Does Firing a CEO Pay Off?

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ABSTRACT

Corporate investment decisions are of critical importance to the fortunes of firms and CEOs' own careers. In this study, we examine whether involuntary CEO replacements pay off by improving firm prospects. We find CEO successors' acquisition investments to be associated with significantly higher shareholder gains relative to their predecessors and the average CEO. This improvement in post-turnover acquisition performance appears to be a function of board independence, hedge fund ownership, and the new CEO's relative experience. CEO successors also create sizeable shareholder value by reversing prior investments through asset disposals and discontinuing operations and by employing more efficient investment strategies. Our evidence suggests that replacing underperforming CEOs can improve firm value by enhancing the quality and efficacy of capital investment decisions.

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The chief executive officer (CEO) and the top management team are typically viewed as critical to the success or failure of companies since their decisions have a pertinent impact on corporate and shareholder fortunes. As it is not uncommon for top executives to make value destroying decisions, the role of internal control mechanisms, such as the board of directors, is to safeguard the interests of shareholders by replacing poorly performing incumbent CEOs with new ones. In a recent paper, Kaplan and Minton (2012) report that involuntary dismissals of top executives as well as the performance-turnover sensitivity have increased significantly over the past decade.[1] Although boards have become accustomed to CEO dismissals, it is still controversial whether they have become adept at making the dismissals pay off. Existing research has gauged the effectiveness of CEO replacements by examining whether post-turnover firm performance changes. While some studies document significant improvements in terms of conventional performance metrics such as operating earnings and stock returns, attributed to the appointment of new CEO successors (Denis and Denis, 1995; Huson et al., 2004), others find evidence to the contrary (Wiersema, 2002). Despite the compelling evidence of a strong inverse relation between the quality of acquisition investments and the likelihood of subsequent disciplinary turnover (Lehn and Zhao, 2006), to-date it remains unknown whether CEO successors improve firm prospects through superior acquisition and other investment decisions relative to the ones carried out by their dismissed predecessors.

A firm's investment choices are irrefutably instrumental to its growth, economic success, and broad performance and are, therefore, vital from the shareholders' perspective. Firm value is fundamentally affected by management decisions and Mergers and Acquisitions (M&A) are among the most critical decisions CEOs make and one of the most important forms of investment, both for a firm and the economy.[2] Since poor investment results tend to have an adverse effect on corporate performance and have been identified as key drivers of forced CEO turnovers, corporate

[1] For other research focusing on the relationship between corporate performance and forced CEO turnover see Coughlan and Schmidt (1985), Warner et al. (1988), and Weisbach (1988).
[2] The total value of M&A deals announced in 2015 reported in Thomson Reuters SDC was around $2.53 trillion which represents 14% of the US GDP.

investment decisions of new CEOs relative to those of their fired predecessors provide an ideal ground to gain fundamental insights into the corporate performance-resuscitating role of CEO replacements.[3] Moreover, M&A deals offer a unique platform to examine whether replacing a CEO improves corporate decision making since they can be linked to specific managerial decisions. Thus, a sample of forced turnovers preceded by acquisition investments with directly measurable outcomes allows us to gain an understanding of how the quality of firms' and chief executives' investment decisions evolve in response to learning from previous experience. For instance, if a dismissal is associated with poor acquisition decisions, the investment choices of the new CEO after a forced turnover might be influenced by the previous failure. To that end, this study examines the overarching question whether shareholders are better off with new CEO appointments by focusing mainly on the acquisition decisions carried out by CEO successors relative to their dismissed counterparts. In addition, we also investigate how the efficiency of the firm's overall investment (i.e., including CAPEX and R&D) as well as the performance of auxiliary (divestment) corporate strategies are affected by forced turnovers.

We focus on a sample of M&A deals between 1989 and 2016 taking place during a 10-year window surrounding CEO turnover events in publicly listed US companies. Consistent with the view that chief executives tend to be dismissed for making underperforming corporate investments, we find that pre-turnover deals consummated within a 5-year window by CEOs that are subsequently forced out generate significant losses for acquirers. More specifically, they are subject to an average (median) abnormal return of -0.88% (-0.79%) around the acquisition announcement, corresponding to a wealth destruction of $105 ($90) million for the average-size firm. In public acquisitions this loss extends to -3.53% (-2.92%) while surprisingly even private deals fail to generate gains. This negative abnormal return is equivalent to $393 ($325) million

[3] The acrimonious departure of Hewlett-Packard's then-CEO Carly Fiorina in 2005 for instance was reportedly attributed to a great extent to the apparent failure of the HP-Compaq merger which Fiorina led in 2001. Shares of HP jumped 6.9 percent on the day of the news. Fiorina was replaced by Mark Hurd, an outsider with great operational experience, who not only managed to make the Compaq merger work, but also re-focused the corporate strategy of HP and grew the company threefold through a series of successful acquisitions until he stepped down in 2010.

shareholder value loss. Pre-turnover deals also fare significantly worse than matched control deals completed by CEOs that keep their jobs or leave voluntarily. Collectively, these results suggest that weak deal making is a primary cause for the dismissals in our sample.

Our central finding is that when newly appointed CEOs carry out acquisitions within 5-years following dismissals they create significant shareholder gains (1.59%); a 2.47% improvement relative to previous deals made by their dismissed predecessors. CEO dismissals also result in new acquisitions with sizeable synergistic gains (2.05%), contrary to pre-turnover deals that generate combined losses (-0.76%). In multivariate and propensity score matching tests, where we control for a number of firm and deal-level characteristics, we confirm the superior acquisition performance of new CEOs over their predecessors' as well as that of CEO successors pertaining to voluntary turnovers. In addition, we match deals consummated by dismissed CEOs to similar deals in terms of performance and other characteristics from the universe of M&As irrespective of turnovers and establish that the documented performance improvement is not a product of mean reversion and that new CEOs carry out better deals than the average top executive. We also find that CEO successors attain significantly higher post-acquisition stock and operating performance than their dismissed predecessors.

These findings point to improvements in post-turnover investment decisions and advocate that the firing of CEOs pays off for shareholders despite the concern of many boards that such decisions may be costly to investors due to severance packages and golden parachute payments for departing executives.[4] The typical CEO successor in our sample generates an aggregate gain of 2.92% from acquisition announcements over 5 years, which translates in a $273 million increase in shareholder value for the average-size firm, exceeding more than tenfold the implied costs associated with forced turnovers as reported in Taylor (2010). Thus, our evidence suggests that CEOs should be

[4] For example, when CEOs at Hewlett-Packard, Bank of New York Mellon, Burger King, and Yahoo were asked to step down in 2011, they walked away with severance packages that cost shareholders a combined $60 million. And when Léo Apotheker stepped down as CEO at Hewlett-Packard, he walked away with $13.2 million in cash and stock severance.

dismissed when they underperform and provides support to the practice of aligning executive pay policies with performance to reduce the burden from CEO dismissals.[5]

While our results demonstrate that bringing in a new chief executive tends to enhance corporate performance through better investment decisions, there are several factors that may affect the magnitude of this upturn. Corporate governance, for instance, has been linked to the likelihood of observing a forced turnover as well as the quality of CEO replacement decisions.[6] In support of this argument, we find that the acquisition performance differential between new and dismissed top executives increases with the degree of board independence. This relation is economically important; an interquartile change in board independence is equivalent to an increase in acquisition performance improvement by 2 percentage points. Given that the typical board's composition in our sample around a forced turnover has not changed significantly since the appointment of the old CEO, our results might reflect that stronger corporate boards are more likely to learn from and correct their mistakes by hiring superior CEO successors and/or monitoring their acquisition decisions more effectively.

Further, the presence of large external shareholders with great incentives to monitor the firm's management (Shleifer and Vishny, 1986), can increase the pressure on the firm's directors to replace poorly performing CEOs (Denis et al., 1997). This could also result in better CEO replacement decisions and more pronounced investment performance turnarounds. To address this issue we focus on both conventional blockholder ownership and hedge funds that may be better positioned to act as informed monitors than other institutional investors.[7] Consistent with the view

[5] This is in line with many successful activist shareholders, such as Carl Icahn and Kirk Kerkorian, who have been strong advocates of more CEO firings and regulatory changes that need to be made in order for companies to become better corporate citizens by adding value to all stakeholders and serving society.

[6] Weisbach (1988) and Borokhovich et al. (1996) show that boards with more outside directors are more likely to dismiss poorly performing CEOs. Huson et al. (2004) find that the post-turnover improvement in a firm's profitability increases with the percentage of outsiders on the board and Jenter and Lewellen (2014) provide evidence that stronger boards are more effective in dealing with negative stock performance shocks after replacing their CEO.

[7] Hedge funds tend to buy stakes in companies and agitate for changes in the form of management shakeups, divestitures, and buybacks. In its aggressive form, hedge fund activism may aim to put public pressure on management to implement radical changes in corporate strategy or corporate governance. Brav et al. (2008) find that disciplinary action in the form of CEO turnover against poorly performing executives is more likely following activist targeting by hedge funds.

that external monitoring by hedge funds, not only precipitates CEO turnover but also considerably enhances the quality of new CEO hiring decisions, our results show that the existence of a hedge fund blockholder is associated with the appointment of a CEO successor that achieves a 3.35 percentage points higher acquisition return improvement.

We also examine directly the impact of CEO-level characteristics that have been linked to management quality on the post-turnover change in acquisition performance. Although age and compensation differentials are not important in driving investment performance changes, hiring a more experienced successor relative to the old CEO results in a more pronounced post-turnover acquisition performance improvement. More specifically, an interquartile change in the managerial experience difference between the two CEOs yields higher acquirer gains by 2.08 percentage points. This finding suggests that the post-turnover improvement in acquisition performance is at least partly driven by the hiring of more experienced CEO successors and it is consistent with the view that investment outcomes can be a function of the chief executive's prior experience.

Although our primary focus is to assess the impact of CEO turnover on corporate investment quality through M&A stock returns and operating performance, we also examine CEO successors' general managerial ability to improve firm outcomes in terms of total net investment efficiency gains. Our findings, based on a measure of investment that diverges from the firm's growth opportunities, suggest that new CEOs generally adopt more efficient investment strategies than their dismissed predecessors. We also find that even CEOs that do not undertake acquisition investments in the post-turnover period (non-acquisitive successors) appear to employ more optimal investment strategies than their predecessors. Yet, additional tests reveal that they do not create as much value for their firms in the long-run as acquisitive successors do which is in line with the theoretical model of Edmans and Gabaix (2011) and the empirical evidence in Croci and Petmezas (2015) who find that risk-taking CEOs (i.e., acquisitive CEOs) select investments (i.e., M&As) that yield higher bidder stock returns.

Finally, a stream of research closely related to the analysis of our paper is on operational downsizing following CEO turnovers (see e.g., Weisbach, 1995) and shows that executive suite changes prompt new CEOs to divest poorly-performing business units. Using additional information on discontinued operations we show that new CEOs tend to focus more on divesting burden assets as they are more than twice as likely to dispose subsidiaries or bring operations to a halt relative to their predecessors. Both acquisitive and non-acquisitive successors seem to engage in divestment and operations back-scaling activities of about the same degree while their divestitures generate particularly compelling abnormal returns. Thus, besides engaging in better acquisitions, successor CEOs create significant shareholder gains by systematically reversing prior poorly performing investments through asset disposals and the termination of non-performing operations.

Overall, our study contributes to the M&A and CEO turnover literature in several important ways. In relation to previous research identifying poor investment decisions as a key driver of forced CEO turnover (Lehn and Zhao, 2006), we document that CEO replacements are actually beneficial to shareholders since their successors pursue superior investment and auxiliary corporate strategies. While previous studies (Denis and Denis, 1995; Huson et al., 2004) report turnarounds in broad corporate performance following forced CEO turnovers, our work demonstrates that this improvement can be, among other things, driven by CEO successors adopting more optimal organic (CAPEX and R&D) and inorganic (M&A) growth strategies. Further, from a corporate governance perspective, our findings highlight that learning from past mistakes plays an important role in turning around corporate fortunes through more effective CEO selection and/or monitoring of CEO investment decisions. Consistent with the view that the identification and selection of the CEO is among the most important functions of the board of directors (Khurana, 2004), our evidence adds to existing literature by showing that corporate governance can exert a positive influence on investment outcomes (Masulis et al., 2007) through the appointment of more skilled chief executives.

Moreover, we provide new insights into the importance of managerial experience on the ability to produce performance turnarounds, which has implications for research on the labor market for CEOs. Along these lines, our study is linked to the organization theory and strategic management literature advocating that poorly performing firms should focus on hiring new executives with the ability and skills to achieve turnarounds (see, e.g., Hofer, 1980; Schwartz and Menon, 1985; Chen and Hambrick, 2012; Donatiello, Larcker, and Tayan 2018). Finally, we show that external monitoring by large shareholders and, in particular, hedge funds, not only triggers CEO turnover (Brav et al., 2008), but drastically enhances the quality of new CEO hiring decisions and hence firm performance post-turnover.

The rest of the paper is organized as follows; Section I discusses the data used in our analysis and reports the sample statistics. Section II examines whether acquisition performance improves following forced turnovers and Section III provides an analysis of the acquisition performance change drivers. Section IV offers additional evidence on the long-run post-acquisition stock return and operating performance differences between new and old CEOs. Section V examines the investment efficiency of new CEOs relative to their dismissed predecessors. Section VI compares pre- and post-turnover divestment strategies. Section VII reports results from robustness and additional tests. Finally, Section VIII concludes the paper.

I. Data and Sample Statistics

A. Acquisition and Turnover Samples

The sample of merger and acquisition announcements is from Thomson Financial SDC and deals are announced between 1989 and 2016. Acquirers are US firms listed in NYSE, AMEX or NASDAQ with data in CRSP and Compustat and targets are public, private, and subsidiary US or foreign firms. Both, the market capitalization of acquirers and the transaction value are equal to or larger than $10 million (in 2011 dollars). The target-to-acquirer relative size is at least 1% and the acquirer's ownership of the target is less than 10% prior to the merger announcement and more

than 50% following completion. Imposing these criteria leads to an initial sample of around nineteen thousand deals.

CEO turnovers are identified from SEC proxy statements (filings include, but are not limited to, DEF 14A, DEF 14C, and PRE 14A) and annual/current reports (for example, forms 10-K and 8-K) and are complemented and verified by searches in LexisNexis. This information is available in EDGAR from 1994 and therefore the sample of CEO turnovers spans from 1994 to 2011. We require that the departed CEO completed at least one acquisition in the 5-year period preceding a turnover announcement. We retain turnover events where the cumulative relative size of deals consummated by the departed CEO within a 5-year window prior to the turnover announcement date is equal to or larger than 10%. This requirement ensures that CEOs make significantly large acquisition investments prior to their departure. We obtain 2,386 turnovers corresponding to 4,949 pre-turnover deals that satisfy the above criteria. CEO successors consummate an additional 1,627 deals within a 5-year post-turnover window.

Turnovers are partitioned in forced and voluntary based on news searches in LexisNexis around the turnover announcement. Following Parrino (1997) and Huson et al. (2004), we classify a turnover as forced when the CEO is fired, forced out of his position or departed due to policy differences (130 cases). Turnovers due to death, poor health, acceptance of another position, or normal succession are classified as voluntary (270). From the 783 cases associated with CEO retirement or resignation, 208 are tentatively treated as forced as the CEO was less than 60 years old at the turnover announcement and left the firm within six months.[8] The remaining 575 are regarded as voluntary departures. When we cannot find a reason for the turnover (329) or when this was due to restructuring, separation of chairman and CEO position or a spinoff (19) it is then grouped along with the voluntary departures. From the remaining 855 cases, if the CEO left the firm we treat the turnover as tentatively forced (304) and voluntary otherwise (551). In order to

[8] Parrino (1997) and Jenter and Kanaan (2015) also employ the same cutoff. CEOs typically retire at 62 to 65 since they are under 3-year employment contracts.

reduce classification errors, we revisit all 512 cases classified as tentatively forced by searching the business news using a more extensive window around the turnover and reclassify (378) cases as voluntary if we do not find concrete evidence that the CEO was dismissed or left due to reasons associated with the firm's business activities. Through the above classification process, we obtain 264 forced and 2,122 voluntary turnover events.

We further exclude cases where the firm delists around the turnover. Although this continuity constraint limits our sample, post-turnover firm survival is necessary given our focus on assessing the investment decisions and performance of new CEOs relative to their predecessors. There are 598, 21, and 121 cases that are excluded from the analysis as a result of firms being acquired, filing for bankruptcy, and delisting for other reasons, respectively. To ensure that this exclusion does not give rise to any sample selection effects on our results we compare the pre-turnover acquisition performance of our main sample with that for the non-surviving firms that have been omitted and find the two to be almost identical. Hence, our sample allows us to draw broad inferences whether shareholders are better off from the acquisitions and auxiliary corporate strategies of new CEOs who succeed dismissed top executives.

The final turnover sample consists of 226 forced and 1,420 voluntary turnovers, corresponding to 5,075 acquisition deals carried out by departed (3,448) and successor (1,627) CEOs within a 5-year pre- and post-turnover window, respectively. The fraction of forced-to-total turnovers (14%) is similar to the 16% reported in Huson et al. (2004). The six main industries (consumer, finance, high tech, healthcare, manufacturing, and other) are adequately represented within both subsets. Note that the reason our turnover sample is somewhat smaller compared to some other recent studies (see, e.g., Jenter and Kanaan, 2015), is mainly because the nature of our investigation requires that CEO turnovers are preceded by acquisitions. Moreover, our sample consists of fewer forced turnovers than in Lehn and Zhao (2006) since they include cases where the acquirer does not survive post-turnover. They also define forced turnovers more broadly than Huson et al.

(2004), which we follow in this study. Our results, however, are robust to alternative CEO turnover classification schemes as highlighted in Section VII.

To avoid sample selection problems, we do not impose a minimum tenure requirement for the CEO successor. Instead, we examine the investment behavior and performance of all successors up to 5-years post-turnover or until they left the firm, if this occurs earlier, although the great majority of them remain in their position for at least 5 years. For some of our tests we also utilize a "no-turnover" control sample. This consists of 1,152 turnover cases where a CEO is not replaced within 5 years after completing acquisition deals with aggregate relative size equal to or greater than 10%. This control group comprises of 2,617 deals.

Table I presents general turnover sample information. Panel A shows the constituent subsets of forced and voluntary turnovers. For 87 of the 226 forced departures the announcements and/or news reports indicate that the CEO was forced-out/fired. In 11 cases policy differences/conflicts are explicitly quoted as the cause of dismissal. From the remaining 128 cases, in 24 poor CEO performance was cited as reason for the turnover while the rest were originally classified as tentatively forced and have been subsequently verified as involuntary based on the process discussed earlier. With regards to voluntary turnovers, around one third (454) were due to retirement. CEOs left to accept another position in 65 cases and resigned, but did not move to another firm, in 193 cases. Further, 154 voluntary turnovers were due to normal/planned succession and 43 due to poor health/death. The *Other Voluntary* subset comprises of 201 cases where the CEO steps down as a result of acquiring another company (122), to pursue other interests (63), as part of a restructuring process (8), separation of chairman and CEO position (5) or a spinoff (3). In all the above cases, we find sufficient evidence pointing to a voluntary departure. Finally, the voluntary sample includes 310 cases where we were unable to identify an unambiguous reason for the turnover. Panel B reports information on the departed CEOs destination. The great majority

of forced turnover cases are associated with CEOs that left the firm.[9] On the contrary, it appears that most of the CEOs that leave voluntarily are normally retained within the firm in either a Top 3 management or other position, or in the board of directors. Panel C reports the distribution of turnover cases for the three subperiods. The reduction in turnover cases for both voluntary and forced subsets during the last period can be attributed to the relatively lower acquisition activity of this period which decreases the likelihood to observe turnovers preceded by acquisition deals.

[Table I about here]

B. Forced Turnover Sample Statistics

Figure 1 illustrates the schematic representation of our research design in the context of the forced CEO turnovers which are the central focus of our analysis. As per our sample selection criteria, in each of the 226 cases the departed CEO has consummated acquisition deals with aggregate target-to-acquirer relative size of at least 10%. The CEO successor has completed at least one control acquisition (with relative size greater than 1%) in 110 cases. The remaining 116 successors have not carried out acquisition investments since taking office and up to a 5-year period. In order to test whether investment performance improves subsequent to forced CEO turnovers, our initial tests concentrate on the 110 cases where both replaced CEOs and their successors carry out acquisitions. However, we also examine the investment efficiency, divestment behavior of non-acquisitive CEO successors and firm's long-run performance in Sections IV, V, and VI. Figure 2 shows the distribution of transactions for the sample of 110 forced turnovers across the 5-year pre- and post-turnover periods. New CEOs complete less deals (194) than departed ones (270) whereas most of their investment activity is concentrated in the years *t-2* and *t-3* relative to the turnover year.

[Figure 1 and Figure 2 about here]

[9] In eleven cases the deposed CEO appears to be retained in a top 3 management position. In seven of those the CEO was the founder, whilst in the rest they left within a year or retained a management position in order to assist in the transition.

Table II reports statistics on key characteristics of departed and successor CEOs and information about the firm's board of directors (BoD) and ownership profile for the sample of forced turnovers described above. Panel A provides statistics on CEO characteristics. Generally, statistics are consistent with prior turnover studies but we highlight several notable results. Newly appointed CEOs tend to be younger than their predecessors by 2.3 years while the average tenure of old CEOs is 7 years.[10] Further, 54.5% of successors are outside appointments with the rest accounting for internal successions. CEO curriculum information is hand-collected from the *Marquis Who's Who* database and complemented with searches in SEC filings, Forbes Profiles, and Bloomberg Business Week (Executive Profiles). *CEO Experience (years)* is measured around the turnover event in question for both CEOs and shows that new chief executives have on average less prior CEO experience (4 years) relative to their predecessors (8.5 years). Yet, an untabulated finding suggests that predecessor CEOs prior experience around their appointment was typically only 1.4 years. Accordingly, the indicator variable *Experienced CEO at appointment* reveals that corporate boards tend to install a new chief executive with prior CEO experience in 58.2% of the cases, a significantly higher likelihood than for formerly appointed predecessor CEOs (22.95%). This is in line with anecdotal evidence that more recently firms display a preference for chief executives with prior CEO experience (see, e.g., Lublin, 2005; Karlsson and Neilson, 2009; Graffin et al., 2011). It may also be linked with a life cycle effect where corporate boards are more likely to select a generalist/experienced CEO successor to handle the large complexity of a more mature firm.[11] In addition, following Malmendier and Tate (2005; 2008), we use a finance degree indicator to capture an aspect of CEO quality proxied by his education. We find that new CEOs are more likely to have finance-oriented education relative to their predecessors implying that

[10] Successors' tenure is not reported as we only trace them up to 5 years post-turnover due to our research design. The average CEO's tenure within this 5-year window is 4.76 years.
[11] CEO experience is one of the ingredients of the generalist CEO index in Custodio et al. (2013).

corporate boards tend to favor chief executives with finance degrees when faced with top management replacement decisions.

[Table II about here]

Panel B reports board of directors and ownership information prior to the turnover event. Similar to Shivdasani and Yermack (1999) we classify directors into three categories; insiders, grey, and outsiders. Inside directors are current employees of the firm. Grey directors are former employees, non-employee business associates (consultants, lawyers, or financiers) where conflicts of interest might apply, or relatives of other inside directors. All other non-employee members are classified as outside directors. *BoD independence* is the percentage of outsiders relative to the total directors siting on the board of the firm as reported in the proxy statement prior to the turnover announcement.[12] The typical board in our sample comprises 67% independent directors. Of all the firm's directors at the turnover, 60.4% have remained unchanged since the appointment of the old CEO. This implies a rather modest change in the typical board's composition considering that the average tenure of directors at S&P 500 companies is around 8 years (Spencer Stuart, 2014) while the average tenure for predecessor CEOs in our sample is 7 years. Moreover, in 44.2% of the cases, the chairman of the BoD has remained the same since the hiring of the old CEO while the post-to-pre turnover difference in the share of independent directors is only around five percentage points. In view of all the above information there is sufficient evidence to suggest that predecessor CEOs in our sample were typically replaced by a similar board to the one that hired them.

Further, Panel B also reports blockholder information. An external blockholder owing at least 5% of the company's shares and identified from SEC filings is reported in more than 70% of the cases which is consistent with other studies (see, e.g., Huson et al., 2004; Edmans and Manso,

[12] We focus on DEF 14A and DEF 14C forms. However, we also collect directors' information from 10-K reports if the proxy statement is issued more than a year prior the turnover announcement in order to capture the board composition that is most relevant to the CEO dismissal. For six cases where there is no proxy statement or annual report available within a reasonable period of time prior to the turnover announcement, we obtain board information from the first statement following the turnover announcement. Removing those cases does not materially affect our results.

2011). Pre-turnover hedge fund blockholdings are identified in almost a third of the cases. Blockholders are classified as hedge funds if they are quoted as hedge funds or offer such funds based on extensive searches in news articles retrieved from LexisNexis and other sources around the date of the corresponding SEC filling. In an unreported test, we also find that the difference in hedge fund ownership between the post- and pre-turnover period to be trivial suggesting that CEO turnover events do not typically trigger significant changes in ownership by hedge funds. In Section III, we further examine the influence of CEO attributes, BoD composition, and ownership structure on post-turnover investment improvement.

Table III reports deal and acquirer summary statistics for the sample of forced turnovers. Column 1 (*Pre all*) reports figures for the full sample of 226 forced turnover cases where departed CEOs completed 539 deals. Columns 2 (*Pre*) and 3 (*Post*), show figures for the group of 110 cases where both the old and new CEOs carried out acquisition investments. This sample comprises of 270 deals made by CEO predecessors and 194 by their successors. The table also reports statistics for a control group of 6,959 deals. Of those, 4,342 took place within a 5-year period following or preceding 1,420 voluntary turnovers and the remaining 2,617 deals are linked to the "no-turnover" group where the CEOs keep their jobs for five years after carrying out deals with cumulative relative size of 10% (1,152 cases).

[Table III about here]

Columns 2 and 3, show that new CEOs typically carry out fewer acquisition deals than their predecessors although this can be driven by the 10% cumulative relative size criterion requirement imposed for pre-turnover deals. The documented drop in acquisition activity may also be linked to the fact that CEOs tend to invest less at the beginning of their tenure (Pan et al., 2016) but it may well be induced by managerial restraint stemming from their predecessors' involuntary replacement following poor corporate investment performance.[13] Further, CEO successors make

[13] Consistent with the evidence that CEO successors following forced turnovers are less acquisitive, in untabulated results we find that successor CEOs appear to also take more time (22 months) to lead a new deal compared to the voluntary subset (18 months).

less public acquisitions than their predecessors and tend to substitute stock for cash as the post-minus-pre pure stock (cash) differential is -34.1% (19.4%). Evidently, new CEOs refrain from offering stock to acquire targets and have lower market-to-book values which can be attributed to lower market valuation realized under the helm of their predecessors. Further, successor CEOs enter a more mature firm as suggested by the lower Tobin's q. We also find no significant differentials in the share of tender offers, focusing, and cross-border deals carried out by the CEO counterparts, neither in the offered premia.

II. Does Acquisition Performance Improve Following Forced CEO Turnovers?

A. Univariate Analysis of Acquirer CARs

In this subsection, we examine acquisition abnormal return differences between deals completed by outgoing CEOs and their successors during the 5-year windows preceding and following forced turnover events, respectively. Table IV presents the results for a sample of 464 deals announced around 110 forced turnovers. Panel A reports 3-day abnormal returns (CAR) to acquirers as well as synergy gains using the acquiring and target firms' market capitalization weighted combined return as in Bradley, Desai, and Kim (1988). The 270 deal announcements taking place prior to involuntary turnovers generate negative and statistically significant mean (median) CARs of -0.88% (-0.79%). A CAR of this magnitude appears to be substantially lower than the positive abnormal returns reported in other studies for mixed baskets of public and private deals.[14] This corresponds to wealth destruction of $98 million for the average-size acquirer in the pre-turnover period. The negative acquirer return is primarily driven by acquisitions of publicly listed targets which are subject to an average (median) CAR of -3.53% (-2.92%) which corresponds to a striking $393 ($325) million loss for the average-size acquirer. Interestingly, dismissed CEOs also fail to increase shareholder value in private deals although such type of

[14] For instance, Fuller et al. (2002), Moeller et al. (2004), and Faccio et al. (2006) report abnormal returns of 1.77%, 1.10%, and 1.17%, respectively.

acquisitions are typically linked to large gains for acquiring shareholders (see, e.g., Fuller et al., 2002; Faccio et al., 2006). Further, combined returns reveal that pre-turnover deals fail to generate positive synergistic gains. Collectively, these findings suggest that weak deal making is linked to CEO dismissals and are consistent with the evidence in Lehn and Zhao (2006) that "poor bidders" are more likely to get fired.

The pattern is clearly different for the 194 acquisitions announced under the helm of the CEO successors. Overall, their deals yield positive and statistically significant mean (median) acquirer returns of 1.59% (0.89%), while post-turnover CARs for private deals (2.02%) are higher than for public (0.59%). The mean synergistic gain is now also positive and significant (2.05%). The post-turnover improvement in acquisition performance is sizeable; the return differential is 2.47%, significant at the 1% level. Although the bulk of this reversal is attributed to public deals (4.12%), representing a major turnaround relative to the large losses incurred pre-turnover, the abnormal return differential in private deals is also significantly positive (1.32%), suggesting that CEO successors outperform their dismissed counterparts even when they engage in private acquisitions.

[Table IV about here]

Due to our research design, it is possible that the performance reversal we document surrounding CEO turnovers is not necessarily attributed to the superior deal making skills or sharper value creation focus of CEO successors but rather to luck or mean reversion. Panel B (voluntary turnover benchmark) shows that there is no corresponding acquisition improvement around voluntary turnovers which have been utilized as a benchmark in other studies with similar research design (see for example, Denis and Denis, 1995; Huson et al. 2004). Further, in Panel C we control for a number of acquisition return determinants as well as the possibility that the documented improvement in acquisition returns following post turnovers is merely a product of mean reversion. Accordingly, *CAR1-CAR4* adjust acquirer returns of the forced subset by the returns of similar (in terms of period, industry, deal size, payment mode and frequency) deals drawn from the voluntary and "no-turnover" samples and show that departed (successor) CEOs

make significantly worse (better) acquisition deals than their peers who announce similar deals and keep their job or leave voluntarily. Thus, on top of outperforming their fired predecessors, new CEOs create more value through acquisition investments than the average CEO reinforcing the view that new CEOs possess sound acquisition investment skills.

CAR5 and *CAR6* control for pre-turnover performance and post-turnover deal characteristics. For *CAR5*, the last deal of a dismissed CEO is matched with similarly performing (±30%) deals from the voluntary and no-turnover samples. Then the corresponding first deal of the CEO successor is adjusted by the median performance of similar subsequent deals (in terms of method of payment and size) from the performance-based matches previously derived. In addition, CAR6 controls for mean reversion on a turnover case-by-case level where the mean post-turnover CAR (from all deals of CEO successors) is adjusted by the performance of post-turnover deals in the voluntary turnover sample with similar pre-turnover performance profile. Thus, holding pre-turnover performance fixed, the new CEO makes better deals which largely rules out the possibility that the documented investment performance improvements are merely a manifestation of random performance reversals.

B. Multivariate Analysis of Acquirer CARs

While the univariate results demonstrate that CEO successors carry out better acquisition investments than departed CEOs following forced turnovers, it can be argued that they might be driven by several firm and deal characteristics, which we control for in cross-section regressions. Our multivariate test is based on the sample of 110 forced and 698 voluntary turnover events where both the departed and successor CEOs have completed 3,537 M&A deals within a 5-year period preceding and following the turnover event, respectively. The dependent variable in our regressions is the acquirers' 3-day CAR. We use two indicator variables as well as their interaction to capture any superior returns associated with forced post-turnover deals. *Post*, is an indicator variable equal to 1, if a deal is completed by a CEO successor and zero otherwise. *Forced* is equal to 1, if a deal is completed by a departed or successor CEO around a forced turnover. Their

interaction, *Post x Forced*, captures the incidence of a deal carried out by a CEO successor following a forced turnover. The remaining explanatory variables include acquirer size, deal relative size, three indicator variable controls for private targets, pure cash transactions and tender offers, as well as the acquirer's market-to-book value, run-up, and debt-to-assets. All variables are discussed in the previous section and defined in Table III. We also include industry and year fixed effects to account for the return variation within different industries and periods, respectively. To reduce the effect of outliers in the dependent variable we calculate the robust squared Mahalanobis distances (DSQ) for each acquisition return and winsorize acquisition returns to the next nearest value when the DSQ value has probability of chi-square less than 1% (Rousseeuw and van Zomeren, 1990; Riani et al., 2009).

Regression results are reported in Table V. Regression 1 (2) is estimated using only the forced (voluntary) turnover sample, regression 3 uses deals following forced and voluntary turnovers (All post), while regressions 4 and 5 are based on the entire sample of 3,427 deals.[15] The coefficient of *Post* in specification 1 points to an average outperformance of 3.02% for post-forced-turnover deals relative to pre-turnover ones, which is in line with our univariate findings. This return improvement is not found for the voluntary subset given the statistically insignificant coefficient of *Post* in regression 2. In regression 3, the *Forced* coefficient shows that the average deal carried out by a CEO successor following a forced turnover event is subject to a 1.36 percentage points higher CAR relative to voluntary post-turnover deals. Interestingly, *Forced* has a negative and significant coefficient in regression 5, apparently driven by the fact that predecessor CEOs in forced turnovers do a poor job in generating returns for shareholders. However, this effect is reversed when we focus only on forced post-turnover deals consummated by CEO successors as reflected in the positive and significant coefficient of the interaction variable *Post x Forced.* The 194 acquisition deals carried out by CEO successors following forced turnover events outperform all remaining 3,343 deals completed by new and old CEOs by a compelling 2.37%, after

[15] The total sample of 3,537 is reduced to 3,427 due to data availability on explanatory variables.

controlling for several known acquirer CAR determinants. All in all, controlling for other effects, the view that dismissed CEOs are replaced with more effective successors gains additional support in the data.

[Table V about here]

C. Acquisition Returns at Turnover Case Level

In this subsection, we conduct an analysis where each turnover case is equally weighted. Figure 3 provides an illustration of median acquirer CARs for the 110 forced turnovers by deal sequence (solid line). The figure compares acquirer CARs around forced turnovers against CARs around voluntary turnovers (dotted line) as well as returns from our control sample matched by industry, target type, and announcement year (dashed line). Consistent with the rest of our findings so far, Figure 3 indicates that pre-turnover deals by dismissed CEOs were typically the worst in terms of acquirer returns relative to both control samples. Conversely, deals by their successors generate superior shareholder gains relative to both pre-turnover deals and the post-turnover control samples. Moreover, pre-turnover deals, on average, underperform control deals irrespective of deal order although the realized relative loss is more pronounced nearer the end of the predecessor's deal sequence (*Last-1* and *Last Deal*). This pattern demonstrates a significant deterioration of acquisition performance prior to forced turnover events which, in turn, implies that chief executives are more likely to be penalized for their recent mistakes. On the contrary, the performance of CEOs that depart voluntarily is relatively similar throughout. Remarkably, the first deals of CEO successors following forced turnovers are associated with a median CAR of 0.70%. Median returns for later deals continue to uptrend and the positive return differential between CEO successors and their control peers persists throughout their deal sequence. In the additional univariate results, presented in Table A.1 of the Appendix, we show that while departed CEOs destroy aggregate shareholder wealth of 2.15% from all their deals, successor CEOs' acquisitions increase shareholder value by 2.80%. This is equivalent to a $253 million increase in shareholder

value for the average-size firm in our sample which is tenfold the implied direct cost associated with forced turnovers (Taylor, 2010).[16] Panel B of Table A.1 also shows that even at the turnover case level, disciplinary CEO turnovers result in sizeable acquisition performance improvements.

[Figure 3 about here]

D. Propensity Score Matched Acquisition Performance

To address more rigorously the possibility that mean reversion is not driving our results, in this subsection we match forced turnover cases with similar voluntary ones using a PSM approach.

As a first step, we use a probit model to estimate the impact of pre-turnover acquisition performance as well as key deal and CEO characteristics on the likelihood of a forced turnover occurrence. Our probability model is based on Lehn and Zhao's (2006) and features the CAR of the departed CEO as its main explanatory variable. The rest of the independent variables capture the effects of the payment method, age and tenure of the CEO, transaction relative size and pre- and post-acquisition performance (BHR). *MStock* and *MRelSize* are the average shares of pure stock payment and relative size across all pre-turnover deals of a turnover case. Panel A of Table VI reports the regression results for a sample of 110 forced and 698 voluntary turnovers. The 698 voluntary turnovers pertain to cases where both successors and departed CEOs have completed acquisition deals. In columns 1 and 2 (3 and 4) the main independent variable is the departed CEO's mean (sum) CAR across all deals (denoted *MCAR* and *SCAR*, respectively). The negative and significant CAR coefficients corroborate Lehn and Zhao's (2006) main finding of an inverse relation between acquisition performance and the probability of a CEO being fired. The *MCAR* coefficient in specification 2 implies that a one standard deviation increase in *MCAR* (12%) decreases the probability of a forced turnover by almost 30%. The remaining variables are generally consistent with the findings in Lehn and Zhao (2006). A notable result from this table is

[16] Taylor (2010) estimates the cost of a forced turnover to be 1.33% of a firm's book value of assets. This cost includes severance or retirement packages, fees to executive search firms, disruption costs, and any other CEO turnover costs that affect profits. The average firm in our sample has a book value of $1,762.48 million and the implied CEO replacement cost $23.4 million (i.e., 1.33% x $1,762.48). This figure is also consistent with the cost of turnover reported in Yermack (2006).

the insignificant coefficient of *Pre-BHR* coupled with the negative coefficient for *Post-BHR* indicating that acquisition related effects on the firm's stock price drive the decision to fire a CEO, and not the pre-acquisition performance.

[Table VI about here]

Panel B reports the PSM results for both performance proxies (*MCAR* and *SCAR*) based on two different techniques: i) the nearest-neighbor matching; and ii) the Gaussian kernel matching. Propensity scores are estimated from regressions 2 and 4. Departed CEOs are matched with their nearest (one-to-one), thirty, and fifty neighbors. *Treated* sample CARs correspond to forced post-turnover CARs and *Control* CARs to their matched CARs. *MCAR* and *SCAR* for the treated samples are both positive whereas control sample CARs are negative. The differences between the treated and the control samples are almost always significant, ranging from 1.44% to 3.40%. Similarly, using a kernel matching estimator yields a significant difference both for *SCAR* and *MCAR*. Overall, alternative matching approaches, based on the closest predicted probability, still indicate that the investment performance of new CEOs that take office following forced turnover events is associated with a significant premium which is consistent with our baseline results.

III. Drivers of Acquisition Performance Change Around Turnovers

In this section, we directly investigate whether key characteristics of monitoring mechanisms associated with the firm's corporate governance and ownership structure influence the quality of CEO replacement decisions, expediting the observed improvement in investment performance. Our multivariate framework involves cross-section regressions of the post-minus-pre-turnover difference in acquirer CARs (*ΔCAR*) on governance, ownership, CEO, and deal characteristics.

Corporate governance has been associated with acquisition quality (Masulis et al., 2007) as well as the probability of replacing poorly performing dealmakers (Lehn and Zhao, 2006). Weisbach (1988) and Borokhovich et al. (1996) show that boards with greater number of outside directors are more likely to dismiss poorly performing CEOs and replace them with ones that create

shareholder value while Huson et al. (2004) find that post-turnover profitability improvements are positively related to the percentage of outsiders on the board. Moreover, Jenter and Lewellen (2014) provide evidence that firms with high quality boards recover more quickly from negative stock performance after changing their CEO. Along these lines, it is possible that stronger boards learn from their prior mistakes and make more optimal CEO replacement decisions, therefore hiring better CEO successors and/or improving the firm's monitoring function over acquisition decisions post-turnover, leading to more pronounced investment performance turnarounds. Following Shivdasani and Yermack (1999), we measure the quality of corporate governance with board independence (see also Huson et al., 2004; Lehn and Zhao, 2006; Harford et al., 2008). *BoD independence* is defined as the percentage of outsiders relative to the total directors siting on the board of the firm as reported in the proxy statement prior to the turnover announcement.

A firm's ownership structure can also have an impact on the effectiveness of corporate monitoring and influence CEO replacement decisions. The presence of large outside shareholders, for instance, can contribute to increased monitoring (Shleifer and Vishny, 1986) and thus affect the quality of the decisions reached at the executive and corporate-board level. There is also anecdotal evidence that hedge fund activism often puts public pressure on management to implement directional changes in corporate strategy and governance. Along these lines, Brav et al. (2008) report that activist targeting by hedge funds tends to be followed by CEO turnover. Since hedge fund investors can induce or expedite CEO dismissals it is possible that they may also facilitate superior replacement decisions and/or contribute to better monitoring of the acquisition process following a CEO turnover, resulting in investment quality and firm performance improvements. We use two indicator variables to control for the presence of large outside shareholders (*Outside blockholder*) and hedge fund block ownership (*Hedge fund*), respectively.

While a stronger board and/or the presence of outside blockholders may lead to the appointment of a CEO with superior skills, Guthrie and Datta (1997) argue that pre-succession CEO life, career, and functional experience should be important differentiating factors in CEO selection decisions

and Bragaw and Misangyi (2013) provide evidence that chief executives with prior CEO experience are more desirable as they receive higher compensation packages. Moreover, the organization theory and strategic management literature suggest that poorly performing firms should focus on hiring new executives with the ability and skills to achieve turnarounds (see Hofer, 1980; Schwartz and Menon, 1985; Chen and Hambrick, 2012). While CEO ability is difficult to quantify, it is unequivocally linked to experience. Thus, we use experience, age, and compensation as proxies for CEO quality. *ΔExperience* is the difference in years of experience as chief executive between the two CEOs. Information on CEO experience is hand-collected from the *Marquis Who's Who* database and complemented with searches in SEC filings, Forbes Profiles, and Bloomberg Business Week (Executive Profiles). *ΔSalary* is the difference in compensation (scaled by total assets) of the CEO successor and the dismissed CEO. Compensation information is collected from SEC filings around the turnover. *ΔAge* is the age differential between the successor and departed CEO. To capture the effect of related industry experience, we include a binary variable that takes the value of 1 if the new CEO was previously employed by a company with the same business description (*Specialist successor*).

In all regression specifications, we control for differences in deal-level characteristics between pre- and post-turnover acquisitions that may explain the variation in ΔCARs. We include *ΔPrivateDeals* to account for the difference in private-to-total deal ratios between the successor and departed CEOs (see, e.g., Chang, 1998; Fuller et al., 2002). Further, since it has been documented that acquiring firm returns are related to the size of the acquiring firm and the deal relative size (Asquith et al., 1983; Moeller et al., 2004), we include *ΔSize* and *ΔRelSize* to control for post-to-pre turnover differences in acquirer size and relative size. Table III documents that CEO successors tend to use more cash to finance their transactions and, therefore, payment method differences may be driving our results (Travlos, 1987). To control for the method of payment, we include a continuous variable, *ΔCashDeals*. To account for the higher returns associated with tender offers (Jensen and Ruback, 1983) we include *ΔTender*. We also control for post-to-pre-

turnover differentials in the acquiring firm's average run-up (*ΔRunUp)*, as in Bauguess et al. (2009) and Golubov et al. (2012).

Finally, in some specifications we include two additional variables based on accounting data from Compustat. Market-to-book value (MTBV) is used to account for firm overvaluation as it has been shown in other studies (Moeller et al., 2005; Dong et al., 2006) to affect acquirer returns. Total debt can proxy for managerial incentives to improve firm performance (Jensen, 1986; Masulis et al., 2007).

Table VII reports the regression results. In specifications 1-3 the dependent variable is the difference in mean acquisition returns (*ΔMCAR*) between the fired and successor CEOs while in specifications 4-6 performance change is derived from aggregate acquirer gain differentials (*ΔSCAR*). The coefficient of board independence (BoD), a main variable of interest, is positive and statistically significant at conventional levels in all regressions. This is in line with existing evidence that better governance can instigate improvements in firm performance following turnovers (Huson et al., 2004). The effect of corporate governance is economically important. In specification 3, an interquartile change in board independence is equivalent to an increase in acquisition performance improvement (*ΔMCAR*) by 2.00 percentage points. In regression 6, *ΔSCAR* increases by 3.15 percentage points in response to an interquartile change in board independence. There are at least two reasons why the magnitude of post-turnover investment performance improvement increases with board independence. The first is that more independent boards tend to make more effective replacement decisions and appoint CEOs with greater deal-making skills relative to their predecessors. The second is that stronger boards carry out their monitoring function more effectively post-turnover leading to corporate investment decisions of higher quality (Masulis et al., 2007; Dahya et al., 2016).

Another important consideration is that board independence is measured shortly prior to CEO turnovers and thus ignores any variation in a board's composition since the appointment of a CEO predecessor. In an untabulated regression, when we replace *BoD independence* with

Δ(BoDIndependence) measured around pre- and post-turnover deals we find it to be statistically insignificant. Hence, the effect of corporate governance seems to be more static than dynamic (i.e., changes in governance do not matter while the general level of governance around the turnover does). Considering that the typical board composition changes only moderately since the appointment of a CEO predecessor (see Section I), it is unlikely that post-turnover deals create more value because corporate governance has improved relative to the pre-turnover period. Instead, our findings seem to be indicative of corporate learning; stronger boards are generally more likely to learn from and correct their prior mistakes, which entails hiring superior CEO successors and/or performing their monitoring role more diligently.

Regarding the effect of blockholder ownership, the coefficient of *Outside blockholder* is insignificant implying that large outside shareholders in general have little influence over the quality of hiring decisions and acquisition performance following CEO dismissals. However, the coefficient of *Hedge fund*, which captures the presence of a hedge fund blockholder, is positive and significant in regressions 3 and 6. The presence of a hedge fund blockholder increases the acquisition return improvement, *ΔMCAR* (*ΔSCAR*) by 3.35 (5.00) percentage points. This result is consistent with the view that hedge funds require leadership changes to attain their valuation potential that can be ultimately achieved by applying pressure on board members to fire underperforming CEOs. It also suggests that external monitoring by large shareholders and, in particular, hedge funds, not only precipitates CEO turnover (Brav et al., 2008) but considerably enhances the quality of new CEO hiring decisions. An alternative explanation could be that hedge funds exert public pressure on the new executive suite and influence the quality of acquisition decisions.

Turning our focus to the variables that are meant to capture the impact of CEO experience, we find that the effects of *ΔAge, ΔSalary*, and the *Specialist successor* indicator variable to be insignificant. Yet, *ΔExperience* is positively related to the post-turnover acquisition return improvement. Its coefficient in specification 6 indicates that an interquartile change amplifies

ΔSCAR by 2.08 percentage points. This suggests that prior CEO experience plays a pivotal role in achieving performance turnarounds and should be thus considered by boards of directors when implementing executive suite makeovers.

[Table VII about here]

Finally, some of the deal and firm related control variables appear to exhibit a strong relation with *ΔCARs* as anticipated. For instance, differences in private deals, acquirer size, deal relative size, and market-to-book value also yield the expected significant coefficients in most specifications. The explanatory power of the rest of the variables is in most cases trivial.

IV. Long-Run Post Acquisition Performance

In this section, we examine whether the documented differentials in post-to-pre turnover acquisition returns persist beyond the 3-day announcement window. To assess if successor CEOs deliver superior post-acquisition performance relative to their dismissed predecessors, we regress long-run abnormal stock return (*BHARs*) and operating performance (*AROA*) measures for different post-acquisition time intervals on the same set of our key variables of interest, controlling for other effects, as in Table V.

[Table VIII about here]

Table VIII presents the long-run regression results. In Panel A, the dependent variable is the buy-and-hold abnormal return (*BHAR*) estimated over a 12- and 24-month window using a benchmark based on the return of the corresponding 25 size- and book-to-market reference portfolios (see, e.g., Barber and Lyon, 1997; Lyon et al., 1999). How well do successors of fired CEOs perform compared to all other CEOs, is captured through the interaction indicator *Post x Forced,* our main variable of interest, which is positive and significant in all regression specifications indicating that successor CEOs generate higher long-run shareholder returns through acquisition investments. In regression 4, post-turnover deals following a CEO dismissal generate a 2.01% higher abnormal return than all other deals in the forced and voluntary subsets.

In Panel B, the dependent variable is the industry-adjusted post-acquisition operating performance of the acquiring firm (*AROA*) estimated over a three- and five-year period. Following Healy, Palepu, and Ruback (1992), we control for pre-acquisition operating performance while we also include the same explanatory variables as in Panel A. Our tests focus on the operating performance of the acquiring firm since financial information for target companies in the subset of private deals is not available. As before, our main variable of interest, *Post x Forced*, is positive and significant in all specifications, ranging from 2.52% to 2.85%, providing supplemental evidence in support of the view that CEO successors improve the firm's operating performance through acquisition investments following forced turnovers.

V. Do CEO Successors Employ More Optimal Investment Strategies?

Our main analysis so far has focused on gauging the value added (i.e., stock and operating performance) impact of CEO successors' investment decisions relative to their fired counterparts through M&A investments. This approach is motivated by the fact that acquisitions represent discretionary CEO investment decisions with directly measurable outcomes that allow us to assess a CEO's investment skill relative to other investment decisions that are smaller in dollar value and less significant as means of achieving high growth opportunities.[17] To draw additional insights on CEO successors' general ability to improve firm outcomes by adopting more optimal investment strategies relative to their dismissed CEO counterparts, we also examine their total net investment efficiency. This approach focuses on organic investments such as CAPEX and R&D and thus allows us to include in our test cases of CEO successors that do not necessarily consummate acquisition investments (non-acquisitive successors).

Accordingly, we measure inefficient investment, *INEFFINV*, as investment that diverges from the expected level of investment, given the firm's growth opportunities, *Q*, using a model

[17] With many firms struggling to identify organic growth opportunities, acquisitions are frequently used as the main path (inorganic) for growth. US deal volume reached $2.53 trillion in 2015 according to SDC. By comparison the total value of CAPEX and R&D for all US firms on Compustat for the same year was $1.47 trillion.

motivated by the literature on optimal investment (see, e.g., Hubbard, 1998; Biddle and Hilary, 2006; McNichols and Stubben, 2008; Biddle et al., 2009; Cheng et al., 2013). More specifically, we run the regression, $INV_{i,t} = \alpha + \beta' X_{i,t-1} + FE + \epsilon_i$, where total investment, $INV_{i,t}$, is the sum of capital expenditures, R&D expenditures, and acquisitions minus sales of PPE and necessary maintenance for assets in place for firm *i* in year *t* from Compustat, scaled by prior-year book value of total assets. Following Richardson (2006) and Biddle et al. (2009), the above measure of investment includes both capital and non-capital expenditures. $X_{i,t-1}$ is a vector of firm characteristics which tend to influence investment decisions such as the firm's growth opportunities, leverage, cash, age, size, past stock returns, and prior firm level investment. The absolute value of the residual from the investment efficiency equation measures the extent of managerial investment inefficiency *(INEFFINV).*

We expect dismissed CEOs to typically carry out more inefficient investments than their successors. Total new investment regression results are reported in Table IX based on firm-year observations for the 5-year pre- and post-turnover windows. Panel B reports *INEFFINV* statistics for successor and departed CEOs. As shown in Panel B, both the mean and median difference in *INEFFINV* between new and fired CEOs are negative and highly significant suggesting that CEO successors generally adopt more efficient investment strategies than their predecessors. The results are very similar for the subset of non-acquisitive CEO successors confirming that even CEOs that do not engage in new acquisitions following forced turnovers still employ more optimal investment strategies relative to their predecessors.

[Table IX about here]

VI. Divestment Analysis

Prior to this study, evidence on the investment related outcomes of forced CEO turnovers was based exclusively on divestitures. Weisbach (1995) for instance examines operational downsizing following CEO turnovers and shows that executive suite changes prompt new CEOs to divest

poorly performing business units. In a more recent study, Pan et al. (2016) also find that turnovers are typically followed by back-scaling operations and that CEOs disinvest early in their tenure. This evidence is consistent with the agency-based view that executive successors tend to take corrective action to reverse value-destroying investment decisions.

While our results thus far appear to be associated with successful post-turnover investment strategies, in this section we also examine the divestitures of outgoing and new CEOs as well as the associated value implications for shareholders. Table X compares the divestment activity and performance of fired (columns 1-3) and successor CEOs (columns 4-6). The analysis includes the subset of 116 cases where the successor CEO does not complete any acquisition deals in the post-turnover period ('non-acquisitive successor' columns 3 and 6). Panel A reports figures at deal level and Panel B at turnover case level.

[Table X about here]

Divestitures are asset sales from SDC where a firm in our sample is indicated as the target in acquisitions of assets transactions. These fulfill the same criteria as our M&A deals to ensure they are economically significant. Overall, new and old CEOs carry out similar number of divestitures (74 vs 78) valued at $41.7 billion and $42.9 billion, respectively. Divestments comprise 27.6% of the total acquisition and divestiture activity of successor CEOs (*Divestitures share*) compared to only 12.6% for chief executives that were forced-out. The magnitude of the difference is similar in dollar value terms (*Divestitures value share*). Successors complete at least one divestiture in only 51 out of 226 cases (Panel B, column 4) which is quite similar to the 44 sell-offs carried out by fired CEOs with sell-offs pre-turnover. While acquisitive successors do not carry out more asset sales than their predecessors, the opposite is the case for non-acquisitive successors who evidently focus more on divestitures.

Asset sales taken from SDC do not incorporate cases where operations are ceased altogether rather than sold to another company. Thus, we also use data for discontinued operations from Compustat following Pan et al. (2016). In Panel B, the share of cases with discontinued operations

for the CEO successor for instance is the percentage of turnover cases (with data availability) where the firm reports income or loss from discontinued operations at least once during the 5-year post-turnover period. Our findings reveal that a discontinued operation occurrence is more than twice as likely under the helm of the successor CEO (49.75%) relative to the departed one (21%). We also estimate the average number of years (occurrences) for which discontinued operations are reported which is three times higher for CEO successors (1.3 compared to 0.4). The differences are statistically significant and indicate that new CEOs are more likely to dispose subsidiaries or bring operations to a halt relative to their departed counterparts.

Finally, the table reports abnormal returns to divestiture announcements for old and new CEOs (*Divestment CAR* in Panel A). Consistent with our findings on acquisition announcement gains, there is a large positive return difference between pre- and post-turnover divestitures, highlighting that CEO successors are better in discarding existing assets in addition to acquiring new ones. Although we do not find direct evidence that the divestitures carried out by the new CEOs are associated with their predecessors' investments, it seems reasonable to attribute the significant divestment gains to the ability of new CEOs to identify underperforming assets and create value by selling them off.[18] This is consistent with our main result that corporate boards are effective in replacing value destroying top executives. Further, the particularly compelling 7.61% CAR around divestment announcements by non-acquisitive CEO successors suggests that the market views their divestments more favorably than any other group. Consequently, even those CEOs that do not make any acquisition investments after taking office manage to generate significant value for their shareholders through corporate divestments.

[18] Only in six cases do CEO successors dispose a subsidiary that was previously acquired by their predecessors. However, divestment may take the form of ceasing operations or disposing business lines associated with companies acquired before.

VII. Robustness and Additional Tests

In this section, we perform several additional tests to check the robustness of our results.[19] First we establish that the forced turnover sample specification does not affect our main results. Following prior research (see, e.g., Warner et al., 1988; Denis and Denis, 1995), we reclassify turnover cases for which there is no sufficient information to classify them *(no reason given* in Table I) as forced (instead of voluntary) and find that this does not affect our main results and conclusions. Our results also do not change when we remove these cases completely from our sample. In addition, we employ Lehn and Zhao's (2006) alternative classification for forced turnovers and find that the magnitude of the documented improvement in investment performance remains unchanged. We also find that using alternative CEO age retirement benchmarks in the classification of forced turnovers do not affect our results. Furthermore, to ensure the post-turnover 1% deal relative size criterion is not too lenient, we also examine the subset of 74 cases where post-turnover deals satisfy the 10% cumulative relative size criterion utilized for pre-turnover deals and obtain even stronger results. Yet, we note that imposing such a criterion for post-turnover deals not only reduces our sample significantly, but might also be viewed being subject to sample selection bias. Another concern arising from subsection C is that that CEO successors' first deal might be driving the post-turnover performance improvement. To rule out this possibility, we re-estimate regressions 1 to 5 of Table V by excluding the first deal of these successors or excluding both the first deal of the successor and the last of the predecessor and find qualitatively similar results. Our long-run results in Table VIII are not affected either when excluding the first deal of the successor CEO. We also run a test to determine whether our findings change when using un-winsorized returns or winsorizing at the 1%-99% level instead of utilising robust squared Mahalanobis distances and find that they are not affected. Finally, Table A.2 in the Appendix shows that the highest (in absolute terms) pairwise correlations between the variables in Table VII

[19] For brevity, these additional robustness results are not reported here but are available upon request.

is 0.51. We also estimate Variance Inflation Factor (VIF) values for all independent variables and find they are less than 2 (untabulated), corroborating that multicollinearity is unlikely to be cause for concern (see Kutner, Nachtsheim, and Neter, 2004). Yet, removing any highly correlated variables from the regression estimation does not affect our main results.

Golubov et al. (2015) show in a recent paper that time-invariant firm characteristics explain a large part of the variation of acquisition returns. Therefore, we also perform additional tests to ensure that our results are not sensitive to firm fixed effects. The inclusion of firm fixed effects is also an effective way to mitigate potential omitted variable biases. Accordingly, we re-run the regressions in Table V and Table VIII by using firm and year (instead of industry and year) fixed effects and find that our results remain very similar. Most importantly, consistent with our previous results, the main interaction variable of interest *Post x Forced* remains positive and highly significant. In Table VII, we also examine the impact of additional control variables. We replace *ΔSalary* with the difference in equity-based compensation (ΔEBC). In addition, we use an indicator to capture the occurrence of an insider appointment instead of the *Specialist successor* dummy. We also use differences in finance-oriented education as an additional CEO quality measure, but this reduces our sample dramatically due to limited data availability for several CEOs. The impact of education based on this small sample is insignificant. Further, we employ several additional variables that have been associated with corporate governance such as board size, the GIM Index, inside ownership, and CEO ownership and find that in most cases these variables are statistically insignificant although the coefficient of board independence remains significant. We note, however, that the GIM Index is only available for 63 firms in our sample which makes it difficult to draw any fruitful conclusions while the other three measures might be viewed as not entirely unproblematic proxies of corporate governance quality.

In Table III, we show that CEO successors engage in less public acquisitions while in Table VII the post-to-pre turnover M&A gain upturn is positively relative to the corresponding differential in private deal concentration. To gain further insight on whether switching to private

targets drives our results, we examine acquirer's CARs for different levels of change in private deal concentration for both forced and voluntary turnovers. We find that for around half the turnover cases in our sample (voluntary and forced) there is no switching to private targets (i.e., share of private deals pre-turnover is equal to the post-turnover). We find that in this subset, there is still an improvement in M&A performance in forced turnovers while a deterioration in voluntary turnovers. Further, switching to more private deals the results reveal higher acquisition CARs for both forced and voluntary turnovers even though CARs are more pronounced for the forced subset. Finally, even when switching to more public deals, CEO successors still outperform their predecessors following forced turnovers (although the differential is statistically insignificant). Overall, there is no evidence that CEO successors are more likely to switch to private deals after forced turnovers while the documented improvement in acquisition performance is not driven exclusively by cases where they do.

Finally, in Sections V and VI we report that non-acquisitive CEO successors adopt more efficient investment strategies and carry out divestitures that are received favorably by the market, similar to acquisitive successors. Yet, if non-acquisitive successors are more conservative when carrying out new acquisition investments - and forgo positive NPV risky investments - one would expect that they are not as successful as acquisitive successors are in terms of increasing long-term firm value. To examine this conjecture, we compare the long-run buy-and-hold abnormal stock performance of acquisitive and non-acquisitive successor CEOs in an untabulated test. Results confirm that acquisitive CEOs successors significantly outperform their counterparts for up to five years following the acquisition announcement suggesting that risk-taking CEOs benefit shareholders more in the long run. These results are in line with the theoretical model of Edmans and Gabaix (2011) and Croci and Petmezas (2015) who find that risk-taking CEOs (i.e., acquisitive CEOs) select investments (i.e., M&As) that yield higher bidder stock returns.

VIII. Conclusion

In this study, we examine whether forced CEO replacements lead to firm performance improvements through CEO successors' superior investment decisions. Our results indicate that CEO successors enhance firm performance by engaging in superior mergers and acquisitions than their predecessors. The documented turnaround in acquisition returns post-turnover suggests that corporate boards appoint new chief executives with superior investment skills and value creation abilities than their predecessors and/or perform their monitoring role more efficiently, both of which reflect their learning capacity from past inefficient hiring decisions. Our findings are also consistent with the view that firing underperforming CEOs pays off for shareholders despite the view often held by many board members that such decisions may be costly to investors as a result of large severance packages and golden parachute payments for departing executives.

Our analysis also demonstrates that new CEOs typically adopt more efficient investment strategies irrespective of whether they engage in M&As or carry our other investments (such as CAPEX and R&D). On top of making better acquisitions and other investments, we find that CEO successors systematically reverse poorly performing investments through asset disposals and discontinuing operations, creating significant shareholder value. Furthermore, we document that corporate governance and hedge fund investors play an important role in hiring more effective CEO successors that manage to restore past poor investment performance through new value increasing investments. Thus, strong internal and external monitoring mechanisms are instrumental in replacing poorly performing CEOs with superior successors. We also provide evidence that hiring a more experienced chief executive relative to a dismissed predecessor significantly improves firm's investment performance, highlighting the fact that part of the documented performance turnaround can be attributed in hiring better quality CEOs. A direct implication of this result is that managerial experience is particularly important when implementing executive suite makeovers.

Overall, our evidence is consistent with the view that CEOs at publicly listed companies should be dismissed more often when they underperform and boards should align executive pay policies with performance to reduce the burden from CEO dismissals.

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Figure 1. Research Design for the Forced Turnover Sample

The figure illustrates the sample research design for the subset of 226 forced CEO turnovers that fulfills the criteria described in Table I. The CEO successors pertaining to the 226 cases are grouped based on whether they have completed at least one control M&A deal of a public or private target valued at $10 million or more where the deal relative size is equal to or larger than 1% within a 5-year post-turnover window. The M&A sample spans from 1989 to 2016.

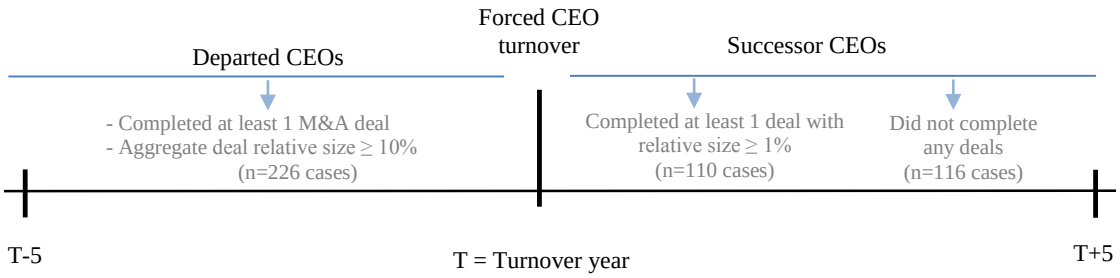

Figure 2. M&A Deal Distribution for the Subset of the 110 Forced Turnover Cases

The figure illustrates the distribution of 464 M&A deals announced between 1989 and 2016 around the 110 forced turnover cases where both, the departed and successor CEOs have consummated acquisition investments within the 5-year pre- and post-turnover respectively. The forced turnover and M&A samples are described in Table I and Figure 1.

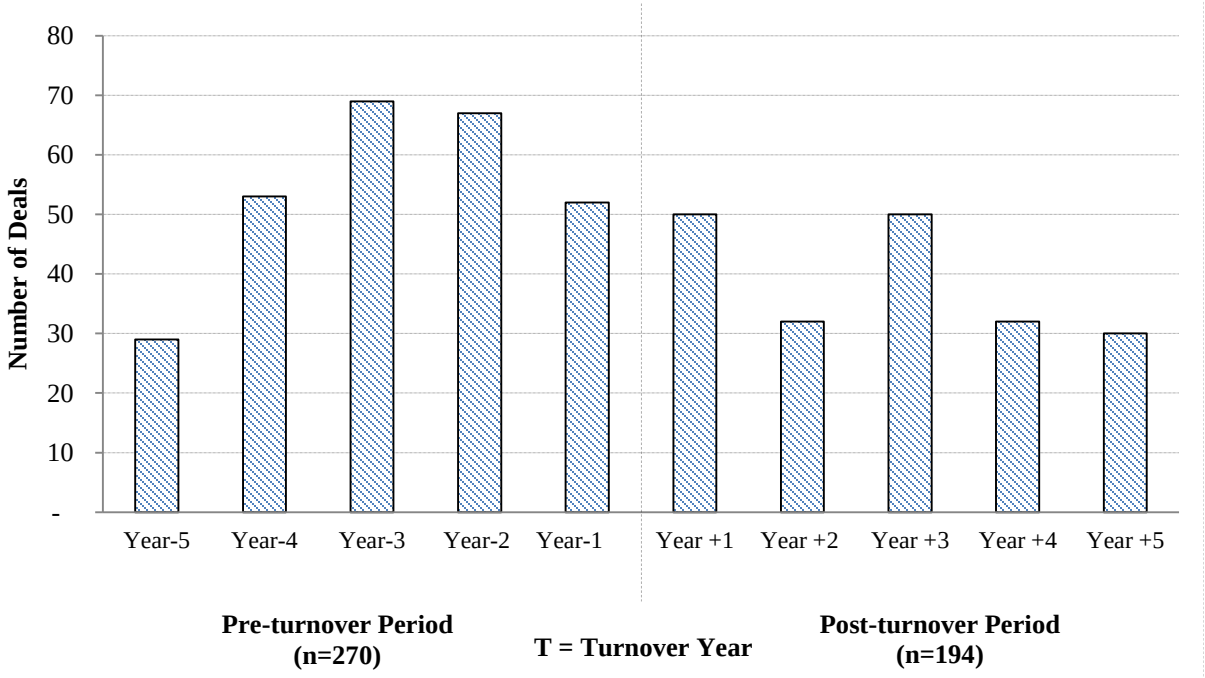

Figure 3. Departed and Successor Acquisition Performance by Deal Order - Against Benchmark

The figure plots acquirer cumulative abnormal returns (CARs) for a sample of 464 deals of M&As announced between 1989 and 2016 around 110 forced CEO turnover events (solid line) against i) CARs from control sample deals matched by industry, target type, and announcement year (dashed line) and ii) CARs around voluntary turnovers (dotted line). The forced, voluntary, and control samples as well as the CAR estimation are described in Table I, Table III, and Table IV. Deals are assigned to subgroups based on their deal sequence relative to the turnover event within a 5-year pre and post-turnover periods. *Last Deal* for instance denotes the last deal of departed CEOs and *Last-1* the second to last deal for those that have completed more than one transaction within the 5-year pre-turnover window. *n* is the number of deals pertaining to each deal sequence subset for the forced turnover sample only.

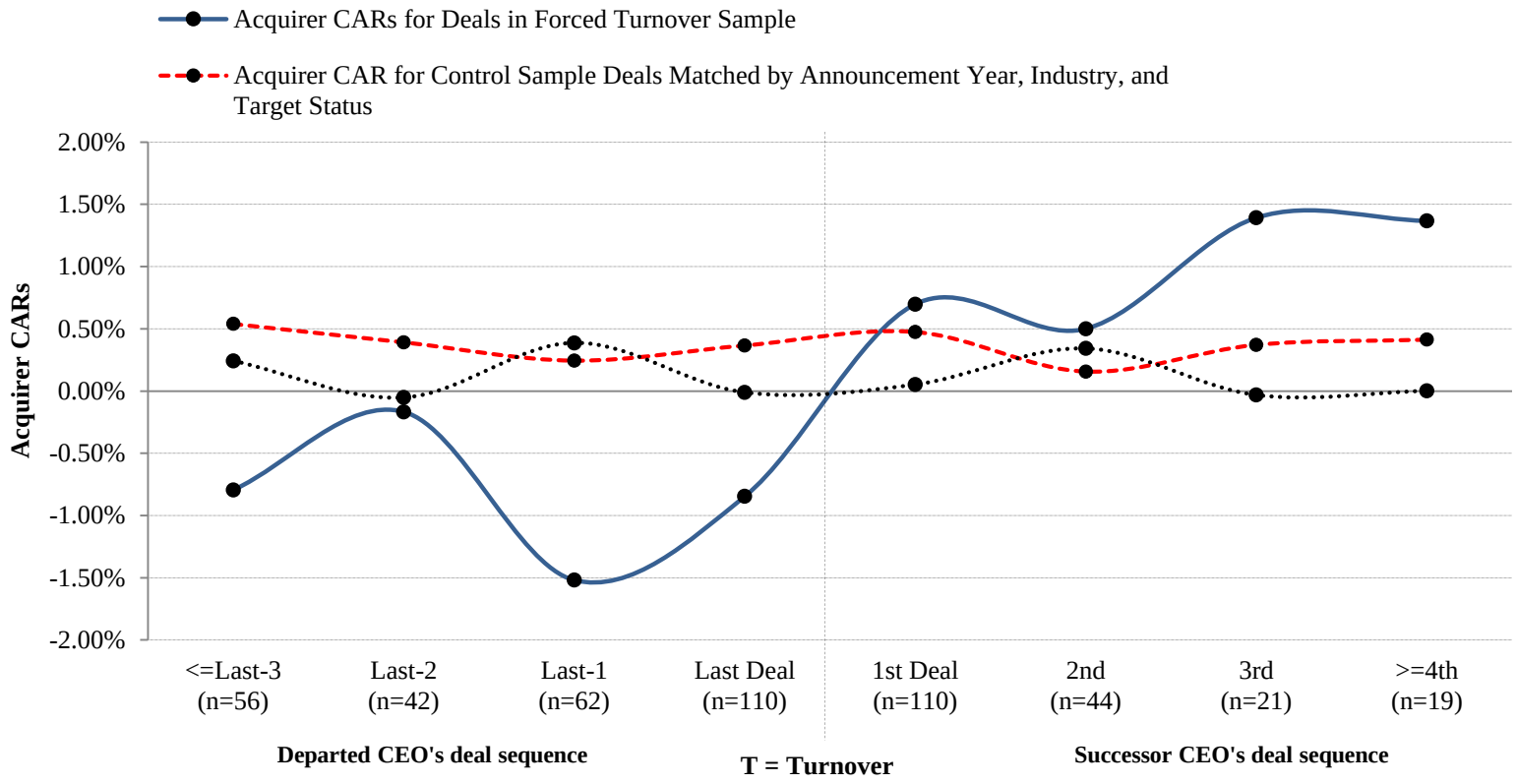

Table I. Turnover Sample Characteristics

The table presents information on turnover classification and departed CEO destination for a sample of 1,646 CEO turnover events that took place between 1994 and 2011 preceded by M&A deals with cumulative relatives size of 10%. The firms involved are listed in NYSE, NASDAQ, or AMEX, have data in CRSP and Compustat, a market capitalization equal to or greater than $10 million (in 2011 dollars) and do not delist around the turnover. The departed CEO has completed at least one control acquisition (the acquirer's ownership of the target is less than 10% prior to the acquisition announcement and more than 50% following the deal completion) of a public or private target valued at $10 million or more in the 5-year window preceding the turnover event. The target-to-acquirer relative size of each individual deal is at least 1% but for inclusion of a turnover case in the sample the aggregate relative size of all deals completed by the departed CEO within the 5-year pre-turnover window must be at least 10%. Relative size is the ratio of the transaction value to the acquirer market value one month prior to the acquisition announcement from SDC. Turnovers are identified from SEC proxy statements and/or annual/current reports and complemented and verified by searches in LexisNexis. Turnovers are partitioned in forced and voluntary based on news searches in LexisNexis around the turnover announcement. Following, Parrino (1997) and Huson et al. (2004) a turnover is classified as forced when the CEO was fired, forced out of his position or departed due to policy differences. Turnovers where the reason for the replacement was due to death, poor health, acceptance of another position, or normal succession are treated as voluntary. If the CEO retired or resigned from his position, without specific evidence that he was forced to, the turnover is classified as voluntary, unless the CEO was less than 60 years old (at the turnover announcement) and left the firm within six months from the retirement announcement in which case a turnover is tentatively classified as forced. Cases where we find no reason for the turnover or this was due to restructuring, separation of chairman and CEO position or a spinoff are classified as voluntary. From the remaining cases, if the CEO left the firm we classify the departure as tentatively forced and voluntary otherwise. Turnovers originally grouped as tentatively forced are then revisited by searching the business news using a more extensive window and are reclassified as voluntary if there is no concrete evidence that the CEO was dismissed or left due to reasons associated with the firm's business activities. ***Panel A*** reports number of cases by turnover type and rationale. ***Panel B*** reports number of cases by turnover type and departed CEO destination. ***Top3, Director*****,** and ***Other employee*** include cases where the CEO was retained within the firm. ***Other*** includes cases where the CEO deceased and where no destination information was identified. ***Panel C*** reports the number of turnovers for different subperiods.

	Forced turnovers		**Voluntary turnovers**
Panel A: Turnover classification			
Forced out/fired	87	Normal succession	154
Policy differences/conflict	11	Accept other position	65
Other forced	128	Death/poor health	43
		No reason given	310
		Retirement	454
		Resignation	193
		Other voluntary	201
Total	226	Total	1,420
Panel B: Departed CEO destination			
Top 3	11		663
Director	11		169
Other employee	6		180
Left firm	198		375
Other	0		33
Total	226		1,420
Panel C: Turnover distribution			
1994-1999	80		446
2000-2005	110		645
2006-2011	36		329
Total	226		1,420

Table II. CEO, Board, and Ownership Characteristics for the Forced Turnover Sample

The table reports CEO, Board of Directors (BoD), and beneficial ownership information for the sample of 110 forced turnovers where both the departed and successor CEOs have completed acquisition deals within the 5-year pre- and post-turnover windows, respectively. The sample of 110 turnovers is described in Table I and Figure 2. ***Panel A*** reports statistics on departed and successor CEO characteristics. ***Age*** is the CEO's age measured at the turnover year for departed CEOs and at the year they take office for successors. ***Tenure*** is the departed CEO's tenure within the firm in years. ***Chairman (Founder) (%)*** is an indicator variable equal to 1 if the CEO is also chairman of the BoD (the company's founder or co-founder) and zero otherwise. ***Internal (Outsider) (%)*** is an indicator variable equal to 1 if the CEO joined the firm prior to (during) the turnover year and zero otherwise. ***Specialist successor (%)*** is an indicator variable equal to 1 if the CEO was previously employed by a company with the same business description and zero otherwise. Curriculum information on the executives is hand-collected from the *Marquis Who's Who* database and complemented with searches in SEC filings, Forbes Profiles, and Bloomberg Business Week (Executive Profiles). ***CEO experience (years)*** is the number of years the chief executive has served as a CEO prior to the turnover event. ***Experienced CEO at appointment (%)*** is an indicator variable equal to 1 if the chief executive has any experience as a CEO prior to joining the firm and zero otherwise. ***Finance degree (%)*** is an indicator variable equal to 1 if the CEO has a finance related degree and zero otherwise. ***Compensation (%)*** is the ratio of total CEO compensation to the firm's total assets at the year prior to (following) their departure (appointment). Total compensation comprises of salary, bonus, other annual compensation, restricted stock awards, stock option awards, long-term incentive performance plans, and all other compensation and is collected from the SEC filings. ***Stock option awards (%)*** is the ratio of the total dollar value of the stock option awards of the CEO to the firm's total assets at the year prior to (following) their departure (appointment). ***Salary and bonus (%)*** is the ratio of the CEO's salary and bonus compensation to the firm's total assets at the year prior to (following) their departure (appointment). ***Panel B*** reports BoD and ownership information prior to the turnover event. ***BoD independence (%)*** is the percentage of independent directors sitting in the board relative to the firm's total directors as reported in the proxy statement prior to the turnover announcement. The grouping of independent directors is based on Shivdasani and Yermack's (1999) classification. ***Same directors (%)*** is the percentage of directors sitting in the board that have remained unchanged since the proxy statement prior to the appointment of the old CEO. ***Same chairman (%)*** is an indicator variable equal to 1 if the chairman of the board reported in the proxy statement prior to the turnover announcement is the same since the proxy statement prior to the appointment of the CEO predecessor and zero otherwise. ***Outside blockholder (%)*** is an indicator variable equal to 1 if an external blockholder owns at least 5% of the company's shares outstanding and zero otherwise. Beneficial ownership information is collected from the last proxy statement prior to the turnover event. ***Hedge fund (%)*** in an indicator variable equal to 1 if a hedge fund or private equity firm owns at least 5% of the company's shares and zero otherwise. Hedge fund classification is based on extensive web and news searches. Difference tests are based on a t-test for means and a Wilcoxon-test for medians. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Panel A: CEO characteristics				
		Departed	**Successor**	**Difference**
Age (years)	*mean*	51.8	49.5	-2.3**
	median	52.0	49.0	-3.0**
Tenure (years)	*mean*	7.2	-	-
	median	5.0	-	-
Chairman (%)	*mean*	49.5	43.1	-6.4
Founder (%)	*mean*	11.9	6.4	-5.6
Internal (%)	*mean*	-	45.5	-
Outsider (%)	*mean*	-	54.5	-
Specialist successor (%)	*mean*	-	81.81	-
CEO experience (years)	*mean*	8.47	3.96	-4.51***
	median	7.00	2.00	-5.00***
Experienced CEO at appointment (%)	*mean*	22.95	58.20	35.25***
Finance degree (%)	*mean*	50.0	66.5	17.5**
Compensation (%)	*mean*	0.77	0.97	0.20
	median	0.28	0.30	0.02
Stock option awards (%)	*mean*	0.55	0.83	0.29
	median	0.10	0.17	0.07
Salary and bonus (%)	*mean*	0.14	0.11	-0.03
	median	0.06	0.04	-0.02*

Panel B: BoD and ownership characteristics at turnover		
		Turnover
BoD independence (%)	*mean*	67.02
	median	66.67
Same directors (%)	*mean*	60.43
	median	63.07
Same chairman (%)	*mean*	44.19
	median	0.00
Outside blockholder (%)	*mean*	72.29
	median	100.00
Hedge fund (%)	*mean*	31.82
	median	0.00

Table III. Deal and Firm Summary Statistics

The table reports deal- and firm-related summary statistics**.** *Pre all* Column reports pre-turnover deal statistics for the full sample of 226 forced turnovers that meet the criteria described in Table I. The *Pre* and *Post* columns report deal statistics for the sample of 110 turnover cases where both the departed and successor CEOs have completed acquisition deals within the pre- and post-turnover 5-year windows, respectively, as illustrated in Figure 1. The ***Control sample*** consists of 6,959 deals and includes i) 4,342 deals announced within the 5-years following or preceding voluntary turnover events and ii) 2,617 deals that fulfill the same criteria as those in the pre-turnover sample but where the CEO was not subsequently replaced. ***Turnovers*** is the number of turnover cases. ***No-turnover*** is the number of cases where the acquirer was not replaced within a 5-year period after consummating deals with aggregate relative size of at least 10%. ***Acquirers*** is the number of unique acquirers/firms and ***Deals*** is the number of deals they completed. ***Deal value*** is the transaction value in million dollars from SDC. ***ASize (TSize)*** is the acquirer's (target's) market value one month prior to the acquisition announcement from SDC. Dollar values are in 2011 dollars. ***RelSize (%)*** is the ratio of the deal value to the acquirer market value one month prior to the acquisition announcement from SDC. ***Public (%)*** is an indicator variable equal to 1 if the target is public and zero otherwise. ***Stock (Cash) (%)*** is an indicator variable equal to 1 if payment is in pure stock (cash) and zero otherwise. ***Focus (%)*** is an indicator variable equal to 1 if the target has the same 2-digit SIC as the acquirer. ***Tender (%)***, is an indicator variable from SDC equal to 1 if the deal involves a tender offer and zero otherwise. ***Cross-border (%)*** is an indicator variable equal to 1 if the target is a non-US firm and zero otherwise. ***Premium (%)*** is the offer price over the target's share price four weeks prior to the acquisition announcement from SDC, multiplied by 100 and reported for observations between zero and two. ***IA premium (%)*** is the *Premium* adjusted by the median premium paid for targets in the same industry within the same year. ***AMTBV*** is the acquirer's equity market-to-book value estimated using *ASize* and book value of equity at the fiscal year prior to the acquisition announcement from Compustat. ***ATobin*** is the acquirer's Tobin's q estimated as book value of total assets minus book value of equity plus market value of equity at the fiscal year prior to the acquisition announcement from Compustat. ***ARunUp (%)*** is the market-adjusted buy-and-hold return of the acquirer from 205 to 6 trading days prior the acquisition announcement from CRSP. ***ADebt (%)*** is the acquiring firm's ratio of total debt (long-term and interest bearing short-term debt) over total assets from Compustat at the fiscal year prior the acquisition announcement. Difference tests are based on a t-test for means and a Wilcoxon-test for medians. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

		Forced turnover					Control sample
		(1) Pre all	(2) Pre	(3) Post	(3) - (2) Difference	(2) - (1) Difference	(4)
Turnovers	*n*	226	110	110	-	-	1,420
No-turnover	*n*	-	-	-	-	-	1,152
Acquirers	*n*	222	106	106	-	-	2,401
Deals	*n*	539	270	194	-	-	6,959
Deal value	*mean*	1,155	1,439	884	-554	284	675
	median	135	178	109	-69***	43**	91
ASize	*mean*	7,362	11,137	9,025	-2,112	3,775	3,810
	median	1,200	1,768	1,147	-621**	568***	811
TSize	*mean*	2,502	2,774	1,909	-865	272	1,578
	median	399	613	261	-352*	214	207
RelSize (%)	*mean*	31.13	28.27	25.72	-2.55	-2.86	34.71
	median	13.30	10.42	10.59	0.17	-2.88*	13.47
Public (%)	*mean*	28.94	37.41	30.41	-7.00	8.46***	23.84
Stock (%)	*mean*	37.89	46.40	12.34	-34.06***	8.51***	28.03
Cash (%)	*mean*	22.78	24.77	44.16	19.38***	1.99	31.90
Focus (%)	*mean*	55.84	60.00	59.79	-0.21	4.16	58.50
Tender (%)	*mean*	5.19	6.67	5.67	-1.00	1.47	3.49
Cross-border (%)	*mean*	7.98	9.63	10.82	1.20	1.65	9.25
Premium (%)	*mean*	46.46	45.91	42.50	-3.41	-0.55	45.10
	median	39.68	39.48	40.60	1.12	-0.20	39.15
IA premium (%)	*mean*	5.15*	4.32	3.26	-1.06	-0.83	-
	median	-0.95	-1.36	1.90	3.26	-0.41	-
AMTBV	*mean*	7.05	6.47	3.18	-3.28***	-0.58	6.52
	median	2.89	3.16	2.52	-0.64***	0.27*	2.43
ATobin	*mean*	2.64	2.94	1.78	-1.16***	0.30	2.28
	median	1.56	1.63	1.46	-0.17***	0.07	1.46
ARunUp (%)	*mean*	20.42	14.32	17.95	3.63	-6.09	13.11
	median	9.64	7.07	9.07	2.00	-2.57	8.01
ADebt (%)	*mean*	25.08	20.22	25.56	5.34***	-4.86***	25.24
	median	22.66	17.96	21.35	3.39**	-4.70***	22.03

Table IV. Pre- and Post-Turnover Acquisition CARs

The table reports acquirer cumulative abnormal returns (***CARs***) of M&As announced between 1989 and 2016 for i) 464 deals pertaining to 110 forced turnover events that meet the criteria described in Table I and Figure 1 and ii) 2,770 deals associated with a sample of 698 voluntary turnovers that fulfill exactly the same criteria. CEO successors for the forced and voluntary subsets have completed at least one control M&A deal of a public or private target valued $10 million or more where the deal relative size is equal to or larger than 1% within a 5-year post-turnover window. CARs are reported for a 3-day announcement window where parameters are estimated over a (-250,-15) window relative to the acquisition announcement day. Deals are partitioned in pre- and post-turnover. *Panels A* and *B* report acquisition gains for the forced and voluntary CEO turnover subgroups, respectively. In ***Panel A*** CARs are also partitioned by target type (public or private). ***Synergy gain*** is the market value-weighted CAR of the acquirer and the target where market values are measured one month prior to the acquisition announcement. ***Panel B*** reports the CARs for the voluntary turnover sample. ***Panel C*** reports control deal adjusted CARs for pre- and post-forced turnover deals. The control sample is described in Table III. ***CAR1*** is the CAR less the median CAR of all control sample deals that took place in the same year and involve targets of the same industry and status (private or public). ***CAR2*** is the *CAR* less the median *CAR* of all control sample deals with similar relative size (± 30%), completed within the same year and involve targets of the same status. ***CAR3*** is the *CAR* less the median CAR of all control sample deals completed within the same year that involve the same payment method and targets of the same status. ***CAR4*** is the *CAR* less the median CAR of all control sample deals of similar deal frequency (frequent vs infrequent deal makers), completed within the same year and targets of the same status. For ***CAR5*** the last deal of a dismissed CEO is matched with similarly performing (±30%) deal from the voluntary and no-turnover samples. Then the corresponding first deal of the CEO successor is adjusted by the median performance of similar subsequent deals (in terms of method of payment and size) from the performance-based matched previously derived. ***CAR6*** is adjusted by the performance of post-turnover deals in the voluntary turnover sample with similar average pre-turnover performance (±30%). t-test (for means) and signed rank test (for medians) are reported for columns (1) and (2). Post-Pre difference tests are based on a t-test for means and a Wilcoxon-test for medians. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Abnormal return measure	**Target type**		**(1) Pre-turnover CARs**	**(2) Post-turnover CARs**	**(2) - (1) Difference**
Panel A: Acquisition returns – Forced turnovers					
CAR	All	*mean*	-0.88**	1.59***	2.47***
		median	-0.79***	0.89***	1.68***
		n	270	194	-
	Public	*mean*	-3.53***	0.59	4.12***
		median	-2.92***	0.54	3.46***
		n	101	59	-
	Private	*mean*	0.71	2.02***	1.32*
		median	0.23	1.14***	0.91**
		n	169	135	-
Synergy gain	All	*mean*	-0.76	2.05**	2.88**
		median	-0.77	1.29**	2.06**
Panel B: Acquirer returns – Voluntary turnovers					
CAR	All	*mean*	0.77***	0.34*	-0.42
		median	0.19**	0.12	-0.07
		n	1,640	1,432	-
Panel C: Control deal adjusted acquirer returns – Forced turnovers					
CAR1	All	*mean*	-1.01**	1.46***	2.47***
Industry-Target-Year matched		*median*	-1.49***	0.60**	2.09***
CAR2	All	*mean*	-1.42***	1.09*	2.51***
Size-Target-Year matched		*median*	-1.17***	0.73	1.90***
CAR3	All	*mean*	-0.80**	1.29**	2.10***
Payment-Target-Year matched		*median*	-0.93***	0.55**	1.48***
CAR4	All	*mean*	-1.04**	1.22**	2.26***
Frequency-Target-Year matched		*median*	-1.22***	0.49*	1.71***
CAR5	All	*mean*	-	2.18***	-
Mean reversion control		*median*	-	0.73**	-
CAR6	All	*mean*	-	2.80***	-
Mean reversion control II		*median*	-	1.89***	-

Table V. Acquirer CAR Regressions

The table reports coefficients from cross-sectional regressions of acquirer cumulative abnormal returns (CARs) of M&As announced between 1989 and 2016 on deal and acquirer characteristics for a sample of 3,537 acquisitions consummated within a 5-year period preceding or following 110 forced and 698 voluntary CEO turnovers. The sample of CEO turnovers and M&A deals are described in Table IV. CARs are reported for a 3-day announcement window where parameters are estimated over a (-250,-15) window relative to the acquisition announcement day. Returns are winsorized using robust squared Mahalanobis distances. In specification 1 (2) the sample includes deals around forced (voluntary) CEO turnovers only, specification 3 includes only post turnover deals, while specifications 4 and 5 include all 3,537 deals. ***Post*** is an indicator variable equal to 1 if the deal is consummated by the successor CEO and zero otherwise. ***Forced*** is an indicator variable equal to 1 if the deal is completed by the departed CEO prior to a forced turnover or the successor CEO following a forced turnover event and zero otherwise. ***Private*** is an indicator variable equal to 1 if the target is private and zero otherwise. The remaining explanatory variables are described in Table III. Industry and year fixed effects are included in all specifications. *n* is the number of observations and *Adj.* R^2 *(%)* is the adjusted R-square. *p-values* are reported below regression estimates and are calculated using heteroskedasticity- and clustered-consistent standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

	(1) **Forced**	**(2)** **Voluntary**	**(3)** **All post**	**(4)** **All**	**(5)** **All**
Intercept	-0.029 *0.524*	0.084 *0.250*	**0.029***** *0.007*	0.082 *0.267*	0.080 *0.278*
Post	**0.030***** *0.000*	-0.002 *0.492*			-0.002 *0.547*
Forced			**0.014***** *0.005*		**-0.010**** *0.018*
Post x Forced					**0.024***** *0.000*
ASize	-0.003 *0.146*	**-0.003***** *0.000*	**-0.003***** *0.012*	**-0.003***** *0.000*	**-0.003***** *0.000*
RelSize	0.018 *0.129*	**0.013***** *0.001*	**0.020***** *0.001*	**0.013***** *0.000*	**0.013***** *0.000*
Private	**0.050***** *0.000*	**0.026***** *0.000*	**0.024***** *0.000*	**0.029***** *0.000*	**0.029***** *0.000*
Cash	0.010 *0.123*	**0.007***** *0.003*	0.005 *0.113*	**0.008***** *0.001*	**0.008***** *0.001*
Tender	**0.037**** *0.010*	0.010 *0.150*	0.014 *0.212*	**0.015**** *0.024*	**0.015**** *0.024*
Focus	**0.014**** *0.046*	0.001 *0.852*	-0.003 *0.368*	0.002 *0.466*	0.002 *0.485*
AMTBV	0.001 *0.147*	0.000 *0.274*	-0.000 *0.504*	0.000 *0.149*	0.000 *0.137*
ARunUp	-0.005 *0.349*	-0.001 *0.688*	-0.006 *0.126*	-0.001 *0.577*	-0.002 *0.529*
ADebt	-0.023 *0.318*	0.008 *0.252*	-0.002 *0.825*	0.006 *0.407*	0.005 *0.455*
Industry & Year FE	YES	YES	YES	YES	YES
n	440	2,987	1,585	3,427	3,427
Adj. R^2 (%)	13.71	5.23	6.20	5.85	6.13

Table VI. Probit Regressions and Propensity Score Matched Acquisition Performance

The table reports CEO successor acquisition performance adjusted using propensity scores that are estimated from probit regressions of the forced turnover likelihood on the departed CEO acquisition performance and other deal and CEO-level characteristics. The sample of turnovers includes 110 forced and 698 voluntary turnovers described in Table IV. The M&As sample is between 1989 and 2016. ***Panel A*** reports results from the probit estimation where the dependent variable equals 1 if the CEO was forced out and zero otherwise. ***MCAR (SCAR)*** is the average (aggregate) CAR of all acquisitions of the departed CEO. ***MStock*** is the average share of pure stock deals across all pre-turnover deals of a particular case. ***MRelSize*** is the average target-to-acquirer relative size across all pre-turnover deals of a particular case. The age (***CEO age)*** and tenure (***CEO tenure)*** of the CEO are measured in years. ***Pre-BHR(-3)*** and ***Post-BHR(+3)*** are buy-and-hold stock returns estimated over 3 years prior to and following the first deal of the departed CEO completed within a 5-year window preceding the turnover event. ***Panel B*** reports forced post-turnover acquirer returns (***Treated*** sample) and propensity score matched returns from voluntary post-turnover deals (***Control*** sample). ***Difference*** is the return differential between the *Control* and *Treated* samples. *n* is the number of observations and *pseudo R^2 (%)* is the pseudo R-square. *p-values* are reported below regression estimates and are calculated using heteroskedasticity- and clustered-consistent standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively. For Panel B statistical significance is reported only for difference estimates.

Panel A: Probit estimation results

Forced=1	**(1)**	**(2)**	**(3)**	**(4)**
Intercept	**-1.098*** **	0.654	**-1.101*** **	0.667
	0.000	*0.117*	*0.000*	*0.107*
MCAR	**-2.033*** **	**-2.456** **		
	0.005	0.040		
SCAR			**-1.422*** **	**-1.663** **
			0.002	*0.038*
MStock		0.163		0.148
		0.262		*0.313*
MCAR x MStock		1.510		
		0.312		
SCAR x MStock				0.767
				0.534
CEO age		**-0.031*** **		**-0.031*** **
		0.000		*0.000*
CEO tenure		-0.020		-0.021
		0.186		*0.167*
MRelSize		0.005		-0.003
		0.965		*0.979*
Pre-BHR(-3)		-0.347		-0.355
		0.563		*0.550*
Post-BHR(+3)		**-3.450*** **		**-3.398** **
		0.009		*0.010*
n	808	709	808	709
pseudo R^2 (%)	1.14	9.19	1.41	9.52

Panel B: Adjusted post-turnover CARs based on PSM

			One-to-one	**30 Nearest**	**50 Nearest**	**Gaussian Kernel**
MCAR	Treated	*mean*	1.28	1.28	1.28	1.28
	Control	*mean*	-0.95	-0.16	-0.05	-1.09
	Difference		**2.23*** **	**1.44***	1.33	**2.37*** **
SCAR	Treated	*mean*	2.36	2.36	2.36	2.36
	Control	*mean*	-0.70	-0.18	-0.95	-1.04
	Difference		**3.06** **	**2.54***	**3.31***	**3.40** **

Table VII. Regressions of Post-to-Pre Turnover Acquisition Performance Change

The table reports coefficients from cross-sectional regressions of the post-minus-pre-turnover difference in acquirer CARs (ΔCAR) on board independence, ownership, CEO-level, and deal characteristics. In specifications 1-3 the dependent variable is the difference in average acquisition returns between the successor and predecessor CEO, *ΔMCAR*. In specifications 4-6 the dependent variable is the difference in aggregate acquisition returns between the successor and predecessor, *ΔSCAR*. CARs are calculated over the 3-day announcement window where the parameters are estimated over a (-250,-15) window relative to the announcement day. Returns are winsorized using robust squared Mahalanobis distances. The sample meets the criteria described in Table IV. ***BoD independence*** is the percentage of outside directors relative to the total directors siting on the board of the firm as reported in the proxy statement prior to the turnover announcement. The grouping of independent directors is based on Shivdasani and Yermack's (1999) classification. ***Outside blockholder*** is an indicator variable that takes the value of 1 if a block of at least 5% of the company's outstanding shares is held by a non-inside investor (institutional or other) as indicated in the last proxy statement prior to the turnover event. ***Hedge fund*** is an indicator variable that takes the value of 1 if a block of at least 5% of the company's outstanding shares is held by a hedge fund or private equity firm as indicated in the last proxy statement prior to the turnover event and identified using extensive web and news searches. ***ΔExperience*** is the difference in years of experience as chief executive between the new and departed CEOs. The CEO's experience is based on information hand-collected from the *Marquis Who's Who* database and complemented with searches in Forbes Profiles and Bloomberg Business Week (Executive Profiles). ***ΔAge*** is the age difference between two CEOs. ***ΔSalary*** is the difference in their total compensation, collected from SEC filings, scaled by total assets. ***Specialist successor*** is an indicator variable equal to 1 if the CEO was previously employed by a company with the same business description and zero otherwise. ***ΔPrivateDeals*** is the difference in the ratios of private-to-total deals corresponding to the successor and departed CEOs. ***ΔSize*** is the difference in the logarithms of the average acquirer market capitalization between the deals of the successor and the departed CEO. ***ΔRelSize*** is the difference in transaction relative size between the deals of the successor and the departed CEO. ***ΔCashDeals*** is the difference in the ratios of pure-cash-to-total deals completed by the successor and the departed CEOs. ***ΔTender*** is the difference in tender offer-to-total deals of the new and old CEOs. ***ΔRunUp*** is the difference in average acquirer runup between all deals of the successor and departed CEO. ***ΔMTBV*** is the post-minus-pre-turnover difference in the firm's average market-to-book value measured at the fiscal year end prior to the respective acquisition announcements. ***ΔDebt*** is the difference in the average debt-ratio (long-term and short-term interest bearing debt over total assets) between deals carried out by the successor and departed CEOs where the debt ratio is measured at the fiscal year end prior to each acquisition announcement. *n* is the number of observations and *Adj.* R^2 *(%)* is the adjusted R-square. *p-values* are reported below regression estimates and are calculated using heteroskedasticity-consistent standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

	(1) ΔMCAR	(2) ΔMCAR	(3) ΔMCAR	(4) ΔSCAR	(5) ΔSCAR	(6) ΔSCAR
Intercept	-0.033	-0.032	**-0.055***	-0.036	-0.047	-0.069
	0.256	*0.250*	*0.052*	*0.412*	*0.290*	*0.172*
BoD and ownership						
BoD independence	**0.080****	**0.087****	**0.087****	**0.128***	**0.153****	**0.138****
	0.048	*0.034*	*0.030*	*0.051*	*0.023*	*0.045*
Outside blockholder			0.004			0.001
			0.795			*0.967*
Hedge fund			**0.034****			**0.050****
			0.013			*0.031*
CEO characteristics						
ΔExperience		**0.001***	**0.001***		**0.003***	**0.003***
		0.082	*0.053*		*0.070*	*0.057*
ΔAge		0.040	0.034		0.050	0.049
		0.179	*0.278*		*0.368*	*0.372*
ΔSalary		-0.269	-0.354		-0.193	-0.247
		0.488	*0.403*		*0.782*	*0.761*
Specialist successor		-0.006	-0.000		-0.010	-0.009
		0.704	*0.999*		*0.744*	*0.733*
Deal and acquirer controls						
ΔPrivateDeals	**0.038****	**0.036****	**0.033****	**0.045***	0.042	0.036
	0.014	*0.022*	*0.024*	*0.066*	*0.107*	*0.149*
ΔSize	0.011	**0.013***	**0.023*****	**0.023***	0.020	**0.035*****
	0.138	*0.096*	*0.004*	*0.073*	*0.143*	*0.007*
ΔRelSize	0.020	0.023	**0.033****	**0.050*****	**0.047****	**0.055*****
	0.170	*0.124*	*0.010*	*0.006*	*0.015*	*0.005*
ΔCashDeals	0.001	0.004	-0.001	-0.005	0.002	-0.002
	0.953	*0.744*	*0.965*	*0.793*	*0.940*	*0.926*
ΔTender	0.052	0.047	0.030	0.028	0.014	-0.005
	0.161	*0.188*	*0.388*	*0.651*	*0.802*	*0.926*
ΔRunUp	-0.002	-0.002	0.004	0.001	0.005	0.014
	0.784	*0.858*	*0.579*	*0.935*	*0.693*	*0.199*
ΔMTBV			**-0.003*****			**-0.004****
			0.008			*0.041*
ΔDebt			-0.020			0.072
			0.550			*0.301*
n	107	105	99	107	105	99
Adj. R^2 (%)	8.57	11.42	21.23	5.65	6.89	15.67

Table VIII. Acquirer Long-Run Acquisition Performance Regressions

The table reports coefficients from cross-sectional regressions of acquirer long-run acquisition performance of M&As announced between 1989 and 2016 on deal and acquirer characteristics for a sample of 3,537 acquisitions consummated within a 5-year period preceding or following 110 forced and 698 voluntary CEO Turnovers. The sample of CEO turnovers and M&A deals are described in Table IV. ***Panel A*** reports the long-run post-acquisition stock performance regressions. The dependent variable in specifications 1 and 2 (3 and 4) is the 12 (24)-month buy-and-hold abnormal return (BHAR). BHARs are estimated as $BHAR_i = \prod_{t=1}^{T}(1 + R_{i,t}) - \prod_{t=1}^{T}(1 + R_{Benchmark,t})$, where $R_{i,t}$ is the return of acquirer *i* at month *t*, $R_{Benchmark,t}$ is the return of the corresponding benchmark, and *T* is the number of months. The benchmark is the return of the corresponding 25 size- and book-to-market reference portfolio for the same month *t*. ***Panel B*** reports post-acquisition operating performance regressions. Similar to Healy, Palepu, and Ruback (1992) in specifications 1 and 2 (3 and 4) the main dependent variable is the 3 (5)-year mean industry-adjusted post-acquisition operating performance (***AROA***). Operating performance (ROA) is operating income (before depreciation) scaled by total assets at the fiscal year end prior to the acquisition announcement. ***Pre - AROA*** is the mean industry-adjusted pre-acquisition performance estimated over 3 years (specifications 1 and 2) or 5 years (specifications 3 and 4) prior to the acquisition announcement. ***Post*** is an indicator variable equal to 1 if the deal is consummated by the successor CEO and zero otherwise. ***Forced*** is an indicator variable equal to 1 if the deal is completed by the departed CEO prior to a forced turnover or the successor CEO following a forced turnover event and zero otherwise. ***Controls*** refers to the same control variables as in Table V. *n* is the number of observations and *Adj. R^2 (%)* is the adjusted R-square. *p-values* are reported below regression estimates and are calculated using heteroskedasticity- and clustered-consistent standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Panel A: Long-run stock performance (BHAR)				
	(1)	**(2)**	**(3)**	**(4)**
	12 months	**12 months**	**24 months**	**24 months**
Intercept	0.001	0.044	-0.001	0.012
	0.645	*0.127*	*0.468*	*0.375*
Post	**-0.005****	**-0.007*****	-0.002	**-0.004****
	0.019	*0.004*	*0.397*	*0.041*
Forced	**-0.017*****	**-0.015*****	**-0.021*****	**-0.020*****
	0.004	*0.010*	*0.001*	*0.002*
Post x Forced	**0.019*****	**0.018*****	**0.021*****	**0.020*****
	0.003	*0.005*	*0.001*	*0.001*
Controls	NO	YES	NO	YES
n	3,378	3,272	3,378	3,272
Adj. R^2 (%)	0.62	1.18	1.30	1.88
Panel B: Operating performance (AROA)				
	(1)	**(2)**	**(3)**	**(4)**
	3 years	**3 years**	**5 years**	**5 years**
Intercept	**0.022*****	0.022	**0.023*****	-0.013
	0.000	*0.703*	*0.000*	*0.776*
Pre - AROA	**0.436*****	**0.418*****	**0.378*****	**0.342*****
	0.000	*0.000*	*0.000*	*0.000*
Post	**-0.013*****	**-0.008***	**-0.014*****	**-0.008***
	0.004	*0.088*	*0.003*	*0.080*
Forced	**-0.017****	**-0.024*****	**-0.017****	**-0.024*****
	0.041	*0.003*	*0.047*	*0.002*
Post x Forced	**0.025****	**0.028****	**0.025****	**0.029*****
	0.029	*0.013*	*0.035*	*0.009*
Controls	NO	YES	NO	YES
n	3,095	2,999	3,102	3,006
Adj. R^2 (%)	27.91	35.61	21.78	30.92

Table IX. Total New Investment Efficiency of CEOs for the Forced Turnover Sample

The table reports coefficients from regressions of total new investment of successor and departed CEOs following forced turnovers in our sample. The sample meets the criteria described in Table I. Columns 1 and 2 contain cases with all 226 CEOs (both with acquisitive and non-acquisitive successors) whereas columns 3 and 4 only contain cases with 116 non-acquisitive CEO successors. ***Panel A*** shows the firm/year regressions for the total new investments. Similar to Richardson (2006), the dependent variable is total new investment, ***INV***, which is the sum of capital expenditures, R&D expenditures, and acquisitions minus sales of PPE and necessary maintenance for assets in place for firm *i* in year *t* or *t-1*, scaled by prior-year book value of total assets. ***Q*** is the book value of total assets minus the book value of equity plus the market value of equity divided by book value of total assets for firm *i* in year *t*. ***Leverage*** is the total debt (long- and short-term) divided by book value of total assets for firm *i* in year *t-1*. ***Cash*** is the cash and short-term investments divided by book value of total assets for firm *i* in year *t-1*. ***Age*** is the logarithm of the number of years firm *i* has been listed on CRSP. ***Size*** is the logarithm of total assets for firm *i* in year *t-1*. ***Stock Returns*** is the change in the market value of firm *i* between year *t* and *t-1*. We trace CEOs investments over a 5-year period for both successor and departed CEOs. Accounting variables are from Compustat and are winsorized at the 1% and 99% to remove outliers. ***Panel B*** reports the inefficient investment result, ***INEFFINV***, which is the absolute value of the residuals from the regression $INV_{i,t} = \alpha + \beta_1 Q_{i,t-1} + \beta_2 Leverage_{i,t-1} + \beta_3 Cash_{i,t-1} + \beta_4 Age_{i,t-1} + \beta_5 Size_{i,t-1} + \beta_6 Stock\ Returns_{i,t-1} + \beta_7 INV_{i,t-1} + FE + \varepsilon_i$ in Panel A. *n* is the number of observations and *Adj. R^2 (%)* is the adjusted R-square. *p-values* are reported below regression estimates and are calculated using heteroskedasticity- and clustered-consistent standard errors. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Panel A: Total new investment regressions ($INV_{i,t}$)

	(1)	(2)	(3)	(4)
	With acquisitive and non-acquisitive successors		With non-acquisitive successors	
Intercept	0.004	0.015	-0.014	0.023
	0.868	*0.843*	*0.756*	*0.836*
$Q_{i,\ t-1}$	**0.008****	**0.010***	**0.013***	**0.018***
	0.040	*0.080*	*0.069*	*0.050*
$Leverage_{i,t-1}$	**-0.050*****	**-0.139*****	-0.027	**-0.137****
	0.001	*0.000*	*0.173*	*0.020*
$Cash_{i,t-1}$	**0.063****	**0.091***	0.020	0.012
	0.035	*0.062*	*0.687*	*0.857*
$Age_{i,t-1}$	0.009	0.032	0.006	0.043
	0.197	*0.123*	*0.419*	*0.112*
$Size_{i,t-1}$	**-0.005****	-0.008	**-0.005****	-0.019
	0.017	*0.335*	*0.031*	*0.106*
Stock $Returns_{i,t-1}$	**-0.004****	-0.002	**-0.004***	-0.001
	0.026	*0.125*	*0.052*	*0.398*
$INV_{i,t-1}$	**1.312*****	**1.052*****	**1.354*****	**1.048*****
	0.000	*0.000*	*0.000*	*0.000*
Industry & Year FE	NO	YES	NO	YES
n	1,456	1,456	668	668
Adj. R^2 (%)	69.69	50.66	73.07	54.64

Panel B: Inefficient investment of CEOs (*INEFFINV*)

		(1) All CEOs	(2) Departed	(3) Successors	(3) – (2) Difference
With acquisitive and non-acquisitive successors	*mean*	0.085	0.095	0.074	**-0.021*****
					0.000
	median	0.056	0.065	0.050	**-0.014*****
					0.001
	n	1,456	748	708	
With non-acquisitive successors	*mean*	0.095	0.110	0.076	**-0.035*****
					0.000
	median	0.069	0.082	0.060	**-0.022*****
					0.001
	n	668	382	286	

Table X. Divestment Analysis

The table reports divestment information for a sample of 226 firms with forced CEO turnovers that fulfill the criteria described in Table I and Table III. The divestiture sample consists of 152 completed divestitures where the transaction value of the divestment to the size of the divesting firm is equal to or greater than 1%. Statistics are reported for a 5-year pre-and post-turnover period related to departed and successor CEOs, respectively. The group labelled *With Acquisitive Successor* comprises of 110 cases where the departed CEO is subsequently replaced by a new CEO that completes acquisition investments (Acquisitive successor). The subset labelled *With Non-acquisitive Successor* comprises of 116 cases where the departed CEOs is subsequently replaced by a new CEO that does not consummate acquisition investments (Non-acquisitive successors). Both subsets are illustrated in Figure 1 ***Panel A*** reports statistics at the deal level. ***Acquisitions (Divestitures)*** is the number of acquisitions (divestitures) in the sample. ***Divestitures share (%)*** is the ratio of the number of divestitures to total acquisitions and divestitures. ***Acquisition (Divestiture) deal value*** is the dollar value of acquisitions (divestitures). ***Divestitures value share (%)*** is the share of value in divestitures over total value of both divestitures and acquisitions. ***Divestment CAR (%)*** is the divesting-firm's cumulative abnormal return over the 3-day announcement window where the parameters are estimated over the period (-250,-15) relative to the announcement day of the divestiture. ***Panel B*** reports statistics at the turnover case level. ***Turnover cases*** is the number of cases where a CEO was replaced by the firm involuntarily. ***Turnover cases with divestitures*** is the number of incidences where a CEO completed at least one divestiture. ***Divestitures case share (%)*** is the ratio of divestiture cases to total turnover cases. ***Core business divestment (%)*** is the percentage of cases where the divestiture involves a core business activity. Core business divestments have the same 2-digit SIC code as the firm. ***Discontinued operations share (%)*** is the ratio of cases with discontinued operations to total turnover cases. Discontinued operations is the item *DO* in Compustat and is reported when a firm reports any income or loss from discontinued operations. ***Years with discontinued operations*** is the number of fiscal years where the company reported income or loss from discontinued operations for a maximum of five years around the turnover event. t-test (for means) and signed rank test (for medians) are only reported for *Divestment CAR*. Difference tests are based on a t-test for means and a Wilcoxon-test for medians. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

		Departed CEO			Successor CEO			Successor-Departed CEO		
		(1)	(2)	(3)	(4)	(5)	(6)	(4)-(1)	(5)-(2)	(6)-(3)
		All	With acquisitive successor	With non-acquisitive successor	All	Acquisitive	Non-acquisitive			
Panel A: Deal level										
Acquisitions	*n*	539	270	269	194	194	0	-	-	-
Divestitures	*n*	78	52	26	74	36	38	-	-	-
Divestitures share (%)	*mean*	12.64	16.15	8.81	27.61	15.65	-	**14.97*** **	-0.50	-
Acquisition deal value ($mil)	*sum*	622,341	388,414	233,927	171,539	171,539	-	-	-	-
	mean	1,155	1,439	870	884	884	-	-270	-554	-
Divestiture deal value ($mil)	*sum*	42,886	35,387	7,499	41,668	11,537	30,130	-	-	-
	mean	550	681	288	563	321	793	13	-360	505
Divestitures value share (%)	*%*	6.47	8.35	3.11	19.54	6.30	-	-	-	-
Divestment CAR (%)	*mean*	0.35	0..38	0.31	**5.68*** **	**3.70*** **	**7.61*** **	**5.33*** **	**3.32** **	**7.29** **
	median	0.04	0.35	-0.09	**2.52*** **	**2.13*** **	**2.56*** **	**2.48*** **	**1.78** **	**2.47*** **
Panel B: Turnover case level										
Turnover cases	*n*	226	110	116	226	110	116	-	-	-
Turnover cases with divestitures	*n*	44	25	19	51	25	26	-	-	-
Divestitures case share (%)	*mean*	19.47	22.73	16.38	22.57	22.73	22.41	3.10	0.00	6.03
Core business divestment (%)	*mean*	47.20	51.07	42.11	62.91	71.00	55.13	15.71	19.93	13.02
Discontinued operations share (%)	*mean*	21.33	22.94	19.83	49.75	50.91	48.35	**28.42*** **	**27.97*** **	**28.52*** **
Years with discontinued operations	*mean*	0.44	0.43	0.38	1.29	1.46	1.09	**0.89*** **	**1.03*** **	**0.71*** **

Appendix

Table A.1. Departed and Successor CEO Acquisition Performance Comparison at Turnover Case Level

The table reports acquirer cumulative abnormal returns (***CARs***) for a sample of 110 forced CEO turnover events. The CEO turnover sample and the CAR estimation are described in Table I and Table IV. ***Panel A*** reports the CARs for both departed and successor CEO for different measures. Pre- (Post-) turnover deals correspond to deals made by the departed (successor) CEO. ***First*** is the first acquisition of the CEO in the pre- or post-turnover period. ***Last*** is the last acquisition of the departed CEO. If a given CEO has completed only one deal then this is included in both the *First* and *Last* subsets. ***Mean (Sum)*** is the average (aggregate) CAR of all acquisitions of the CEO in the pre- or post-turnover period. ***CAR1-6*** are control deal adjusted CARs described in Table IV. ***Panel B*** reports the CARs differentials between departed and successor CEOs for different measures. t-test (for means) and signed rank test (for medians) are reported for columns (1) to (7). Difference tests are based on a t-test for means and a Wilcoxon-test for medians. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Panel A: Departed and successor CEO CARs

Abnormal return measure		**Pre-turnover deals**				**Post-turnover deals**		
		(1) First	**(2) Last**	**(3) Mean**	**(4) Sum**	**(5) First**	**(6) Mean**	**(7) Sum**
CAR	*mean*	-0.78	-1.41**	-1.08**	-2.15**	2.19***	1.37**	2.80***
	median	-0.60	-0.85**	-0.92***	-1.91***	0.70**	0.12*	0.12*
CAR1	*mean*	-1.07	-1.45**	-1.20**	-2.48***	1.97**	1.18*	2.57**
	median	-1.70*	-1.85***	-1.57***	-2.42***	0.43	0.05	0.15
CAR2	*mean*	-1.11	-1.71**	-1.62***	-3.47***	1.76**	0.97	1.92*
	median	-1.28**	-1.79***	-1.99***	-4.24***	0.73	0.37	0.61
CAR3	*mean*	-0.73	-1.22*	-0.92*	-1.96**	1.95**	1.06*	2.28**
	median	-0.50*	-0.93**	-1.03***	-2.54***	0.69*	0.23	0.27
CAR4	*mean*	-1.54**	-1.56**	-1.42***	-2.55***	1.52*	0.88	2.15**
	median	-1.82***	-1.61***	-1.37***	-3.11***	0.30	0.01	0.01
CAR5	*mean*	-	-	-	-	2.18***	-	-
	median	-	-	-	-	0.73**	-	-
CAR6	*mean*	-	-	-	-	2.83***	1.94***	4.93***
	median	-	-	-	-	1.28***	1.20**	1.30***

Panel B: CAR differences

		(5) - (1) First-First	**(5) - (2) First-Last**	**(6) - (3) Mean-Mean**	**(6) - (2) Mean-Last**	**(5) - (3) First-Mean**	**(7) - (4) Sum-Sum**
CAR	*mean*	2.98***	3.60***	2.45***	2.78***	3.27***	4.96***
	median	2.27***	2.56***	1.76***	2.14***	2.59***	4.97***
CAR1	*mean*	3.04***	3.42***	2.37***	2.63***	3.17***	5.05***
	median	2.32***	2.88***	2.24***	2.29***	2.47***	3.94***
CAR2	*mean*	2.87***	3.47***	2.58***	2.67***	3.38***	5.40***
	median	1.72***	2.41***	2.93***	2.11***	2.59***	5.72***
CAR3	*mean*	2.69***	3.17***	1.98***	2.28***	2.88***	4.24***
	median	2.25***	2.66***	1.61***	1.92***	2.20***	3.79***
CAR4	*mean*	3.07***	3.08***	2.29***	2.43***	2.94***	4.70***
	median	2.16***	1.92***	1.58***	1.87***	1.87***	3.89***

Table A.2. Correlations among Independent Variables

The table reports Pearson pairwise correlation coefficients for the independent variables used for the regression in Table VII. The sample comprises 110 forced turnover events that satisfy the criteria described in Table I and Table IV. ***BoD independence*** is the percentage of outside directors relative to the total directors siting on the board of the firm as reported in the proxy statement prior to the turnover announcement. The grouping of independent directors is based on Shivdasani and Yermack's (1999) classification. ***Outside blockholder*** is an indicator variable that takes the value of 1 if a block of at least 5% of the company's outstanding shares is held by a non-inside investor (institutional or other) as indicated in the last proxy statement prior to the turnover event. ***Hedge fund*** is an indicator variable that takes the value of 1 if a block of at least 5% of the company's outstanding shares is held by a Hedge Fund or Private Equity Firm as indicated in the last proxy statement prior to the turnover event and identified using extensive web and news searches. ***ΔExperience*** is the difference in years of experience as chief executive between the new and departed CEOs. The CEO's experience is based on information hand-collected from the *Marquis Who's Who* database and complemented with searches in Forbes Profiles and Bloomberg Business Week (Executive Profiles). ***ΔAge*** is the age difference between two CEOs. ***ΔSalary*** is the difference in their total compensation, collected from SEC filings, scaled by total assets. ***Specialist successor*** is an indicator variable equal to 1 if the CEO was previously employed by a company with the same business description and zero otherwise. ***ΔPrivateDeals*** is the difference in the ratios of private-to-total deals corresponding to the successor and departed CEOs. ***ΔSize*** is the difference in the logarithms of the average acquirer market capitalization between the deals of the successor and the departed CEO. ***ΔRelSize*** is the difference in transaction relative size between the deals of the successor and the departed CEO. ***ΔCashDeals*** is the difference in the ratios of pure-cash-to-total deals completed by the successor and the departed CEOs. ***ΔTender*** is the difference in tender offer-to-total deals of the new and old CEOs. ***ΔRunUp*** is the difference in average acquirer runup between all deals of the successor and departed CEO. ***ΔMTBV*** is the post- minus pre-turnover difference in the firm's average market-to-book value measured at the fiscal year end prior to the respective acquisition announcements. ***ΔDebt*** is the difference in the average debt-ratio (long-term and short-term interest bearing debt over total assets) between deals carried out by the successor and departed CEOs where the debt ratio is measured at the fiscal year end prior to each acquisition announcement. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively.

Variables	BoD independence	Outside blockholder	Hedge fund	ΔExperience	ΔAge	ΔSalary	Specialist successor	ΔPrivate Deals	ΔSize
BoD independence	1.000								
Outside blockholder	-0.072	1.000							
Hedge fund	0.194	0.364	1.000						
ΔExperience	-0.033	-0.068	-0.063	1.000					
ΔAge	-0.072	-0.169	-0.039	0.139	1.000				
ΔSalary	0.070	0.043	0.050	0.044	0.034	1.000			
Specialist successor	0.074	-0.036	-0.083	0.106	0.023	-0.126	1.000		
ΔPrivateDeals	0.053	0.060	0.152	0.042	-0.007	0.155	0.112	1.000	
ΔSize	0.022	0.047	0.083	0.096	-0.067	-0.007	0.209	-0.090	1.000
ΔRelSize	0.048	0.102	-0.129	-0.025	-0.078	-0.053	-0.152	-0.151	-0.515
ΔCashDeals	0.044	0.012	0.004	-0.082	-0.062	0.014	0.002	0.095	0.091
ΔTender	0.043	0.001	0.030	0.246	-0.049	0.152	-0.061	-0.304	0.123
ΔRunUp	-0.033	-0.100	-0.121	-0.083	-0.119	-0.161	-0.107	-0.118	-0.055
ΔMTBV	0.132	-0.004	0.163	-0.042	-0.086	-0.123	-0.042	0.025	0.227
ΔDebt	0.066	0.111	-0.022	-0.026	-0.030	-0.124	0.036	0.086	-0.208

Variables	ΔRelSize	ΔCashDeals	ΔTender	ΔRunUp	ΔMTBV	ΔDebt
ΔRelSize	1.000					
ΔCashDeals	-0.057	1.000				
ΔTender	0.017	-0.026	1.000			
ΔRunUp	0.243	-0.017	0.026	1.000		
ΔMTBV	-0.014	-0.072	-0.069	0.073	1.000	
ΔDebt	0.190	-0.021	-0.081	0.047	-0.063	1.000