-0.1008
	(1.07)	(1.05)	(1.01)	(0.97)	(0.74)	(0.02)	(-0.05)	(0.51)	(-0.25)	(-0.21)
Market-to-Book	-0.3381**	-0.3560***	-0.3314**	-0.3537***	-0.3474***	0.0577	0.0882	0.0908	0.0789	0.1045
	(-2.46)	(-3.06)	(-2.48)	(-3.01)	(-2.93)	(0.50)	(1.00)	(0.69)	(0.66)	(0.81)
log (Firm Age)	0.2908	0.2943*	0.2483	0.2158	0.2843*	-0.0113	0.0263	0.0345	0.0012	0.0240
	(1.38)	(1.87)	(1.24)	(1.36)	(1.77)	(-0.10)	(0.22)	(0.35)	(0.01)	(0.25)
Board Size	0.1544**	0.1597***	0.1620**	0.1753***	0.1767***	-0.0368	-0.0098	-0.0468	-0.0129	-0.0073
	(2.31)	(2.85)	(2.52)	(3.12)	(3.10)	(-0.87)	(-0.26)	(-1.04)	(-0.32)	(-0.19)
Board Share Independent	0.8585	0.3431	0.5738	0.2534	0.0082	-0.1616	0.0604	-0.0138	-0.0547	-0.0227
	(0.82)	(0.39)	(0.57)	(0.28)	(0.00)	(-0.30)	(0.08)	(-0.02)	(-0.09)	(-0.04)
Attendance Problem	3.1700	2.8719	2.8403	2.1755	2.7908	0.4045	1.8950	-0.0865	2.5012	2.0599
	(1.03)	(1.07)	(0.94)	(0.80)	(1.02)	(0.44)	(0.97)	(-0.09)	(1.62)	(1.23)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	588	722	588	722	713	497	656	497	656	646
R square	0.086	0.086	0.086	0.091	0.083	0.067	0.087	0.067	0.106	0.089
Heteroskedasticity Corrected	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes

This table shows the results of Table 8 with the coefficient estimates for the controls. Everything else remains equal

Table A 19: Regression analysis of stock price reactions to chairman change events, equally weighted case with controls displayed

Event Window [-2; +1]	Endogenous Cases					Exogenous Cases				
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Dual Indicator	-0.0432	-0.1012***				0.0029	-0.0201			
	(-1.33)	(-4.66)				(0.10)	(-1.10)			
Founder Indicator	-0.0265	0.0026				0.1012***	0.0731**			
	(-0.60)	(0.06)				(2.77)	(2.47)			
Executive CM Indicator	-0.1086**	-0.0783**				0.0881*	0.0059			
	(-2.30)	(-2.53)				(1.81)	(0.19)			
Voting Power CM	0.0004		0.0009			-0.0000		-0.0004		
	(0.34)		(0.70)			(-0.07)		(-0.50)		
Board Tenure	-0.0056*		-0.0021			0.0002		-0.0004		
	(-1.87)		(-0.87)			(0.10)		(-0.28)		
Difference to Board Tenure of CEO	0.0030		0.0055***			-0.0017		-0.0016		
	(1.37)		(2.58)			(-1.11)		(-1.18)		
Board Percent Longer Director than CM	-0.0646		-0.0828			-0.0608		-0.0702		
	(-1.08)		(-1.43)			(-1.03)		(-1.20)		
Oustside Directorships	0.0069		0.0027			0.0052		0.0144		
	(0.53)		(0.21)			(0.51)		(1.57)		
Age CM	0.0078***		0.0090***			0.0087**		0.0085**		
	(2.63)		(3.29)			(2.52)		(2.45)		
CM Tenure in Years	0.0064*			0.0059**		-0.0013			0.0017	
	(1.75)			(2.16)		(-0.61)			(0.97)	
CEO Tenure in Years	-0.0010			-0.0019		-0.0014			-0.0016	
	(-0.35)			(-0.73)		(-0.80)			(-1.04)	
Time between CEO End and CM End in Years	0.0119**			0.0170***		0.0030			0.0040	
	(1.97)			(2.95)		(0.57)			(1.12)	
Time between Announcement and CM End in Years	0.0230			0.0372*		0.0813**			0.0363	
	(0.78)			(1.66)		(2.13)			(1.34)	

(Contd...)

Table A 19: ***(Continued)***

Event Window [-2; +1]	Endogenous Cases					Exogenous Cases				
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Employed Indicator	0.0222			0.0091		-0.0618**			-0.0375*	
	(0.75)			(0.37)		(-2.10)			(-1.80)	
CM remains on Board	0.0395				0.0660**	0.0505*				0.0773***
Indicator	(1.15)				(2.34)	(1.77)				(3.68)
Active on other Boards	-0.0091				0.0123	0.0345				0.0346
after Exit Indicator	(-0.29)				(0.47)	(0.98)				(1.43)
Successor is CEO Indicator	0.0126				0.0340	0.0666**				0.0404**
	(0.43)				(1.31)	(2.58)				(1.96)
log (Total Assets)	-0.0213*	-0.0188**	-0.0208*	-0.0179*	-0.0226**	-0.0098	0.0013	-0.0088	0.0023	-0.0029
	(-1.87)	(-2.04)	(-1.81)	(-1.95)	(-2.29)	(-1.00)	(0.20)	(-0.90)	(0.33)	(-0.41)
Market Leverage	-0.1268*	-0.1395**	-0.1307*	-0.1427**	-0.1462**	-0.0898	-0.0599	-0.1081	-0.0738	-0.0370
	(-1.73)	(-2.12)	(-1.75)	(-2.15)	(-2.14)	(-1.11)	(-0.91)	(-1.36)	(-1.12)	(-0.58)
Market-to-Book	-0.0420***	-0.0408***	-0.0401***	-0.0401***	-0.0410***	-0.0173	-0.0088	-0.0146	-0.0080	-0.0063
	(-3.04)	(-3.26)	(-2.87)	(-3.16)	(-3.13)	(-1.58)	(-0.93)	(-1.33)	(-0.83)	(-0.64)
log (Firm Age)	0.0437**	0.0550***	0.0418**	0.0451***	0.0498***	0.0210	0.0301***	0.0241*	0.0265**	0.0251**
	(2.36)	(3.44)	(2.34)	(2.91)	(3.09)	(1.42)	(2.62)	(1.68)	(2.28)	(2.23)
Board Size	0.0017	0.0032	0.0024	0.0050	0.0040	0.0055	0.0039	0.0050	0.0037	0.0012
	(0.32)	(0.69)	(0.47)	(1.06)	(0.83)	(1.24)	(1.06)	(1.10)	(1.01)	(0.33)
Board Share Independent	0.1829*	0.1342	0.1276	0.1562*	0.0995	-0.1161	-0.0490	-0.0960	-0.0750	-0.1069
	(1.91)	(1.44)	(1.32)	(1.66)	(1.08)	(-1.47)	(-0.72)	(-1.26)	(-1.08)	(-1.60)
Attendance Problem	0.5124*	0.5843**	0.4833	0.5090*	0.5085*	0.0752	0.0233	0.0712	0.0812	0.0762
	(1.65)	(2.09)	(1.53)	(1.78)	(1.78)	(0.33)	(0.10)	(0.30)	(0.37)	(0.35)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	588	722	588	722	713	497	656	497	656	646
R square	0.141	0.129	0.141	0.136	0.113	0.138	0.099	0.138	0.097	0.113
Heteroskedasticity Corrected	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

This table shows the results of Table 9 with the coefficient estimates for the controls. Everything else remains equal.

Table A 20: Regression analysis of stock price reactions to chairman change events, value-weighted case, single independent

Event Window [-2; +1]	Endogenous Cases	
Value Weighted Returns	**(1)**	**(2)**
Dual Indicator	-0.8237*** (-3.37)	
CM Tenure in Years		0.0004** (2.13)
log (Total Assets)	-0.0061*** (-6.53)	-0.0061*** (-6.51)
Market Leverage	0.0063 (1.06)	0.0052 (0.88)
Market-to-Book	-0.0035*** (-3.05)	-0.0033*** (-2.85)
log (Firm Age)	0.0028* (1.82)	0.0022 (1.41)
Board Size	0.0015*** (2.83)	0.0018*** (3.28)
Board Share Independent	0.0037 (0.43)	0.0019 (0.22)
Attendance Problem	0.0276 (1.03)	0.0228 (0.84)
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Observations	722	722
R square	0.095	0.086
Heteroskedasticity Corrected	No	No
Event Window [-2; +1]	**Exogenous Cases**	
Value Weighted Returns	**(1)**	
Successor is CEO Indicator	-0.0029** (-2.03)	
log (Total Assets)	0.0014 (1.36)	
Market Leverage	-0.0012 (-0.29)	
Market-to-Book	0.0010 (0.80)	
log (Firm Age)	0.0002 (0.25)	
Board Size	-0.0000 (-0.13)	
Board Share Independent	0.0000 (0.01)	
Attendance Problem	0.0209 (1.26)	
Industry Fixed Effects	Yes	
Year Fixed Effects	Yes	
Observations	656	
R square	0.088	
Heteroskedasticity Corrected	Yes	

The table reports the results for the regression approach as in Table 8 for all significant coefficient estimates with no other independent variables in the regression except for the controls. Everything else remains equal

Table A 21: Regression analysis of stock price reactions to chairman change events, equally weighted endogenous cases single independent.

Event Window [-2; +1]	Endogenous Cases										
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**
Dual Indicator	-0.0927***										
	(-4.48)										
Board Tenure		0.0041***									
		(2.69)									
Difference to Board Tenure of CEO			0.0064***								
			(3.69)								
Board Percent Longer Director than CM				-0.1037**							
				(-2.56)							
Oustside Directorships					0.0181*						
					(1.66)						
Age CM						0.0088***					
						(3.63)					
CM Tenure in Years							0.0068***				
							(3.35)				
CEO Tenure in Years											
Time between CEO End and CM End in Years								0.0218***			
								(3.84)			
Time between Announcement and CM End in Years									0.0523**		
									(2.57)		
Employed Indicator										0.0450*	
										(1.91)	
CM remains on Board Indicator											0.0598**
											(2.42)
log (Total Assets)	-0.0186**	-0.0185**	-0.0198**	-0.0205**	-0.0219**	-0.0217**	-0.0185**	-0.0171*	-0.0208**	-0.0198**	-0.0194**
	(-2.01)	(-1.98)	(-2.08)	(-2.16)	(-2.26)	(-2.31)	(-1.99)	(-1.84)	(-2.21)	(-2.11)	(-2.05)

(Contd...)

Table A 21: ***(Continued)***

Event Window [-2; +1]	**Endogenous Cases**										
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**
Market Leverage	-0.1382**	-0.1512**	-0.1399**	-0.1568**	-0.1480**	-0.1555**	-0.1479**	-0.1544**	-0.1479**	-0.1542**	-0.1581**
	(-2.10)	(-2.26)	(-2.08)	(-2.34)	(-2.18)	(-2.33)	(-2.21)	(-2.32)	(-2.21)	(-2.29)	(-2.35)
Market-to-Book	-0.0405***	-0.0385***	-0.0379***	-0.0399***	-0.0384***	-0.0385***	-0.0377***	-0.0401***	-0.0393***	-0.0407***	-0.0394***
	(-3.22)	(-2.95)	(-2.89)	(-3.08)	(-2.96)	(-2.98)	(-2.89)	(-3.14)	(-3.02)	(-3.16)	(-3.00)
log (Firm Age)	0.0531***	0.0449***	0.0484***	0.0574***	0.0502***	0.0414***	0.0447***	0.0498***	0.0496***	0.0517***	0.0511***
	(3.39)	(2.83)	(3.02)	(3.56)	(3.16)	(2.60)	(2.82)	(3.15)	(3.10)	(3.24)	(3.15)
Board Size	0.0029	0.0048	0.0052	0.0052	0.0049	0.0028	0.0060	0.0055	0.0041	0.0047	0.0050
	(0.63)	(1.02)	(1.08)	(1.11)	(1.03)	(0.59)	(1.29)	(1.17)	(0.86)	(0.99)	(1.04)
Board Share	0.1405	0.1167	0.1152	0.1131	0.0774	0.0715	0.1314	0.1295	0.0838	0.1043	0.1142
Independent	(1.52)	(1.25)	(1.23)	(1.20)	(0.84)	(0.83)	(1.40)	(1.40)	(0.92)	(1.12)	(1.23)
Attendance Problem	0.5610**	0.5070*	0.5598*	0.5228*	0.5436*	0.4678	0.4914*	0.5531*	0.5465*	0.5349*	0.5308*
	(2.01)	(1.76)	(1.94)	(1.81)	(1.87)	(1.59)	(1.72)	(1.92)	(1.91)	(1.85)	(1.85)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	722	722	716	722	722	722	722	722	722	722	713
R square	0.126	0.112	0.117	0.111	0.107	0.125	0.120	0.124	0.109	0.108	0.110
Heteroskedasticity Corrected	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The table reports the results for the regression approach as in Table 9 for endogenous cases for all significant coefficient estimates with no other independent variables in the regression except for the controls. Everything else remains equal

Table A 22: Regression analysis of stock price reactions to chairman change events, equally weighted exogenous cases single independent

Event Window [-2; +1]	Exogenous Cases				
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Founder Indicator	0.0746**				
	(2.54)				
Oustside Directorships		0.0168**			
		(2.17)			
Age CM			0.0076***		
			(2.70)		
CM remains on Board Indicator				0.0617***	
				(3.46)	
Successor is CEO Indicator					0.0417**
					(2.04)
log (Total Assets)	0.0012	-0.0019	0.0005	0.0014	-0.0019
	(0.18)	(-0.28)	(0.08)	(0.21)	(-0.27)
Market Leverage	-0.0638	-0.0611	-0.0717	-0.0518	-0.0559
	(-0.98)	(-0.94)	(-1.12)	(-0.80)	(-0.86)
Market-to-Book	-0.0087	-0.0080	-0.0103	-0.0057	-0.0083
	(-0.92)	(-0.83)	(-1.08)	(-0.58)	(-0.85)
log (Firm Age)	0.0299***	0.0268**	0.0238**	0.0271**	0.0277**
	(2.62)	(2.38)	(2.09)	(2.37)	(2.48)
Board Size	0.0044	0.0023	0.0032	0.0023	0.0021
	(1.19)	(0.65)	(0.88)	(0.63)	(0.58)
Board Share Independent	-0.0561	-0.0929	-0.0607	-0.0940	-0.0943
	(-0.82)	(-1.39)	(-0.91)	(-1.40)	(-1.40)
Attendance Problem	0.0366	0.0598	0.0552	0.0696	0.0953
	(0.16)	(0.27)	(0.26)	(0.32)	(0.44)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	646	655	655	646	646
R square	0.098	0.093	0.108	0.104	0.094
Heteroskedasticity Corrected	Yes	Yes	Yes	Yes	Yes

The table reports the results for the regression approach as in Table 9 for exogenous cases for all significant coefficient estimates with no other independent variables in the regression except for the controls. Everything else remains equal

Table A 23: Regression analysis of stock price reactions to chairman change events, value-weighted case period+1 to+4.

Event Window [+1; +4]	Endogenous Cases					Exogenous Cases				
Value Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Dual Indicator	-0.1948	-0.3074				-0.7040***	-0.5253***			
	(-0.80)	(-1.59)				(-3.07)	(-3.01)			
Founder Indicator	0.1856	0.1648				-0.1288	-0.1856			
	(0.56)	(1.56)				(-0.59)	(-0.90)			
Executive CM Indicator	0.0016	0.0012				-0.0020	-0.0019			
	(0.31)	(0.34)				(-1.03)	(-0.74)			
Voting Power CM	0.0157		0.0174			0.0009		-0.0018		
	(1.12)		(1.53)			(0.18)		(-0.46)		
Board Tenure	0.0097		0.0000			0.0130		0.0000		
	(0.40)		(0.67)			(1.03)		(0.38)		
Difference to Board Tenure of CEO	0.0014		-0.0000			-0.0084		0.0000		
	(0.07)		(-0.23)			(-1.03)		(0.18)		
Board Percent Longer Director than CM	0.1700		0.0021			0.3012		0.0019		
	(0.36)		(0.73)			(0.95)		(0.63)		
Oustside Directorships	-0.1350		-0.0019			-0.0477		0.0005		
	(-1.18)		(-1.37)			(-0.72)		(0.90)		
Age CM	0.0220		0.0001			0.0154		0.0002		
	(1.11)		(1.35)			(0.97)		(1.52)		
CM Tenure in Years	-0.0275			-0.0024		0.0115			0.0196	
	(-1.10)			(-0.20)		(0.78)			(1.62)	
CEO Tenure in Years	0.0026			0.0001		-0.0122			-0.0001*	
	(0.11)			(0.95)		(-1.13)			(-1.79)	
Time between CEO End and CM End in Years	-0.0277			0.0002		-0.0070			0.0001	
	(-0.54)			(0.89)		(-0.35)			(0.76)	
Time between Announcement and CM End in Years	-0.2756			-0.0023		-0.4243			-0.0021	
	(-1.02)			(-1.08)		(-0.71)			(-0.41)	

(Contd...)

Table A 23: ***(Continued)***

Event Window [+1; +4]	Endogenous Cases					Exogenous Cases				
Value Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Employed Indicator	0.1506			0.0028		-0.1585			-0.0000	
	(0.55)			(1.35)		(-0.94)			(-0.04)	
CM remains on Board	0.2708				0.3186	-0.2675				0.0672
Indicator	(0.97)				(1.28)	(-1.33)				(0.43)
Active on other Boards	-0.1210				-0.2494	0.6138***				0.5446***
after Exit Indicator	(-0.47)				(-1.59)	(2.63)				(2.79)
Successor is CEO	-0.3409				-0.1354	-0.1143				0.0147
Indicator	(-1.52)				(-0.47)	(-0.96)				(0.11)
log (Total Assets)	0.0986	-0.0893	0.0679	-0.0900	-0.0745	-0.1444	0.0006	-0.1430	0.0053	-0.0427
	(1.21)	(-0.77)	(0.40)	(-0.74)	(-0.54)	(-1.33)	(0.00)	(-1.28)	(0.05)	(-0.44)
Market Leverage	0.441	0.5818	0.5250	0.4973	0.4228	-0.1330	0.0154	-0.1197	-0.0915	-0.0349
	(0.92)	(1.18)	(1.11)	(1.09)	(1.01)	(-0.34)	(0.03)	(-0.32)	(-0.22)	(-0.08)
Market- to-Book	0.0380	-0.0050	0.0347	-0.0080	0.0039	-0.4641***	-0.4183***	-0.4753***	-0.4155***	-0.4135***
	(0.42)	(-0.06)	(0.39)	(-0.10)	(0.04)	(-3.33)	(-2.76)	(-3.23)	(-2.78)	(-2.72)
log	0.1611	0.0823	0.1077	0.0693	0.0888	-0.2317**	-0.0680	-0.2035**	-0.0684	-0.0833
(Firm Age)	(1.17)	(1.05)	(1.28)	(0.87)	(1.14)	(-2.43)	(-0.88)	(-2.31)	(-0.87)	(-1.02)
Board Size	0.0171	0.0440	0.0155	0.0540	0.0542	0.0123	-0.0107	0.0109	0.0048	0.0032
	(0.39)	(1.34)	(0.42)	(1.62)	(1.58)	(0.35)	(-0.31)	(0.29)	(0.13)	(0.09)
Board Share	0.9962	1.0459**	0.7033*	0.9702*	1.1136**	0.3787	-0.1945	0.0169	-0.1107	-0.3526
Independent	(1.47)	(2.08)	(1.90)	(1.82)	(2.02)	(0.78)	(-0.39)	(0.03)	(-0.23)	(-0.71)
Attendance Problem	1.3723	2.1068	1.2721	2.1049	2.294	0.7225	0.7956	1.2008	0.6044	0.9682
	(0.67)	(1.05)	(0.64)	(1.04)	(1.14)	(0.72)	(0.86)	(1.26)	(0.62)	(1.03)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	577	716	584	716	707	494	653	494	653	643
R square	0.072	0.052	0.055	0.050	0.056	0.162	0.174	0.162	0.163	0.098
Heteroskedasticity Corrected	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The table shows the results for the regression approach as in Table 8 for the event period plus one to plus four, everything else equal

Table A 24: Regression analysis of stock price reactions to chairman change events, equally weighted case period + 1 to + 4.

Event Window [+1; +4]	Endogenous Cases					Exogenous Cases				
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Dual Indicator	-0.0471	-0.0629***				-0.0353	-0.0249			
	(-1.46)	(-2.89)				(-1.46)	(-1.59)			
Founder Indicator	0.0624	0.0543				0.0385	0.0423			
	(1.28)	(1.41)				(1.20)	(1.53)			
Executive CM Indicator	-0.0682	-0.0399				0.0230	-0.0193			
	(-1.35)	(-1.22)				(0.57)	(-0.75)			
Voting Power CM	-0.0000		0.0011			0.0015		0.0014		
	(-0.05)		(0.74)			(1.12)		(1.28)		
Board Tenure	0.0006		0.0017			-0.0023		-0.0018		
	(0.23)		(0.76)			(-1.31)		(-1.36)		
Difference to Board Tenure of CEO	-0.0033		-0.0013			0.0016		0.0008		
	(-1.55)		(-0.68)			(1.29)		(0.70)		
Board Percent Longer Director than CM	0.0185		-0.0137			-0.0501		-0.0537		
	(0.32)		(-0.25)			(-0.97)		(-1.05)		
Oustside Directorships	0.0201		0.0135			-0.0045		0.0021		
	(1.44)		(1.06)			(-0.48)		(0.26)		
Age CM	0.0031		0.0034			0.0034		0.0035		
	(1.12)		(1.32)			(1.38)		(1.48)		
CM Tenure in Years	0.0022			0.0049*		-0.0022			-0.0002	
	(0.62)			(1.93)		(-1.19)			(-0.14)	
CEO Tenure in Years	-0.0016			-0.0018		0.0025			0.0010	
	(-0.59)			(-0.74)		(1.51)			(0.64)	
Time between CEO End and CM End in Years	0.0006			0.0043		-0.0045			0.0013	
	(0.11)			(0.87)		(-0.83)			(0.32)	
Time between Announcement and CM End in Years	0.0283			0.0093		-0.0209			0.0030	
	(1.01)			(0.46)		(-0.65)			(0.11)	

(Contd...)

Table A 24: ***(Continued)***

Event Window [+1; +4]	Endogenous Cases					Exogenous Cases				
Equally Weighted Returns	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Employed Indicator	0.0357			0.0245		-0.0536**			-0.0201	
	(1.17)			(1.09)		(-2.21)			(-1.19)	
CM remains on Board	0.0083				0.0346	0.0062				0.0232
Indicator	(0.24)				(1.29)	(0.23)				(1.21)
Active on other Boards	-0.0017				0.0020	0.0268				0.0176
after Exit Indicator	(-0.05)				(0.08)	(0.90)				(0.90)
Successor is CEO	-0.0354				-0.0110	0.0187				0.0109
Indicator	(-1.15)				(-0.42)	(0.86)				(0.62)
log (Total Assets)	-0.0052	-0.0058	-0.0096	-0.0066	-0.0063	-0.0098	-0.0019	-0.0084	-0.0023	-0.0050
	(-0.48)	(-0.68)	(-0.90)	(-0.77)	(-0.71)	(-1.24)	(-0.32)	(-1.04)	(-0.38)	(-0.80)
Market Leverage	0.1234*	0.0617	0.1208*	0.0558	0.0457	0.0194	0.0599	0.0035	0.0565	0.0643
	(1.65)	(0.95)	(1.64)	(0.85)	(0.69)	(0.28)	(1.02)	(0.05)	(0.95)	(1.10)
Market-to-Book	-0.0196	-0.0231**	-0.0194	-0.0224*	-0.0206*	-0.0318***	-0.0241***	-0.0323***	-0.0230***	-0.0220***
	(-1.56)	(-2.07)	(-1.55)	(-1.96)	(-1.78)	(-3.41)	(-2.92)	(-3.53)	(-2.75)	(-2.67)
log (Firm Age)	0.0496**	0.0475***	0.0453**	0.0387**	0.0412***	-0.0011	0.0026	-0.0031	0.0012	0.0009
	(2.54)	(3.06)	(2.45)	(2.51)	(2.61)	(-0.09)	(0.25)	(-0.25)	(0.12)	(0.08)
Board Size	-0.0060	-0.0018	-0.0049	-0.0013	-0.0014	-0.0004	-0.0009	-0.0008	-0.0007	-0.0013
	(-1.02)	(-0.36)	(-0.86)	(-0.25)	(-0.26)	(-0.12)	(-0.31)	(-0.23)	(-0.23)	(-0.41)
Board Share Independent	0.1292	0.1625*	0.0915	0.1691*	0.1426*	0.0697	0.0299	0.0735	0.0061	0.0074
	(1.37)	(1.94)	(0.99)	(1.94)	(1.65)	(0.95)	(0.45)	(1.00)	(0.09)	(0.11)
Attendance Problem	0.1666	0.2398	0.1500	0.2068	0.2340	0.2133	0.1843	0.1709	0.2317	0.2495
	(0.64)	(1.01)	(0.59)	(0.87)	(1.00)	(1.19)	(1.05)	(0.93)	(1.35)	(1.48)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	577	716	584	716	707	494	653	494	653	643
R square	0.120	0.093	0.101	0.089	0.081	0.119	0.083	0.119	0.079	0.081
Heteroskedasticity Corrected	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The table shows the results for the regression approach as in Table 9 for the event period plus one to plus four, everything else equal

Table A 25: Regression analysis of stock price reactions to chairman change events, value-weighted separate dual and non-dual, single value.

Event Window [-2; +1]				
Single Value Regression	**Endogenous Non-Dual Cases**	**Endogenous Dual Cases**	**Exogenous Non-Dual Cases**	**Exogenous Dual Cases**
Value Weighted Returns				
Oustside Directorships			-0.2532** (-2.10)	
Age CM	0.0389** (2.52)		0.0562* (1.75)	
CEO Tenure in Years	0.0291* (1.75)			
Time between Announcement and CM End in Years				1.5887** (1.98)
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes

The table reports the results of significant coefficient estimates for regressions with no other independent variables except for the control variables, as in Table A.20. The significant estimates for every subcategory are written in one column though each is the result of a separate regression. Everything else remains equal to Table 10

Table A 26: Regression analysis of stock price reactions to chairman change events, equally weighted case, separate dual and non-dual, single value

Event Window [-2; +1]				
Single Value Regression	**Endogenous Non-Dual Cases**	**Endogenous Dual Cases**	**Exogenous Non-Dual Cases**	**Exogenous Dual Cases**
Equally Weighted Returns				
Founder Indicator			0.0601* (1.75)	
Executive CM Indicator	-0.0627** (-2.06)			
Voting Power CM				
Board Tenure	0.0046** (2.44)			
Difference to Board Tenure of CEO	0.0031* (1.65)	0.0164*** (4.02)		
Board Percent Longer Director than CM	-0.2005*** (-3.00)			
Oustside Directorships			0.0189** (2.06)	
Age CM	0.0128*** (4.05)			0.0116*** (3.54)
CM Tenure in Years	0.0056** (2.47)	0.0091** (2.26)		
Time between CEO End and CM End in Years	0.0169*** (2.76)	0.2115** (2.17)		0.1990* (1.90)
Time between Announcement and CM End in Years		0.1311*** (2.63)		
Employed Indicator			-0.0643** (-2.53)	
CM remains on Board Indicator			0.0464* (1.95)	0.0748** (2.35)
Successor is CEO Indicator	0.0638* (1.95)			0.0661** (2.03)
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes

The table reports the results of significant coefficient estimates for regressions with no other independent variables except for the control variables, as in Table A.21 and Table A.22. The significant estimates for every subcategory are written in one column though each is the result of a separate regression. Everything else remains equal to Table 11

Table A 27: Regression analysis of stock price reactions to chairman change events, value-weighted case, separate dual and non-dual, with controls displayed

	Event Window [-2; +1]			
Value Weighted Returns	**Endogenous Non-Dual Cases**	**Endogenous Dual Cases**	**Exogenous Non-Dual Cases**	**Exogenous Dual Cases**
Founder Indicator	-0.2842 (-0.68)	-0.0055 (-0.00)	-0.0428 (-0.31)	1.3263* (1.67)
Executive CM Indicator	-0.1053 (-0.19)	-3.5776 (-0.70)	0.1758 (0.80)	1.0961 (1.14)
Voting Power CM	0.0300 (1.03)	0.0056 (0.18)	0.0057 (0.94)	-0.0003 (-0.02)
Board Tenure	-0.0315 (-0.95)	0.0354 (0.50)	-0.0137 (-1.54)	0.0725 (1.37)
Difference to Board Tenure of CEO	0.0142 (0.62)	0.0398 (0.36)	0.0067 (0.95)	0.1057 (0.93)
Board Percent Longer Director than CM	-0.8552 (-1.18)	1.2312 (1.01)	-0.1028 (-0.31)	-0.8332 (-1.11)
Oustside Directorships	-0.1023 (-0.60)	-0.3267 (-1.08)	0.0441 (0.77)	-0.0170 (-0.10)
Age CM	0.0452 (1.62)	-0.0056 (-0.10)	0.0308*** (2.77)	-0.0126 (-0.42)
CM Tenure in Years	0.0024 (0.07)	0.0586 (0.68)	0.0095 (1.05)	-0.0953* (-1.77)
CEO Tenure in Years	0.0436 (1.50)	-0.0216 (-0.23)	0.0053 (0.77)	-0.0458 (-1.02)
Time between CEO End and CM End in Years	0.0179 (0.35)	0.9758 (0.43)	0.0093 (0.66)	-2.0295 (-1.39)
Time between Announcement and CM End in Years	-0.3660 (-1.13)	0.3236 (0.31)	1.3716* (1.80)	2.1931** (2.32)
Employed Indicator	-0.1117 (-0.34)	0.9211 (0.87)	-0.1206 (-0.81)	-0.8636 (-1.34)
CM remains on Board Indicator	-0.1436 (-0.41)	0.3798 (0.36)	-0.1834 (-1.17)	0.2411 (0.50)
Active on other Boards after Exit Indicator	0.0562 (0.13)	-0.5283 (-0.84)	-0.1924 (-0.74)	0.8776 (1.53)
Successor is CEO Indicator	0.1717 (0.50)	0.3629 (0.60)	-0.1025 (-0.84)	-0.3954 (-1.45)
log (Total Assets)	0.0595 (0.50)	-1.0954*** (-4.92)	-0.0075 (-0.09)	0.0832 (0.34)
Market Leverage	-0.3598 (-0.49)	1.5571 (1.29)	-0.4711 (-1.33)	0.1198 (0.15)
Market-to-Book	-0.1027 (-0.88)	-0.6341** (-2.44)	0.0124 (0.17)	-0.0126 (-0.03)
log (Firm Age)	0.1406 (0.71)	0.3177 (0.89)	0.1089 (1.32)	-0.1517 (-0.81)
Board Size	0.0123 (0.19)	0.2665** (2.26)	0.0107 (0.39)	-0.0431 (-0.61)
Board Share Independent	0.5693 (0.60)	1.1756 (0.62)	-0.4389 (-1.29)	0.2857 (0.26)
Attendance Problem	2.6628 (0.91)	3.3921 (0.65)	0.6741 (0.99)	-2.0741 (-0.53)
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	284	313	284	204
R square	0.232	0.183	0.232	0.246
Heteroskedasticity Corrected	Yes	No	Yes	Yes

The table shows the results of Table 10 with the coefficient estimates for the controls

Table A 28: Regression analysis of stock price reactions to chairman change events, equally weighted case, separate dual and non-dual, with controls displayed.

Event Window [-2; +1]				
Equally Weighted Returns	**Endogenous Non-Dual Cases**	**Endogenous Dual Cases**	**Exogenous Non-Dual Cases**	**Exogenous Dual Cases**
Founder Indicator	-0.0303 (-0.55)	-0.0386 (-0.48)	0.0831** (2.05)	0.1396* (1.89)
Executive CM Indicator	-0.0187 (-0.25)	-0.2197 (-1.44)	0.0622 (1.11)	0.1091 (0.86)
Voting Power CM	0.0015 (0.40)	0.0020 (1.50)	0.0004 (0.17)	0.0002 (0.12)
Board Tenure	-0.0049 (-1.13)	-0.0049 (-1.07)	0.0027 (1.02)	-0.0026 (-0.74)
Difference to Board Tenure of CEO	-0.0005 (-0.18)	0.0122 (2.14)	-0.0026 (-1.49)	-0.0000 (-0.00)
Board Percent Longer Director than CM	-0.1853* (-1.95)	0.0405 (0.47)	-0.0811 (-1.07)	-0.0200 (-0.21)
Oustside Directorships	-0.0029 (-0.13)	0.0070 (0.37)	0.0118 (0.96)	-0.0009 (-0.04)
Age CM	0.0143*** (3.93)	-0.0006 (-0.14)	0.0051 (0.90)	0.0153*** (3.72)
CM Tenure in Years	0.0046 (1.11)	0.0099 (1.10)	-0.0014 (-0.57)	-0.0025 (-0.47)
CEO Tenure in Years	-0.0005 (-0.14)	0.0003 (0.05)	-0.0020 (-0.93)	-0.0017 (-0.35)
Time between CEO End and CM End in Years	0.0156** (2.37)	0.1712 (1.20)	0.0031 (0.62)	0.1927 (1.20)
Time between Announcement and CM End in Years	-0.0183 (-0.43)	0.1159 (1.58)	0.1168* (1.78)	0.0208 (0.30)
Employed Indicator	0.0390 (0.92)	-0.0800 (-1.31)	-0.0881** (-2.38)	-0.0200 (-0.27)
CM remains on Board Indicator	0.0770* (1.69)	0.0277 (0.37)	0.0321 (0.85)	0.0552 (0.94)
Active on other Boards after Exit Indicator	0.0399 (0.72)	-0.0324 (-0.87)	0.0451 (0.93)	0.0114 (0.19)
Successor is CEO Indicator	0.0916** (2.07)	-0.0308 (-0.72)	0.0675* (1.95)	0.0624 (1.49)
log (Total Assets)	-0.0147 (-0.96)	-0.0182 (-0.94)	-0.0059 (-0.44)	-0.0004 (-0.02)
Market Leverage	-0.0518 (-0.54)	-0.1567 (-1.49)	-0.0841 (-0.71)	-0.1022 (-0.93)
Market-to-Book	-0.0422*** (-2.77)	-0.0462*** (-2.92)	-0.0071 (-0.48)	-0.0398* (-1.74)
log (Firm Age)	0.0029 (0.11)	0.0561** (2.11)	0.0483** (2.15)	0.0033 (0.13)
Board Size	-0.0006 (-0.07)	0.0033 (0.41)	0.0013 (0.19)	0.0071 (0.92)
Board Share Independent	0.2673** (2.16)	0.1206 (0.96)	-0.1371 (-1.30)	-0.2512 (-1.60)
Attendance Problem	0.5152 (1.34)	0.4704 (1.12)	0.3045 (1.18)	-0.6989 (-1.38)
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	284	313	284	204
R square	0.187	0.208	0.187	0.346
Heteroskedasticity Corrected	Yes	Yes	Yes	No

The table shows the results of Table 11 with the coefficient estimates for the controls