Reductions in CEO Career Horizons and Corporate Policies

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Abstract

We provide evidence on how personal shocks that plausibly reduce a CEO's career horizon, triggered by either the CEO's diagnosis of a serious illness or an illness or death of a close relative, affects key corporate policies. We validate our identification strategy by showing that these events are not predictable based on observable characteristics and that the CEOs exposed to such events experience greater turnover rates and lower residual time-in-office. Following the shock, and while the CEO is still in office, these firms moderate both R&D and capital expenditures and increase in cash distributions. While these results are consistent with greater short-term orientation in this setting, it is not necessarily detrimental to shareholders, as both operating and stock performance increase in the aftermath of the shock. Earnings management, CEO compensation, and the likelihood of being acquired remain unchanged, indicating that the improved performance comes from the implementation of relatively more efficient firm policies rather than from opportunistic behavior.

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1. Introduction

Whether managers adopt policies yielding short-term performance gains at the expense of long-term value has been widely debated and studied (e.g. Narayanan, 1985; Jensen, 1986; Stein 1988, 1989; Graham, Harvey, and Rajgopal, 2005). The consequences of myopic behavior have important ramifications for shareholders and policymakers as incentives to lower investment could reduce firm-level output and, in aggregate, slow economic growth. Prior work posits that a CEO's career concerns could influence such behavior (Fama, 1980; Holmstrom, 1999), but empirical evidence on this association is mixed (Dechow and Sloan, 1991; Jenter and Lewellen, 2015; Marinovic and Varas, 2018; Edmans, Fang, and Wang, 2018).[1]

In this paper, we examine how alterations in managerial career concerns, as proxied by the shortening of the CEO's expected career horizon, impacts corporate policies and firm performance. In contrast to extant work that uses CEO proximity to retirement (Dechow and Sloan, 1991, Jenter and Lewellen, 2015), we focus on changes to career horizon triggered by exogenous events that affect the CEO while in office: the diagnosis of a serious illness of the CEO or the serious illness or death of a close relative like the spouse or a child. These events severely divert the CEO from her career path and are likely to shorten her remaining expected time in office. The advantage of this setting is that it enables us to study the effect of decline in career horizon while holding constant all remaining managerial characteristics. Such personal shocks are also exogenous to the corporate governance of the firm, which influences how long the CEO stays in power (Limbach, Schmid, and Scholz-Daneshgari, 2017).

Prior literature proposes two competing views to understand how managerial horizon and career concerns shape corporate policies. On the one hand, the agency (i.e. negative) view posits that agency costs increase when managers are less concerned with their career prospects

[1] A number of other reasons for short-termism have been proposed and studied, such as turnover due to takeovers (Stein, 1988), meeting quarterly earnings expectations (Rahmandad, Henderson, and Repenning, 2018); pressure from activist investors and hedge funds (Brav et al., 2008; Brav et al., 2018); and distortions due to CEO compensation (Edmans, Fang, and Lewellen, 2014).

and more interested in extracting private benefits from their positions (Gibbons and Murphy, 1992; Holmström, 1999). As such, managers with shorter horizons would be more myopic. Consistent with the agency view, Dechow and Sloan (1991) provide evidence that managers closer to retirement age take actions that emphasize short-term gains.

On the other hand, the positive view suggests the existence of a bright side of short-termism as emphasized by Jenter and Lewellen (2015). They suggest that managers might be more likely to choose value-enhancing policies, like stronger corporate governance or eliminating pet projects, as they would ultimately bear fewer of the future costs. Indeed, Jenter and Lewellen (2015) document that CEOs closer to retirement are less resistant to takeovers, indicating that a shorter career horizon enhances shareholder returns by lowering the costs associated with forgone employment at the firm.

Starting with the sample of the US companies listed in the Compustat's Execucomp database between 1992 and 2015, we use a webscraping algorithm and manual searches to identify instances of personal shocks associated with CEO illness and the death or serious illness of a close relative. After requiring that the CEO hold her position in the pre- and post-event period, we have 60 such cases for our analyses. The events are distributed across the entire sample period, with no discernible difference between the early and later years. We find that these events shorten the career horizon of the CEO. Specifically, they are associated with a higher probability of turnover as well as reduced residual time-in-office even controlling for CEO retirement age. These results further corroborate our conjecture that these exogenous events alter the CEO's career horizon.

After establishing that our events are valid proxies for the shortening of the CEO's residual expected time in office, we study possible changes in corporate policies to ascertain whether they reflect a greater short-term orientation. One advantage of our approach is that the same CEO implements these corporate policies in both the pre- and post-event periods, which

enables us to mitigate concerns that the results are driven by unobservable managerial traits.[2] Indeed, the CEO remains in office after the event, but with a different expectation about her residual time-in-office. Moreover, in most instances, the events are private information to the CEO for a certain time period. Our approach, therefore, enables us to capture the reduction in the CEO's career horizon while keeping constant all remaining managerial characteristics. Given the importance of managerial characteristics in determining corporate policies as documented by prior literature (e.g., Bertrand and Schoar, 2003; Graham, Harvey, and Puri, 2013), observing the same CEO in the pre- and post-event periods is a key aspect of our identification strategy. We also assess whether the impact of managerial short-termism on corporate policies is more consistent with the agency view or the positive view as emphasized in prior literature.

Using a propensity score model that matches on size, ROA, and book-to-market ratio,[3] we find that firms whose CEOs are subject to a personal shock reduce R&D investments and capital expenditures (CAPEX) compared to the sample of matching firms. In terms of economic effect, treated CEOs reduce their R&D intensity (i.e., R&D expenses, scaled by total assets) by 75 basis points on average in the post-treatment period relative to non-affected CEOs, and their CAPEX intensity by 1.84 percentage points. These effects are economically significant given that the average R&D intensity and CAPEX intensity of treated firm is, respectively, 6.52% and 3.10% at the end of the fiscal year prior to the shock. Another interesting result is the decrease in net working capital (NWC) in the post-shock period. Treated

[2] This is a concern in the literature that uses sudden CEO deaths (see for example, Nguyen and Nielsen, 2010 and 2014).

[3] We do not match strictly within the industry to alleviate concerns related to the reflection problem (Manski, 1993). Leary and Roberts (2014, page 140) define the reflection problem as "*a specific form of endogeneity that arises when trying to infer whether the actions or characteristics of a group influence the actions of the individuals that comprise the group*". In our case, using peer within-industry companies can exacerbate this issue because they are self-selecting into the industry and they respond to the actions and characteristics of the rivals.

CEOs decrease their net working capital ratio during the post-shock period by 2.29%, relative to control firms.

These initial findings are consistent with both the agency and positive view of short-termism. Cutting investment in CAPEX, R&D, and NWC might constrain the growth of the firm, and in turn, negatively affect firm value. A decrease in investment ratios, however, is not necessarily detrimental to shareholder value, in particular, if the firm curtails extraneous investment. For example, firms targeted by hedge funds activists, despite decreasing their R&D expenses improve their innovation outputs (Brav et al., 2018), and firms that release extraneous cash tied in NWC exhibit better long-run performance (Aktas, Croci, and Petmezas, 2015).

To better discern the agency perspective from the positive view of reduced CEO career horizons, we next examine changes in payout policies and firm performance around the personal shock. We document an increase in the payout to the shareholders both in the form of dividends and stock repurchases, indicating that treated CEOs become more willing to disgorge cash reserves, which has been argued to reduce agency costs (Easterbrook, 1984). The relative increase in total payout to shareholders during the post-shock period represents 2.45% of total assets. These results are consistent with the evidence of Jenter and Lewellen (2015) and Brav et al. (2018), according to which short-termism can improve decision making of the executives.

The above documented changes in investment and payout policies are associated with a positive impact on firm performance, as both the operating and stock performance of treated firms increase in the post-treatment period relative to the control group. Thus, our evidence is consistent with the notion that the personal shock strengthens a CEO's incentive to increase the stock price in the ensuing periods.

We then examine whether this improvement in stock performance is associated with the adoption of opportunistic behaviors (Smith and Watts, 1982; Edmans, Fang, and Huang, 2018). CEOs experiencing a reduction in the expected remaining time-in-office do not have a

greater propensity to engage in earnings management practices nor do they have increases in compensation. This evidence, therefore, does not suggest that managers act opportunistically. Finally, while Jenter and Lewellen (2015) find that CEOs' desire to retire at 65 increases their likelihood of selling the company, we find no such effect associated with the reduction in the expected time in office. The unexpected nature of the events we study may explain the difference: selling a company can be time consuming, and our treated CEOs perhaps lack the time to properly plan the sale. Overall, these results are more supportive of the positive view of short-termism.

We also investigate whether our results are sensitive to their career horizons as proxied by expected remaining time in office at the time of the event. There are two potential implications of the expected remaining time in office to consider. One possibility is CEOs experiencing a greater truncation in their career horizon have more incentives to shift towards short-term policies (Smith and Watts, 1982). Another possibility is that CEOs with longer expected remaining time in office have time to recover from the shock, mitigating their incentives to adopt short-term oriented policies.

Following Nguyen and Nielsen (2014), we compute a CEO's expected remaining tenure and subdivide our sample into those firms whose CEOs have an above- and below-median value of expected remaining tenure at the time the shock occurs. We find that both groups curtail investments in capital expenditure and R&D, and increase total payout. However, only the CEOs with above median expected remaining time in office reduce working capital investments, increase cash holdings and stock repurchases, and decrease the equity component of their compensation. Finally, the effect of the shock on performance is concentrated among the firms whose CEOs have a longer horizon. While the personal shock affects CEOs in both subsamples, overall the results support the view that the incentives to move towards short-term strategies are stronger for CEOs who had an ex ante longer expected time in office.

An important issue about our empirical strategy is related to who possesses the information about the personal shock to the CEO and when they acquire it. Our analysis does not rely on any assumption about the disclosure to the market of the relevant information about the shock. In fact, illnesses and deaths of close relatives are often disclosed to the public after the fact. Indeed, CEOs do not have any obligation to disclose their health status to their companies and to investors in the U.S., as long as these illnesses do not prevent them to fulfill their duties.[4] The case of Fiat Chrysler Automobiles NV (FCA)'s chairman and CEO Sergio Marchionne illustrates how the market and the same company may be unaware of the health problems of top executives.[5] While the absence of timely disclosure is of course relevant to investors, it has no effect on our assumption. Our identification strategy uniquely relies on the CEO being affected by the shock and on the observation of any change in the implemented corporate policies afterwards.

Our paper offers several contributions to the literature. First, we provide further evidence of the importance of the executives' personal attributes and experiences for corporate decision making (see, e.g., Bertrand and Schoar, 2003; Malmendier and Tate, 2005, 2008; Graham, Harvey, and Puri, 2013; Custodio and Metzger, 2013; Jenter and Lewellen, 2015; Davidson, Dey, and Smith, 2015; Bernile, Bhagwat, and Rau, 2017; Page, 2018). We show that the health status of CEOs and their close relatives shortens the expected time in office of these executives, generating incentives to enact policies that favor the short-term performance of the company. These findings are related to those of Bennedsen, Perez-Gonzalez, and Wolfenzon (2012), who examine hospitalization events for Danish CEOs and document the importance of CEO on firm performance, and Lel and Holland (2017), who study CEO health shocks and show they result in important consequences for performance and financial and accounting

[4] http://www.finra.org/investors/when-ceo-suffers-illness-what-investors-should-know.
[5] https://www.wsj.com/articles/fiat-chryslers-sergio-marchionne-was-seriously-ill-for-a-year-before-dying-1532620292.

policies of firms. While these two papers focus on the importance of the CEO for firm performance, our study investigates how health-related problems impact the decision-making process of the CEO while she still runs the firm. Our results complement those presented by Masulis and Zhang (2019) for independent directors who show that personal distractions, which include health problems, affect the behavior of the director, reducing her commitment to the board.

Second, we add to the literature documenting a bright side of lower career horizons (Jenter and Lewellen, 2015; Brav et al., 2018). Our results indicate that after the shock treated firms adopt policies that favor shareholders and minimize agency conflicts like returning money to investors. The career concerns theory of Holmström (1999) posits that CEOs gain private benefits from retaining their jobs, which creates a conflict between shareholders and managers. By reducing the incentives to retain the job, the personal shock partially aligns managers and shareholders. This benefit also explains the positive effect of the shock on the stock performance of the firm.

Finally, our paper also speaks to the literature on CEO tenure. Pan, Wang, and Weisbach (2016) document that tenure is beneficial in resolving uncertainty about the quality of the CEO, but they also show that, as tenure increases, CEOs invest more and disinvest less, generating a cyclical pattern characterized by more investment quantity and less investment quality. Limbach, Schmid, and Scholz-Daneshgari (2017) find a hump-shaped relationship between CEO tenure and firm value. Rather than focusing on CEO tenure per se, we explore the expectation about residual tenure after the personal event. Thus, while the CEO tenure literature primarily concentrates on the experience and power acquired by the CEO during her tenure, we focus on the shortening of the expected time in office associated to the shock.

The paper is structured as follows. Section 2 presents the empirical strategy. Section 3 discusses the empirical evidence. Section 4 is devoted to additional analyses and robustness checks. Section 5 concludes.

2. Empirical Strategy and Sample Description

This section presents our empirical strategy and data. First, we start with the definition of the events that we study in our paper. We provide details of our search strategy and of the steps necessary to obtain the final sample of events. We also assess whether the considered events are exogenous to firm and CEO characteristics, and whether they do indeed shorten the expected time in office of the CEO. We then discuss the empirical models and the considered matching procedure. Finally, we conclude this section with descriptive statistics for the variables used in the analysis.

2.1. Event Definition

Our initial sample consists of all CEOs of US companies listed in the Compstat's Execucomp database in the period 1992-2015. Using a webscraping algorithm, we search for all publicly-available information about personal shocks occurring to a CEO via Google and Factiva. We select three types of events, namely (1) a severe disease occurring to the CEO, (2) a severe disease occurring to one of the CEO's close relatives, and (3) the death of one of the CEO's close relatives. Close relatives are restricted to spouses, children, parents, and siblings. We focus on events that are arguably exogenous and not under the control of the CEO. For this reason, we do not search for deaths by suicide and auto-inflicted injuries. The list of keywords used in these searches is provided in Appendix A. The list is relatively wide in order to capture all possible information.

These searches are neither restricted to a particular time period nor the period in which the individual was CEO of the company. In fact, we search for all possible relevant information

about events affecting CEOs during their tenure, even if such information were published after the occurrence of the event. Overall, we obtain results for over 70,000 searches where we combine the name of the CEO and a keyword. For each hit, the script extracts the text surrounding the keywords, allowing a first screening. We then run manual checks to verify the information found. Because we are interested only in events that happened during the CEO tenure, we require that the news article contains a reference to the year in which the event occurred. We do not assess the market reaction to the shock, and thus do not require a precise event date.

Many of these illnesses and accidents are reported well after their actual occurrence. It is not unusual for CEOs battling with a serious illness to publicly disclose such information only when they take a leave of absence, as it happened with Apple Inc. CEO Steve Jobs in 2009,[6] or when they step down, as in the case of McDonald's Corporation CEO Charles Bell in 2004,[7] or even die. If an article reports that the illness was diagnosed before the public announcement and while the person was serving as CEO, we use this earlier date as our event date (year). The basis for this decision is that we can examine the possible effects of these incidents on CEO behavior, and any change in this behavior would materialize once the shock has affected the CEO. To put it another way, our empirical strategy relies on the CEO becoming aware of her illness or the illness/death of her relatives, and not on this information being revealed to the public. This is an important distinction because CEOs are not required to disclose serious illnesses to the public. They are only required by federal securities law to disclose if they are unable to continue performing their assigned duties for a significant period of time, like when they start a leave of absence.[8] Fiat Chrysler Automobiles (FCA) NV's Sergio

[6] Kane Y.I., "Apple's Jobs Takes Medical Leave", The Wall Street Journal, Jan. 15, 2009, URL: http://www.wsj.com/articles/SB123196896984882901

[7] Wayne L. and Dash E., "Citing Cancer, Chief Resigns at McDonald's", New York Times, Nov. 23, 2004, URL: http://www.nytimes.com/2004/11/23/business/citing-cancer-chief-resigns-at-mcdonalds.html

[8] http://www.finra.org/investors/when-ceo-suffers-illness-what-investors-should-know

Marchionne is a textbook example of this situation. Details about his health problems became known to the market and to the company itself only after he passed away in July 2018. However, he had been receiving treatment for cancer for more than a year. No obligation to disclose the illness came into effect because Marchionne was still able to perform his assigned duties.[9]

After carefully excluding false positives, we obtain a list of 82 events. Because our empirical strategy relies on observing the CEO's behavior before and after the shock, we exclude 16 cases in which the CEO is replaced in the year following the shock (no post-event period), and 6 cases in which the CEO takes office in the same year the shock occurs (no pre-event period). Thus, the final sample comprises of 60 events whose distribution is reported in Table 1. Panel A documents that about half of the observations (29) are associated with a disease affecting the CEO, while the remaining half are due to the death of a relative (29) and the disease of a relative. Panel B of Table 1 shows that our search strategy delivers events also in earlier years, mitigating concerns that information is easier to find for CEOs affected by events in the later years of our sample period. Overall, the sample is balanced from a temporal viewpoint.

[Insert Table 1 about here]

To provide further support that these events are exogenous to firm performance, its policies, and CEO attributes, we report in Table 2 the estimates of panel regressions aimed at predicting the occurrence of an event on all firm-year observations during the sample period. In this model, we control for the size of the firm (log of total assets), capital structure decisions (cash holdings and leverage), operating performance (ROA), firm value and performance (Tobin's Q, stock performance), and stock return volatility. The CEO-level controls include

[9] https://www.wsj.com/articles/fiat-chryslers-sergio-marchionne-was-seriously-ill-for-a-year-before-dying-1532620292

the log of age, tenure, and compensation. Also, we augment the specification with firm fixed effects and year dummies in Model 1, and industry-year fixed effects in Model 2. The results show that only CEO age is marginally significant at the 10% level in Model 1. Overall, the results in Table 2 indicate that our sample events are largely unpredictable based on observable firm and CEO characteristics.

[Insert Table 2 about here]

Our empirical strategy relies on the assumption that these events trigger a change in how long the CEO aspires and expects to remain in office. We posit that these shocks lead to a revision of the CEO's career horizon, and therefore, shift incentives towards the short term. While the expected time in office is, unfortunately, unobservable, Table 3 provides support for our assumption. In this table, we test whether the identified events are correlated with the likelihood of CEO turnover by means of a Cox proportional hazard model and a probit model. We also examine whether the personal shock affects the number of remaining years in office, defined as the difference between the turnover year and the observation's year, by means of an OLS regression. The specifications control for CEO and firm characteristics, as well as industry and year fixed effects. As Table 3 shows, the event dummy, which is set equal to one once the CEO is affected by a personal shock in a given year, is positive and highly significant in the turnover models, and negative and significant in the model for the remaining time-in-office. These findings strongly support our assumption that CEOs revise downward their expectation about the length of their stay in office after they are hit by these shocks.

[Insert Table 3 about here]

It is important to note that are our specifications in Table 3 control for the age-65 effect (Jenter and Lewellen, 2015) with the inclusion of the dummy variable CEO retirement age. This variable takes value one when the CEO age is between 63 and 66. The relationship between the events and the probability of CEO turnover and the time left in office is, therefore,

not due to the retirement of the CEO stemming from an age limit. As expected, the dummy variable identifying CEOs close to the retirement age is significant with the expected sign: positive for the probability of turnover and negative for the residual time-in-office.

2.2. Empirical Model

After having provided support that the 60 events we identified are unexpected and are associated with a shortening of the remaining time-in-office for the CEO, we proceed in this section to present the empirical model we employ in our analysis.

While these events that reduce expected career horizon could affect CEO behavior, they are likely to leave all her expertise and skills in place. This is an advantage of our setting because it enables us to focus on the shock related to the short-term incentives without jointly having changes in other managerial traits. By examining the CEO behavior before and after the shock, we eliminate any source of concern about unobservable managerial characteristics affecting our results. This is a key feature of our identification strategy given the importance of managerial characteristics in determining firm's policies documented in the literature (for example, Bertrand and Schoar, 2003; Graham, Harvey, and Puri, 2013). In other words, our approach keeps both the firm and the CEO constant, while a specific CEO characteristic (her expected career horizon) changes.

Our main empirical model is a simple difference-in-differences regression to assess the impact of the CEO's increased short-termism on a number of corporate policies. The treatment is associated with the occurrence of the events described in the previous section. We consider a firm treated (*Treat*) if its CEO is hit by a personal shock. We use a seven-year window around the year of the event, starting three years before and ending three years after. The years after the event are the post-period (*Post*). Note that if the CEO leaves the company before year $t+3$, we stop the post-period at the last year before the CEO turnover. The model is the following:

$$Y_{it} = \alpha\, Treat_i + \beta\, Post_t + \gamma\, Treat_i \times Post_t + Year_c + \varepsilon_{it}, \quad (1)$$

where *i* is a firm index, *t* a time index in event years, and *c* a time index in calendar years. Y_{it} is the considered corporate outcome variable of interest, and $Year_c$ are calendar-year fixed effects. Since the model is in event time (*t* takes value from -3 to 3), it is possible to include these year fixed effects to control for time trends.

The corporate outcome variables we analyze can be grouped into the following three categories: (1) investment policy, (2) financial and payout policies, and (3) firm performance. First, we investigate capital expenditures, R&D expenses, net working capital, acquisitions, and asset sales to detect any possible changes in investment policy. Second, we examine financial and payout policies by measuring cash holdings, leverage, dividends, and stock repurchases. Third, we consider firm performance using return on asset (ROA), Tobin's Q, and stock price performance. The sources of data are the Compustat, CRSP, and Execucomp databases. Definitions of all variables are reported in Appendix A2.

In addition to the model described in Equation 1, we estimate alternative specifications where we include firm fixed-effects (without the *Treat* dummy) and event fixed-effects.[10] In the final part of the analysis, to better disentangle between the agency perspective and positive view of short-termism, we consider additional outcome variables. In particular, we examine whether the shortened career horizon of the CEO leads to a higher propensity to engage in opportunistic behavior, such as earnings management and higher compensation. Also, we investigate whether the likelihood of being acquired increases which would be associated with less opportunistic behavior.

These models are estimated using a sample that includes both treated and control observations. We select control firms using a propensity score matching approach that employs

[10] Event fixed effects identify each firm-event combination. They differ from firm fixed effects because a firm might have more than one CEO hit by a personal shock during the whole sample period.

size, ROA, and book-to-market ratio as covariates. The matching scores are computed for every sample year. We do not constrain the matching to industry firms to alleviate the reflection problem emphasized by Mansky (1993). Firms endogenously select into the same industry (i.e., peer) groups and peer firm measures proxy for latent factors that are common to firms in a peer group and determine the corporate policy. Leary and Roberts (2014) observe that this can create an endogenous correlation between the policy of the firm and that of its peers. Moreover, they also point out that firms tend to respond to changes in actions or characteristics of their peers. This poses a problem because we are interested in measuring the change in the event firm's corporate policies using the control firms to proxy for the behavior of the event firm without shock. If the behavior of the event firm alters those of the peers, our results will be biased. For these reasons, our control groups are not matched within industry. To show that our results are robust to different matching procedures, we match the event firm to the nearest neighbor, to the three nearest neighbors, and to the five nearest neighbors. In the main analysis, we present the results of the 1-to-1 matching, while of the results with three and five matching firms are discussed in the robustness section.

2.3. Descriptive Statistics

Table 4 presents descriptive statistics about the firms whose CEOs have experienced a personal shock during their tenure (i.e., the event sample) as well as the sample composed of one nearest neighbor (i.e., the control sample) obtained after implementing the propensity score matching procedure previously described. The summary statistics have been computed using firm and CEO observations at the event year. The table first compares the characteristics of treated CEOs with the sample of control CEOs. At the time of a personal shock, the average CEO is 58.3 years old, with a tenure of 9.9 years long, and has total compensation of $9.45

million. None of these characteristics are statistically different from those associated with the CEOs of the control sample, which provides further support to the randomness of the treatment.

As for firm characteristics, the average size of the firm with a treated CEO is around $17 bn in terms of annual sales, and $97 bn in terms of total assets. Because size is one of the matching dimensions, there is no statistically significant difference between event firms and the control sample. Concerning investment policy, event firms seem to be more active, as their mean values of capital expenditures (6.52% of total assets), R&D expenses (3.10%), net working capital (13.81%) and acquisitions (2.57%) are higher than those of the matched firms. This difference, however, is statistically significant only for capital expenditures and R&D investments.

The table also reveals some differences in the financing patterns of event and control firms, with the former holding more cash (16.55%) and being less levered (23.22%) than the latter, but statistical significance is limited to the one-to-five matching. As for dividend and stock repurchases, event and control firms exhibit similar payout ratios. The performance of event firms tends to be better than that of the matched firms, as their average ROA (6.58%) and Tobin's Q (1.98) is higher than the corresponding values of the control sample. At the same time, there is no difference in terms of one-year stock performance. Finally, the values of discretionary accruals indicate that event firms do not engage in earnings management to a different extent than control firms.[11]

[Insert Table 4 about here]

[11] Discretionary accruals are estimated using the modified Dechow and Dichev (2002) model augmented with firm fixed effects as proposed by Lee and Masulis (2009). See Appendix A2 for definition.

3. Results

In this section, we present and discuss the results of our multivariate analyses aimed at detecting changes in the behavior of firms whose CEO is hit by a personal shock along the following corporate dimensions: investments, financing and payout, firm performance, earnings management, CEO compensation, and the likelihood of being acquired.

3.1. Investment Policy

We first present the estimates of the difference-in-differences regressions on investment policy. Investment policy encompasses various dimensions, so we investigate whether the occurrence of a personal shock to the CEO leads to a change in the following outcome variables: capital expenditures, R&D expenses, net working capital, acquisitions, and asset sales. Results of the one-to-one matching are reported in Table 5. Three model specifications are estimated for each dependent variable: (1) with year fixed effects, (2) with firm and year fixed effects, and (3) with event and year fixed effects.

The coefficient of the interaction term between the treat and post variables is negative and statistically significant in both the capital expenditures (at the 1% level in columns 1 and 2, and at the 5% level in column 3) and R&D expenses (at the 1% level in all three columns) models, with the evidence being robust across the three model specifications. These results document that firms whose CEO is affected by a personal shock reduce capital expenditures and R&D investments in the post-shock period relative to a control sample. As for the size effects of these changes, the coefficients indicate that treated firms cut capital expenditures by approximately 1.7 percentage points (expressed as a percentage of total assets) and R&D by 0.7 percentage points following the shock, on average. These results imply a sizeable economic impact if we consider that the sample average of CAPEX and R&D is 6.5% and 3.1% of total assets, respectively. Table 5 also indicates that treated CEOs reduce their NWC ratio in the

post-shock period by 2.3%, relative to the control firms. Tough, this result is only statistically significant at the 10% level. As for the other investment-related variables, we do not detect any significant change in acquisitions and asset sales following the shock.

The negative impact of the shock on CAPEX, R&D, and NWC is consistent with both the agency perspective and the positive view managerial horizon and career concerns. The decrease in capital expenditures and R&D investments might be an attempt to increase current earnings by forgoing the long-term growth potential of the firm. On the other hand, a decrease in investment ratios is not always bad news for shareholders, in particular, if the firm is cutting value-decreasing projects. As noted by Jenter and Lewellen (2015), it is less costly to CEOs to eliminate pet projects at the end of their careers. A reduction of their expected remaining time-in-office might give an incentive to CEOs to focus on core and value-creating projects. Therefore, to better disentangle between the agency perspective and the positive view of short-termism, we investigate the impact of short-termism on payout policies and firm performance in the next sub-section.

[Insert Table 5 about here]

3.2. Financing, Payout, and Firm Performance

We now present the estimates of the difference-in-differences regressions on financing and payout policies and firm performance. We start with financing and payout policies. More precisely, the outcome variables we consider are cash holdings and leverage for financing policy, and dividends and stock repurchases for payout policy. The results of the one-to-one matching are shown in Table 6, with three model specifications for each dependent variable.

The coefficients of the interaction term between the treat and post dummies are never significant when cash holdings and leverage are the dependent variables. This finding indicates that a firm's financing pattern remains relatively stable following the occurrence of a personal

shock to its CEO. However, the evidence reveals a significant change in the payout policy. As documented by the negative coefficients of the interaction terms, firms whose CEO suffers a personal shock increase the amount of both dividends and stock repurchases, with the evidence being robust to all the three model specifications. These results are consistent with the notion that CEOs experiencing an exogenous reduction in their expected career horizon tend to minimize potential conflicts with shareholders by increasing their remuneration, as cash distribution is often invoked by institutional investors and hedge funds to alleviate concerns arising from agency problems of free cash flows (Brav et al., 2005, Brav et al., 2008). The magnitude of the coefficients documents that, following a shock, the average increase in dividends and stock repurchases is around 0.4% and 1.9% of total assets, relative to the sample average of 1.97% and 2.42%, respectively. The effect on dividend and share repurchase translates into a relative increase of total payout to shareholders by 2.4% on average in the post-shock period (see that last panel in Table 6).

[Insert Table 6 about here]

We now turn to investigate whether the personal shock to the CEO reflects in firm performance. We do so by estimating the difference-in-differences model using three dependent variables: (1) return on assets, (2) Tobin's Q, and (3) 1-year stock price performance. The results are reported in Table 7. The evidence documents that there is a significant change in a firm's ROA and stock performance following a personal shock to its CEO, as the coefficients of the interaction term between the treat and post variables are positive and significant. The coefficient is instead positive but not significant in the Tobin's Q. Overall, these results are consistent with the view that the exogenous reduction of a CEO's career horizon associated with the shock strengthens the incentive to deliver positive short-term results, such as an improvement in stock price performance in the immediate aftermath. The

magnitude of the coefficients reveals that one-year stock performance increases by 10% to 12%.

[Insert Table 7 about here]

3.3. Additional Analyses

In this sub-section, we consider additional outcome variables, such as earnings management, CEO compensation, the likelihood of being acquired, and revision to analysts' forecasts.

A possible concern that may arise is that the above documented increase in firm performance is achieved by means of opportunistic behavior by treated CEOs. A commonly used channel to improve short-term performance is earnings management, and the exogenous shortening in the CEO's expected time in office may strengthen the incentive to engage in such practice. We, therefore, address this issue by estimating our difference-in-differences model using discretionary accruals as dependent variable, a common proxy for earnings management (see, e.g., Fang, Huang, and Karpoff, 2016).[12]

Table 8 reports the results. In all three columns, the coefficient estimate of the interaction term between the treat and post dummies is positive, but without being statistically significant. This provides no support to the idea that CEOs affected by a personal shock increase the extent of earnings management in an attempt to enhance the firm's short-term performance.

[Insert Table 8 about here]

Another opportunistic behavior that CEOs might be tempted to implement after experiencing by a personal shock is increasing their compensation (Marinovic and Varas, 2018;

[12] In the earnings management and CEO compensation models, the number of observations is lower than that of the previous models due to data availability constraints.

Edmans, Fang, and Wang, 2018). Table 9 reports the results of the difference-in-differences regressions with the log of total compensation as dependent variable in the first three columns, and the equity-based fraction of CEO compensation in the last three columns. The log of the firm's total assets, age of the CEO, and years of tenure are included as control variables. The results show that the coefficient of the interaction term is never significant across the various model specifications. This result signifies that the compensation level and composition remain relatively stable after the shock, thereby rejecting the hypothesis that the exogenous shortening in treated CEOs' expected time in office leads them to opportunistically increase their own compensation.

[Insert Table 9 about here]

We finally turn to M&A activity. Jenter and Lewellen (2015) argue that CEOs bear private merger costs, which consist in the forgone benefits of staying employed until the planned retirement date. Therefore, CEOs are often reluctant to sell their firms because of the associated loss of rents. As shown by Jenter and Lewellen (2015), a short horizon can be value-enhancing by mitigating this loss and reducing resistance to takeovers. Likewise, the personal shock can reduce these costs since it shortens the expected remaining time in office, making CEOs more receptive to takeover offers.

Based on this evidence, we test whether a personal shock occurring to a firm's CEO results in an increased propensity of the firm to be targeted in the M&A market. We do so by estimating cross-sectional probit regressions modeling the likelihood of treated and control firms of being acquired. Since no firm is targeted within one year of the shock, we use two and three years as time horizons for the analysis. Table 10 reports the results where the treat dummy identifies firms whose CEOs are hit by a personal shock. The evidence reveals that a firm's propensity to be targeted in an acquisition does not significantly vary following the shock. In particular, the coefficient of the treat variable remains insignificant across different time

horizons and matching procedures. In contrast to Jenter and Lewellen (2015), who find that CEOs' desire to retire at 65 increases their likelihood of selling the company, we find no such effect associated with the reduction in the expected time in office. The unexpected nature of the events we study may explain the difference: selling a company may be time consuming for a manager, and our treated CEOs perhaps lack the time to properly plan the sale.

[Insert Table 10 about here]

As an additional outcome variable, we consider how financial analysts react to the changes in CEO behavior in the post-shock period. If the change in CEO behavior negatively impacts the long-run prospects of the firm, this analyst forecasts should reflect this fact. As information about the health status of the CEO (or of a relative) is often not publicly disclosed, financial analysts can modify their targets and recommendations only on the basis of the observed change in the corporate policies. Thus, we investigate whether the changes analyzed in the previous sections lead to a revision of the long-term growth potential of the firm. We examine the analysts' reaction using the number of downward EPS revisions and the long-term growth rate in earnings. Table 11 presents the results. The coefficients of the interaction terms between the treat and the post dummy variables are never significant, indicating that analysts do not revise downward their long-term growth forecasts for the firm.

[Insert Table 11 about here]

Taken collectively, our results do not support the view that changes in CEO behavior associated with the reduction in career horizon is detrimental to the firm's shareholders. The tests carried out in this section indicate that CEOs are not behaving opportunistically in the aftermath of the personal shock. Indeed, we do not find evidence of an increase in earnings management and CEO compensation. We also document that the analysts' forecasts about the long-term growth of the firms remain unaffected.

4. Robustness Tests

In this section, we present the results of two robustness analyses. First, we examine whether the main effects documented in the previous section are sensitive to the expected remaining time in office at the time of the shock. Second, we present the results with two alternative matching procedures.

To further examine the impact of the personal shock on CEO behavior, we investigate whether the findings uncovered in the previous sections are sensitive to the expected remaining time in office at the time of the event. The effect of the expected remaining time in office is *a priori* unclear. Indeed, the shock can produce a larger change in the incentives of the manager if she expects to remain as a CEO for a longer time horizon. In other words, CEOs experiencing a more severe exogenous shortening should exhibit a greater shift towards short-termism. On the other hand, a longer time horizon can also give the CEO more time to recover from the shock, alleviating the incentive to shift to short-term oriented policies. This implies that CEO with shorter expected horizon should be those more sensitive to the shock.

Following Nguyen and Nielsen (2014), we compute a CEO's expected remaining tenure in a given year by estimating a probit model of the one-year turnover probability in the Execucomp universe, using the same control variables as those employed in the turnover model of Table 3. Expected remaining tenure is then calculated as the inverse of the predicted turnover probability from this model. On average, our sample CEOs are expected to remain in office for 10.3 years at the time they are hit by the shock. Then, we bifurcate the sample into firms whose CEOs have an above- and below-median value of expected remaining tenure at the time the shock occurs. We present the results on corporate investment in Table 12, payout policies in Table 13, and firm performance in Table 14.

[Insert Tables 12, 13, and 14 about here]

Table 12 shows the results for the investments models. The first three columns report on CEOs with above-median expected remaining tenure, and the remaining three columns on CEOs below-median expected remaining tenure. As shown in the table, both groups behave similarly in terms of capital expenditure and R&D by reducing the investments. On the other hand, only the CEOs with above median expected remaining time in office reduce working capital investments.

Financing decisions are investigated in Table 13. The main result of Table 6, i.e. the increase in total payout is confirmed for both subsamples. However, only CEOs that expected to remain in office for long time increase cash holdings. There is also a stronger effect on stock repurchases for this subsample. In terms of performance, Table 14 documents that the effect is concentrated among the firms whose CEOs had a longer horizon, suggesting that the decisions of these executives in terms of investments and financing have a more long-lasting effect on these firms.

As a further test, we assess whether the results are robust to alterations of the matching procedure. We employ a 1-to-1 matching approach in the main analyses. As an alternative approach in Table 15, we use 3 matching firms for each event firm and find that the results are qualitatively similar to those presented in the previous sections, thus confirming our main findings to a large extent. Only the marginally significant net working capital result in Table 5 becomes insignificant with the 1-to-3 matching, and the statistically insignificant positive impact of the event on cash holdings documented in Table 6 becomes significant with the 1-to-3 matching. In an unreported analysis, we also replicate the main analysis using 5 matching firms, and find that the results are qualitatively similar to those for the 1-to-1 and 1-to-3 matching.[13]

[Insert Table 15 about here]

[13] The results are available from the authors upon request.

Finally, we also confirm the robustness of our main findings to matching at the end of the year before the event, rather than in the event year as we do in the previous section. This additional analysis supports our main results, as documented in Table 16. Indeed, results, especially in Panel C for firm performance, are even stronger than in Table 7.

[Insert Table 16 about here]

5. Conclusion

This paper explores the impact of exogenous reductions in a CEO's career horizon on various corporate policies. The exogenous reduction is triggered by the occurrence of a personal shock to the CEO's tenure, such as the diagnosis of a serious illness, or the illness or death of a close relative. Such events are likely to divert the CEO from her planned career path, and as a result, we proffer that CEOs hit by a personal shock become more short-term oriented.

Managers with a short-term orientation could attempt to boost the firm's short-run performance, potentially at the expense of its long-term growth prospects, exacerbating the agency conflict with the shareholders. On the other hand, as recent literature as shown (Jenter and Lewellen, 2015), short-termism can be beneficial if it diminishes the loss of CEO rents that prevents value-maximizing choices. We examine these hypotheses in a difference-in-differences framework to test whether this shift in the career horizon of a CEO leads to variations in a number of corporate policies, such as investments, financing, payout, earnings management, compensation, and M&A activity.

After documenting that the occurrence of a personal shock to a CEO does indeed shorten her tenure, we find evidence consistent with a reduction in career horizon. Specifically, we show that treated CEOs significantly reduce capital expenditures and R&D investments following the shock, and simultaneously increase the amount of cash distributed to shareholders in the form of both dividends and stock repurchases. Also, we document an

improvement in stock and operating performance in the immediate aftermath of these events. On the other hand, we do not find evidence of increasing opportunistic behaviors from the CEO nor a revision of the long-term growth prospects of the firm.

Overall, our findings document that an exogenous reduction in CEO career horizons from a personal shock leads to shifts towards more short-term strategies, with significant effects on a number of corporate policies as well as on firm performance. But these changes do not lead to opportunistic behaviors and do not harm shareholders, and are therefore more supportive of the positive view of short-term behavior in these circumstances.

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Table 1
Event Distribution

Distribution of personal shocks occurring to CEOs by type and year.

	Number of Events	%
Panel A. Distribution by Event type		
Disease	29	48.3
Death of relative	29	48.3
Disease of relative	2	3.3
Panel B. Distribution by Year		
1992	4	6.7
1993	1	1.7
1994	5	8.3
1995	3	5.0
1996	1	1.7
1997	2	3.3
1998	3	5.0
1999	2	3.3
2000	0	0.0
2001	1	1.7
2002	0	0.0
2003	5	8.3
2004	6	10.0
2005	0	0.0
2006	2	3.3
2007	2	3.3
2008	1	1.7
2009	1	1.7
2010	2	3.3
2011	2	3.3
2012	2	3.3
2013	3	5.0
2014	8	13.3
2015	4	6.7
Total	60	100.0

Table 2
Are CEO Events Predictable with Firm and CEO Characteristics?

OLS regression on the likelihood of a CEO being hit by a personal shock. The dependent variable equals one if a shock occurs to a CEO in a given year. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. See Appendix A2 for other variable definitions. All independent variables are lagged by one year. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	(1)	(2)
Ln(Total Assets)	-0.0001	-0.0003
	[0.0008]	[0.0008]
Cash holdings	-0.0002	0.0002
	[0.0016]	[0.0015]
Leverage	-0.0011	-0.0005
	[0.0012]	[0.0012]
ROA	0.0003	0.0003
	[0.0004]	[0.0003]
Tobin's Q	-0.0002	-0.0002
	[0.0004]	[0.0003]
Stock performance	-0.0005	-0.0004
	[0.0003]	[0.0003]
Stock return volatility	0.0126	0.0162
	[0.0093]	[0.0103]
Ln(CEO age)	0.0049*	0.0048
	[0.0029]	[0.0030]
Ln(CEO tenure)	0.0000	0.0000
	[0.0001]	[0.0001]
Ln(CEO compensation)	0.0005	0.0005
	[0.0006]	[0.0006]
Year FE	Yes	No
Year × Industry FE	No	Yes
Firm FE	Yes	Yes
Pseudo R-squared	0.0010	0.0298
Observations	36,780	36,780

Table 3
Exogenous Events and CEO Turnover

Model 1 is a Cox proportional hazard model with CEO turnover being the failure event. Model 2 is a probit regression on the likelihood of CEO turnover. Model 3 is an OLS regression with time left in office as dependent variable, defined as the difference between turnover year and the current year (capped at 5). CEO turnover equals one if there is a change in the CEO position in a given year. Event is a step dummy set to one starting from the year in which the CEO is hit by a personal shock to the turnover year. CEO gender equals one in case of female CEO. CEO retirement age equals one if the age of the CEO is between 63 and 66 years, zero otherwise. See Appendix A2 for other variable definitions. All independent variables are lagged by one year. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	(1) Turnover (Cox)	(2) Turnover (Probit)	(3) Time left in office (OLS)
Event	0.2731***	0.1478***	-0.4080***
	[0.0933]	[0.0498]	[0.1511]
CEO gender	-0.2142	-0.0106	0.258
	[0.1423]	[0.0663]	[0.1673]
CEO retirement age	0.8380***	0.5179***	-0.9041***
	[0.0455]	[0.0256]	[0.0532]
Ln(TA)	0.0988***	-0.0186***	-0.4134***
	[0.0123]	[0.0059]	[0.0167]
Leverage	-0.0903	0.0085	0.3373***
	[0.0912]	[0.0406]	[0.0542]
Sales growth	-0.9859***	-0.4711***	1.0759***
	[0.1601]	[0.0741]	[0.1184]
ROA	-0.3733***	-0.0897***	0.0682***
	[0.0474]	[0.0191]	[0.0113]
Stock return	-0.5150***	-0.0354	0.1241***
	[0.0954]	[0.0282]	[0.0253]
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
(Pseudo) R-squared	(0.0392)	(0.0281)	0.0624
Observations	36,780	36,780	36,780

Table 4
Descriptive Statistics

Event sample is composed of firms whose CEO is hit by a personal shock. Control sample is composed by one nearest neighbor for each event firm, obtained from the matching procedure. Variables are measured at the event year and are winsorized at the 1% level. See Appendix A2 for variable definitions. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively, of the t-test and Wilcoxon signed-rank tests of the difference between samples.

	Event sample		Control sample		Difference	
	mean	median	mean	median	mean	median
CEO age (years)	58.32	59.00	59.46	60.00	-1.15	-1.00
CEO tenure (years)	9.89	7.00	8.14	7.00	1.75	0.00
CEO compensation ($m)	9.45	5.05	10.75	6.06	-1.29	-1.01
Sales ($bn)	17.33	4.69	13.54	2.30	3.79	2.39
Total assets ($bn)	97.26	6.24	89.67	6.93	7.59	-0.68
Capital expenditure (%)	6.52	3.78	3.10	1.62	3.42***	2.16**
R&D expenses (%)	3.10	0.00	1.69	0.00	1.41**	0.00**
Net working capital (%)	13.81	10.95	9.72	6.61	4.08	4.34
Acquisitions (%)	2.57	0.00	1.34	0.00	1.23	0.00*
Asset sale (%)	9.58	1.70	13.42	2.07	-3.84	-0.37
Cash holdings (%)	16.55	10.67	8.42	3.52	8.13***	7.15***
Leverage (%)	23.21	18.51	31.81	23.66	-8.6*	-5.15*
Dividends (%)	1.97	0.87	1.66	1.09	0.30	-0.22
Stock repurchases (%)	2.42	0.48	1.76	0.29	0.66	0.19
ROA (%)	6.58	5.08	4.39	2.55	2.19*	2.53*
Tobin's Q	1.98	1.63	1.44	1.15	0.54**	0.48**
1y stock performance (%)	-2.75	5.50	-4.68	-1.62	1.93	7.12
Discretionary accruals (%)	2.66	2.45	2.46	1.76	0.19	0.69

Table 5
Investment Policies

The table reports difference-in-differences regressions where the dependent variables are the firm's investment policies. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	Capital Expenditure			R&D Expenses		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	-0.0184***	-0.0197***	-0.0182**	-0.0075***	-0.0075***	-0.0074***
	[0.0069]	[0.0068]	[0.0072]	[0.0025]	[0.0025]	[0.0027]
Treat	0.0298***		0.0302***	0.0211***		0.0236***
	[0.0099]		[0.0087]	[0.0081]		[0.0066]
Post	0.0078*	0.0093	0.0086	0.0029*	0.0043**	0.0042**
	[0.0046]	[0.0062]	[0.0065]	[0.0016]	[0.0017]	[0.0018]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1964	0.1345	0.4782	0.0636	0.0216	0.5313
Observations	616	616	616	616	616	616
	Net Working Capital			Acquisitions		
	(7)	(8)	(9)	(10)	(11)	(12)
Treat × Post	-0.0229*	-0.0226*	-0.0229*	-0.0135	-0.0114	-0.0115
	[0.0130]	[0.0130]	[0.0137]	[0.0109]	[0.0097]	[0.0103]
Treat	0.0261		0.029	0.0094		0.0063
	[0.0371]		[0.0288]	[0.0077]		[0.0067]
Post	0.0199*	0.0151	0.0153	0.0092	0.0074	0.0082
	[0.0114]	[0.0108]	[0.0115]	[0.0077]	[0.0114]	[0.0116]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1400	0.1208	0.5776	0.0494	0.0089	0.2262
Observations	616	616	616	616	616	616
	Asset Sales					
	(13)	(14)	(15)			
Treat × Post	-0.0244	-0.0251	-0.0248			
	[0.0311]	[0.0312]	[0.0330]			
Treat	-0.0087		-0.0009			
	[0.0383]		[0.0350]			
Post	0.0163	0.0171	0.0167			
	[0.0303]	[0.0308]	[0.0325]			
Firm FE	No	Yes	No			
Event FE	No	No	Yes			
Year FE	Yes	Yes	Yes			
R-squared	0.0340	0.0325	0.3776			
Observations	616	616	616			

Table 6
Financing and Payout Policies

The table reports difference-in-differences regressions where the dependent variables are the firm's financing and payout policies. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	Cash Holdings			Leverage		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	0.0203	0.0196	0.0209	-0.025	-0.0263	-0.0255
	[0.0127]	[0.0126]	[0.0134]	[0.0220]	[0.0218]	[0.0229]
Treat	0.0769**		0.0863***	-0.0689		-0.0785**
	[0.0300]		[0.0245]	[0.0464]		[0.0354]
Post	-0.0021	-0.0038	-0.0045	0.0101	0.0205	0.0205
	[0.0101]	[0.0132]	[0.0139]	[0.0189]	[0.0191]	[0.0201]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0562	0.0136	0.4591	0.0622	0.0268	0.4709
Observations	616	616	616	616	616	616
	Dividends			Stock Repurchase		
	(7)	(8)	(9)	(10)	(11)	(12)
Treat × Post	0.0042*	0.0038	0.0039	0.0187***	0.0180***	0.0200***
	[0.0024]	[0.0024]	[0.0025]	[0.0068]	[0.0068]	[0.0072]
Treat	0.0017		0.001	0.0073		0.0066
	[0.0041]		[0.0033]	[0.0063]		[0.0050]
Post	0	-0.0018	-0.0018	-0.0003	0.0076	0.0064
	[0.0012]	[0.0019]	[0.0020]	[0.0045]	[0.0061]	[0.0065]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0424	0.0008	0.4375	0.0998	0.0181	0.4014
Observations	616	616	616	616	616	616

	Total Payout		
	(13)	(14)	(15)
Treat × Post	0.0245***	0.0237***	0.0252***
	[0.0076]	[0.0076]	[0.0080]
Treat	0.0085		0.0083
	[0.0081]		[0.0064]
Post	0.0001	0.0064	0.0055
	[0.0051]	[0.0067]	[0.0070]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.0931	0.0352	0.4382
Observations	616	616	616

Table 7
Firm Performance

The table reports difference-in-differences regressions where the dependent variable are different measures of firm performance: ROA, Tobin's Q, and the 1-year stock performance. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	ROA			Tobin's Q		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	0.0105**	0.0096*	0.0109**	0.2152	0.2029	0.2296
	[0.0050]	[0.0050]	[0.0053]	[0.1794]	[0.1776]	[0.1858]
Treat	0.0235**		0.0244***	0.5873***		0.6207***
	[0.0110]		[0.0085]	[0.2092]		[0.1628]
Post	0.0010	0.0000	-0.0006	0.0414	-0.0046	-0.0166
	[0.0029]	[0.0037]	[0.0040]	[0.0892]	[0.0872]	[0.0913]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1104	0.0695	0.5068	0.1116	0.0074	0.5055
Observations	616	616	616	616	616	616

	Stock Performance		
	(7)	(8)	(15)
Treat × Post	0.1014*	0.1359**	0.1189**
	[0.0612]	[0.0602]	[0.0599]
Treat	0.0144		0.0132
	[0.0397]		[0.0345]
Post	0.0303	-0.0212	-0.0217
	[0.0487]	[0.0664]	[0.0691]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.3544	0.2503	0.4279
Observations	616	616	616

Table 8
Earnings Management

The table reports difference-in-differences regressions where the dependent variable is discretionary accruals. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	(1)	(2)	(3)
Treat × Post	0.0070	0.0071	0.0082
	[0.0051]	[0.0052]	[0.0056]
Treat	0.0021		-0.001
	[0.0042]		[0.0038]
Post	0.0015	0.0048	0.0035
	[0.0038]	[0.0052]	[0.0058]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.0792	0.0615	0.3651
Observations	404	404	404

Table 9
CEO Compensation

The table reports difference-in-differences regressions where the dependent variables are the log of total CEO compensation and the equity-based fraction of CEO compensation. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	Log of Total Compensation			Equity Fraction		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	-0.5665	-0.4746	-0.5462	-0.0588	-0.0573	-0.0555
	[0.4748]	[0.4201]	[0.4797]	[0.0380]	[0.0375]	[0.0400]
Treat	-0.0405		-0.0924	0.0606		0.0666*
	[0.2067]		[0.2092]	[0.0383]		[0.0343]
Post	0.0274	-0.0911	-0.0133	0.0071	0.0047	0.0029
	[0.1326]	[0.1559]	[0.1710]	[0.0326]	[0.0365]	[0.0386]
Ln(Total Assets)	0.1647***	-0.2656	-0.2156	0.0307***	0.0144	0.023
	[0.0631]	[0.4751]	[0.4048]	[0.0088]	[0.0686]	[0.0611]
Ln(CEO age)	-0.165	0.3027	-0.3838	-0.2202*	-0.5096*	-0.2988*
	[0.6866]	[1.5460]	[0.9186]	[0.1201]	[0.2584]	[0.1544]
Ln(CEO tenure)	-0.0948	-0.0538	-0.0818	0.0076	0.0427	0.0089
	[0.1022]	[0.2358]	[0.1401]	[0.0207]	[0.0352]	[0.0245]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1981	0.0193	0.3948	0.2358	0.1741	0.4265
Observations	616	616	616	616	616	616

Table 10
Likelihood of Being Acquired

Cross-sectional probit regressions of the likelihood of being targeted within two and three years following a CEO shock. The dependent variable equals one if the firm is acquired within two and three years. Treat equals one for firms in the treatment group. See Appendix A2 for variable definitions. Robust standard errors are reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	(1) Targeted over the Next 2 Years	(2) Targeted over the Next 3 Years
Treat	-0.5098	-0.5153
	[0.4775]	[0.4008]
Ln(Total Assets)	0.0801	-0.0319
	[0.0651]	[0.0754]
Stock return	-1.3485***	-0.9163***
	[0.5095]	[0.3341]
Pseudo R-squared	0.1125	0.1168
Observations	120	120

Table 11
Analysts' Long Term EPS Growth Forecasts

The table reports difference-in-differences regressions where the dependent variables are the number of downward forecast revisions on long term EPS growth rate, and the forecasted long term EPS growth rate from IBES. Number of downward revisions is calculated as the number of downward forecast revisions of long term EPS, scaled by the number of forecasts (numdown/numest). Long term growth rate is the average forecast of the long term growth rate in earnings (meanest). In case of multiple forecasts released in the same calendar year for the same firm, we compute the annual average. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	Number of downward revisions			Long Term Growth Forecast		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	-0.0092	-0.0057	-0.0060	-0.3192	-0.3071	-0.2909
	[0.0127]	[0.0110]	[0.0126]	[0.6489]	[0.6526]	[0.6783]
Treat	0.0079		0.0092	3.3720***		3.3250***
	[0.0124]		[0.0116]	[1.0592]		[0.6919]
Post	-0.0012	-0.0097	-0.0151	-0.2886	0.8217	0.8378
	[0.0071]	[0.0196]	[0.0219]	[0.5151]	[0.5844]	[0.6074]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.2577	0.2505	0.3628	0.1407	0.0612	0.6179
Observations	616	616	616	616	616	616

Table 12
Controlling for the Level of Expected Remaining Tenure – Investment Policies

The table reports difference-in-differences regressions where the dependent variables are the firm's investment policies (CAPEX in Panel A, R&D in Panel B, and Net Working Capital in Panel C). Estimates are obtained by splitting the sample into two groups, based on firms whose CEOs have an above- and below-median value of expected remaining tenure at the time they are hit by the shock. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	Above-Median Expected Remaining Tenure			Below-Median Expected Remaining Tenure		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. CAPEX						
Treat × Post	-0.0129**	-0.0143**	-0.0136*	-0.0235*	-0.0257**	-0.0235*
	[0.0066]	[0.0067]	[0.0071]	[0.0124]	[0.0121]	[0.0128]
Treat	0.0224**		0.0221**	0.0387**		0.0380***
	[0.0105]		[0.0099]	[0.0169]		[0.0147]
Post	0.0102*	0.0067	0.0064	0.0118	0.0139	0.0131
	[0.0054]	[0.0061]	[0.0064]	[0.0078]	[0.0114]	[0.0120]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.2471	0.0151	0.4852	0.1838	0.0983	0.4797
Observations	308	308	308	308	308	308
Panel B. R&D						
Treat × Post	-0.0073***	-0.0074***	-0.0073***	-0.0074*	-0.0074*	-0.0073
	[0.0025]	[0.0025]	[0.0026]	[0.0044]	[0.0043]	[0.0045]
Treat	0.0397***		0.0444***	0.0036		0.0038
	[0.0122]		[0.0098]	[0.0103]		[0.0086]
Post	0.0045**	0.0047***	0.0046***	0.0024	0.0045	0.0045
	[0.0018]	[0.0017]	[0.0018]	[0.0029]	[0.0032]	[0.0033]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.2177	0.0554	0.6712	0.0469	0.0320	0.4418
Observations	308	308	308	308	308	308
Panel C. Net Working Capital						
Treat × Post	-0.0399**	-0.0397**	-0.0405**	-0.0072	-0.0077	-0.0073
	[0.0191]	[0.0193]	[0.0204]	[0.0174]	[0.0173]	[0.0184]
Treat	0.059		0.0588	-0.0036		0.0003
	[0.0518]		[0.0384]	[0.0562]		[0.0441]
Post	0.0465**	0.0446**	0.0450**	0.0022	-0.006	-0.0061
	[0.0185]	[0.0175]	[0.0185]	[0.0142]	[0.0130]	[0.0138]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1001	0.0066	0.58	0.1213	0.1024	0.5789
Observations	308	308	308	308	308	308

Table 13
Controlling for the Level of Expected Remaining Tenure – Payout Policies

The table reports difference-in-differences regressions where the dependent variables are the firm's payout policies (Dividends in Panel A, Stock Repurchase in Panel B, and Total Payout in Panel C). Estimates are obtained by splitting the sample into two groups, based on firms whose CEOs have an above- and below-median value of expected remaining tenure at the time they are hit by the shock. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm and reported within brackets below the corresponding coefficient estimate. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	Above-Median Expected Remaining Tenure			Below-Median Expected Remaining Tenure		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Dividends						
Treat × Post	0.0025	0.0025	0.0025	0.0062	0.0058	0.0059
	[0.0026]	[0.0027]	[0.0028]	[0.0041]	[0.0040]	[0.0042]
Treat	0.002		0.0004	0.0019		0.0015
	[0.0057]		[0.0042]	[0.0059]		[0.0053]
Post	0.001	0.0014	0.0014	0.0008	-0.0048*	-0.0048*
	[0.0016]	[0.0032]	[0.0034]	[0.0019]	[0.0026]	[0.0027]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0693	0.0442	0.5601	0.0872	0.0012	0.3662
Observations	308	308	308	308	308	308
Panel B. Stock Repurchase						
Treat × Post	0.0227**	0.0206*	0.0237**	0.0136	0.0162*	0.0157*
	[0.0100]	[0.0104]	[0.0109]	[0.0083]	[0.0083]	[0.0085]
Treat	0.0278***		0.0300***	-0.0141**		-0.0185***
	[0.0105]		[0.0074]	[0.0059]		[0.0053]
Post	0.0036	0.015	0.0131	-0.004	0.0048	0.007
	[0.0056]	[0.0112]	[0.0118]	[0.0072]	[0.0081]	[0.0086]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.2093	0.0618	0.5183	0.1584	0.0033	0.3486
Observations	308	308	308	308	308	308
Panel C. Total Payout						
Treat × Post	0.0262**	0.0253**	0.0275**	0.0227**	0.0233**	0.0238**
	[0.0104]	[0.0109]	[0.0114]	[0.0109]	[0.0107]	[0.0113]
Treat	0.0296**		0.0316***	-0.0125		-0.0152*
	[0.0134]		[0.0088]	[0.0091]		[0.0084]
Post	0.006	0.0173	0.0163	-0.0025	0.0000	-0.0001
	[0.0060]	[0.0122]	[0.0129]	[0.0080]	[0.0082]	[0.0086]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.174	0.0451	0.5677	0.1131	0.0429	0.3267
Observations	308	308	308	308	308	308

Table 14
Controlling for the Level of Expected Remaining Tenure – Firm Performance

The table reports difference-in-differences regressions where the dependent variables are firm performance (ROA in Panel A, Tobin's Q in Panel B, and Stock Performance in Panel C). Estimates are obtained by splitting the sample into two groups, based on firms whose CEOs have an above- and below-median value of expected remaining tenure at the time they are hit by the shock. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

	Above-Median Expected Remaining Tenure			Below-Median Expected Remaining Tenure		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. ROA						
Treat × Post	0.0145**	0.0134**	0.0144**	0.0064	0.0055	0.0072
	[0.0057]	[0.0056]	[0.0059]	[0.0083]	[0.0081]	[0.0086]
Treat	0.0386**		0.0440***	0.008		0.0047
	[0.0152]		[0.0111]	[0.0158]		[0.0126]
Post	0.0018	-0.0025	-0.0029	-0.0004	0.0024	0.0017
	[0.0041]	[0.0053]	[0.0057]	[0.0050]	[0.0060]	[0.0064]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.2169	0.0588	0.6467	0.0683	0.0285	0.4358
Observations	308	308	308	308	308	308
Panel B. Tobin's Q						
Treat × Post	0.3947*	0.3611*	0.4043*	0.0785	0.0825	0.0914
	[0.2106]	[0.2070]	[0.2169]	[0.3134]	[0.3067]	[0.3239]
Treat	0.6021**		0.7334***	0.5246*		0.4842**
	[0.3024]		[0.2380]	[0.3052]		[0.2277]
Post	-0.1086	-0.1363	-0.1504	0.0731	0.0876	0.0807
	[0.1066]	[0.1186]	[0.1246]	[0.1291]	[0.1576]	[0.1661]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.2098	0.1373	0.6018	0.0518	0.0006	0.4541
Observations	308	308	308	308	308	308
Panel C. Stock Performance						
Treat × Post	0.0933	0.1447	0.1064	0.1136	0.1252	0.1275
	[0.0934]	[0.0881]	[0.0884]	[0.0836]	[0.0900]	[0.0894]
Treat	0.0309		0.0412	-0.0113		-0.0128
	[0.0450]		[0.0391]	[0.0666]		[0.0582]
Post	0.0388	-0.0524	-0.0277	-0.0268	0.0126	-0.0075
	[0.0739]	[0.1025]	[0.1066]	[0.0643]	[0.1005]	[0.1053]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.4149	0.1725	0.4863	0.36	0.3408	0.4222
Observations	308	308	308	308	308	308

Table 15
Alternative Matching Approach: 1-to-3 matching

The table reports difference-in-differences regressions where the dependent variables are the firm's investment policy (Panel A), financing and payout policies (Panel B), and performance (Panel C) with 3 control firms for each treated firm. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Investment Policy

	Capital Expenditure			R&D Expenses		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	-0.0145**	-0.0153**	-0.0144**	-0.0054**	-0.0055**	-0.0054**
	[0.0061]	[0.0060]	[0.0062]	[0.0024]	[0.0024]	[0.0024]
Treat	0.0236**		0.0243***	0.0200***		0.0214***
	[0.0092]		[0.0082]	[0.0075]		[0.0068]
Post	0.0034	0.0043	0.0041	0.0005	0.0018	0.0018
	[0.0025]	[0.0033]	[0.0034]	[0.0012]	[0.0012]	[0.0013]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1170	0.0868	0.2886	0.0448	0.0090	0.2795
Observations	1,181	1,181	1,181	1,181	1,181	1,181
	Net Working Capital			Acquisitions		
	(7)	(8)	(9)	(10)	(11)	(12)
Treat × Post	-0.0094	-0.0090	-0.0096	-0.0076	-0.0072	-0.0076
	[0.0085]	[0.0086]	[0.0088]	[0.0089]	[0.0081]	[0.0088]
Treat	0.0011		0.0026	0.0078		0.0075
	[0.0277]		[0.0249]	[0.0068]		[0.0062]
Post	0.0025	-0.0015	-0.0014	0.0016	0.0053	0.0049
	[0.0070]	[0.0064]	[0.0065]	[0.0045]	[0.0062]	[0.0064]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1090	0.1066	0.3935	0.0338	0.0233	0.1125
Observations	1,181	1,181	1,181	1,181	1,181	1,181

	Asset Sales		
	(13)	(14)	(15)
Treat*Post	-0.0078	-0.008	-0.0081
	[0.0181]	[0.0181]	[0.0186]
Treat	0.0131		0.0187
	[0.0279]		[0.0280]
Post	-0.0068	-0.001	-0.0011
	[0.0131]	[0.0131]	[0.0135]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.0131	0.0025	0.1651
Observations	1,181	1,181	1,181

Panel B: Financing and Payout Policies

	Cash Holdings			Leverage		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat*Post	0.0233**	0.0217**	0.0234**	-0.0177	-0.0182	-0.0175
	[0.0110]	[0.0108]	[0.0112]	[0.0173]	[0.0171]	[0.0176]
Treat	0.0648***		0.0677***	-0.0535		-0.0527*
	[0.0248]		[0.0209]	[0.0340]		[0.0312]
Post	-0.0088	-0.0065	-0.0072	-0.0041	0.007	0.0067
	[0.0063]	[0.0074]	[0.0076]	[0.0108]	[0.0115]	[0.0118]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0460	0.0151	0.3346	0.0293	0.0071	0.2278
Observations	1,181	1,181	1,181	1,181	1,181	1,181
	Dividends			Stock Repurchase		
	(7)	(8)	(9)	(10)	(11)	(12)
Treat*Post	0.0038	0.0037	0.0038	0.0206***	0.0199***	0.0208***
	[0.0024]	[0.0024]	[0.0024]	[0.0061]	[0.0061]	[0.0062]
Treat	0.0012		0.0012	0.0059		0.006
	[0.0035]		[0.0031]	[0.0056]		[0.0048]
Post	-0.0001	-0.0009	-0.0009	-0.0019	0.0009	0.0005
	[0.0008]	[0.0011]	[0.0011]	[0.0028]	[0.0039]	[0.0040]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0204	0.0062	0.2069	0.0819	0.0452	0.2341
Observations	1,181	1,181	1,181	1,181	1,181	1,181

	Total Payout		
	(13)	(14)	(15)
Treat*Post	0.0264***	0.0258***	0.0264***
	[0.0068]	[0.0068]	[0.0070]
Treat	0.0062		0.0064
	[0.0072]		[0.0062]
Post	-0.0023	0.0002	0.0000
	[0.0032]	[0.0042]	[0.0043]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.0730	0.0507	0.2360
Observations	1,181	1,181	1,181

Panel C: Firm Performance

	ROA			Tobin's Q		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	0.0102**	0.0097**	0.0102**	0.2307	0.2193	0.234
	[0.0048]	[0.0048]	[0.0049]	[0.1717]	[0.1714]	[0.1741]
Treat	0.0268***		0.0263***	0.5032***		0.5262***
	[0.0090]		[0.0085]	[0.1821]		[0.1558]
Post	0.0007	0.0000	-0.0002	-0.0036	0.0469	0.0389
	[0.0014]	[0.0018]	[0.0019]	[0.0624]	[0.0562]	[0.0571]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0867	0.0439	0.2582	0.097	0.0465	0.316
Observations	1,181	1,181	1,181	1,181	1,181	1,181

	Stock Performance		
	(7)	(8)	(15)
Treat × Post	0.1003**	0.1194**	0.1042**
	[0.0470]	[0.0502]	[0.0477]
Treat	0.0252		0.0294
	[0.0259]		[0.0232]
Post	0.011	0.0212	0.0126
	[0.0258]	[0.0363]	[0.0369]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.3902	0.3718	0.4279
Observations	1,181	1,181	1,181

Table 16
Alternative Matching Approach: Matching at the End of the Year Before the Event

The table reports difference-in-differences regressions where the dependent variables are the firm's investment policy (Panel A), financing and payout policies (Panel B), and performance (Panel C) with 1 control firms for each treated firm. The matching is performed at the end of the year before the event. For each event, the observations are centered around the CEO shock. We include up to 3 years before and after the event year, subject to CEO turnover and data availability. Treat equals one for firms in the treatment group, regardless of time. Post equals one in the years following the shock, regardless of treatment. See Appendix A2 for variable definitions. Standard errors are clustered by firm. ***, **, and * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Investment Policy

	Capital Expenditure			R&D Expenses		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	-0.0119**	-0.0113**	-0.0118**	-0.0061***	-0.0058***	-0.0060***
	[0.0057]	[0.0056]	[0.0056]	[0.0022]	[0.0022]	[0.0023]
Treat	0.0064		0.0039	0.0240***		0.0236***
	[0.0110]		[0.0092]	[0.0085]		[0.0061]
Post	0.0048	0.0045	0.0013	0.0022	0.002	0.0040**
	[0.0050]	[0.0049]	[0.0060]	[0.0016]	[0.0016]	[0.0019]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0991	0.0973	0.5575	0.0522	0.0079	0.6084
Observations	601	601	601	601	601	601
	Net Working Capital			Acquisitions		
	(7)	(8)	(9)	(10)	(11)	(12)
Treat × Post	0.0056	0.0068	0.0053	-0.0039	0.0008	-0.0086
	[0.0099]	[0.0098]	[0.0104]	[0.0121]	[0.0103]	[0.0115]
Treat	0.0706**		0.0633**	0.0064		0.0088
	[0.0355]		[0.0265]	[0.0077]		[0.0066]
Post	-0.0075	-0.008	-0.0087	0.0006	-0.002	-0.0054
	[0.0094]	[0.0093]	[0.0102]	[0.0107]	[0.0108]	[0.0085]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1475	0.1015	0.6093	0.0469	0.0454	0.2553
Observations	601	601	601	601	601	601

	Asset Sales		
	(13)	(14)	(15)
Treat*Post	-0.016	-0.0144	-0.0146
	[0.0162]	[0.0155]	[0.0167]
Treat	0.0238		0.0386*
	[0.0300]		[0.0218]
Post	0.0069	0.0061	0.0128
	[0.0129]	[0.0124]	[0.0145]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.0213	0.0157	0.5161
Observations	601	601	601

Panel B: Financing and Payout Policies

	Cash Holdings			Leverage		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat*Post	0.0190*	0.0208*	0.0192*	-0.0133	-0.0162	-0.0125
	[0.0109]	[0.0111]	[0.0113]	[0.0211]	[0.0205]	[0.0223]
Treat	0.0452		0.0460*	-0.0406		-0.0405
	[0.0334]		[0.0259]	[0.0407]		[0.0311]
Post	0.0023	0.0015	0.003	-0.002	-0.0006	0.0156
	[0.0084]	[0.0084]	[0.0133]	[0.0174]	[0.0173]	[0.0168]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0271	0.0129	0.4195	0.0262	0.0229	0.5039
Observations	601	601	601	601	601	601
	Dividends			Stock Repurchase		
	(7)	(8)	(9)	(10)	(11)	(12)
Treat*Post	0.0054**	0.0057**	0.0053*	0.0173**	0.0198***	0.0172**
	[0.0027]	[0.0026]	[0.0028]	[0.0069]	[0.0072]	[0.0074]
Treat	0.0025		0.0033	0.0085		0.0111**
	[0.0046]		[0.0037]	[0.0062]		[0.0055]
Post	-0.0007	-0.0008	-0.0027	0.0055	0.0041	0.0098*
	[0.0015]	[0.0014]	[0.0026]	[0.0038]	[0.0037]	[0.0057]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.0999	0.0999	0.4549	0.099	0.0923	0.4006
Observations	601	601	601	601	601	601

	Total Payout		
	(13)	(14)	(15)
Treat*Post	0.0245***	0.0269***	0.0245***
	[0.0073]	[0.0076]	[0.0079]
Treat	0.0104		0.0133*
	[0.0081]		[0.0069]
Post	0.0049	0.0037	0.007
	[0.0042]	[0.0043]	[0.0065]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.1061	0.0991	0.4341
Observations	601	601	601

Panel C: Firm Performance

	ROA			Tobin's Q		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat × Post	0.0114**	0.0159***	0.0107**	0.2878*	0.3710**	0.264
	[0.0051]	[0.0050]	[0.0052]	[0.1672]	[0.1624]	[0.1655]
Treat	0.0368***		0.0372***	0.5577***		0.5733***
	[0.0100]		[0.0070]	[0.2007]		[0.1627]
Post	-0.0003	-0.0026	-0.0007	0.0189	-0.0244	-0.0429
	[0.0031]	[0.0032]	[0.0040]	[0.0724]	[0.0741]	[0.0778]
Firm FE	No	Yes	No	No	Yes	No
Event FE	No	No	Yes	No	No	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.1877	0.1075	0.5788	0.1406	0.0877	0.4455
Observations	601	601	601	601	601	601

	Stock Performance		
	(7)	(8)	(15)
Treat × Post	0.1260**	0.1616***	0.1227**
	[0.0546]	[0.0456]	[0.0579]
Treat	0.0357		0.0341
	[0.0314]		[0.0292]
Post	-0.0144	-0.0337	0.0367
	[0.0419]	[0.0395]	[0.0562]
Firm FE	No	Yes	No
Event FE	No	No	Yes
Year FE	Yes	Yes	Yes
R-squared	0.4058	0.4048	0.4606
Observations	601	601	601

Appendix

Table A1. Search strategy

For each CEO included in the Execucomp database during the period 1992-2015, we searched the following combinations of keywords through a web scraping algorithm.

Search no.	Keyword 1	Keyword 2	Keyword 3	Keyword 4
1	CEO first name	CEO last name	Company name	(none)
2	CEO first name	CEO last name	Company name	Disease
3	CEO first name	CEO last name	Company name	Illness
4	CEO first name	CEO last name	Company name	Cancer
5	CEO first name	CEO last name	Company name	Tumor
6	CEO first name	CEO last name	Company name	Disorder
7	CEO first name	CEO last name	Company name	Condition
8	CEO first name	CEO last name	Company name	Syndrome
9	CEO first name	CEO last name	Company name	Diagnosed
10	CEO first name	CEO last name	Company name	Death
11	CEO first name	CEO last name	Company name	Kidnap
12	CEO first name	CEO last name	Company name	Accident

Table A2. Variable definitions

Variable	Definition	Source
Firm size		
Sales growth	[Sales(t)-sales(t-1)] / sales(t-1)	Compustat
Total assets	Total assets(t)	Compustat
Investment policy		
Capital expenditures	Capital expenditures(t) / total assets(t-1)	Compustat
R&D expenses	R&D expense(t) / total assets(t-1)	Compustat
Net working capital	[Inventories(t) + receivables(t) - accounts payable(t)] / total assets(t-1)	Compustat
Acquisitions	Acquisition expenses (t) / total assets(t-1)	Compustat
Asset sale	Sale of investments(t) / total assets(t-1)	Compustat
Financing and payout policies		
Cash holdings	Cash and short-term investments(t) / total assets(t-1)	Compustat
Leverage	[Debt in current liabilities(t) + long-term debt(t)] / total assets(t-1)	Compustat
Dividends	Cash dividends(t) / total assets(t-1)	Compustat
Stock repurchases	Purchase of Common and Preferred Stock(t) / total assets(t-1)	Compustat
Total payout	[Cash dividends(t) + Purchase of Common and Preferred Stock(t)] / total assets(t-1)	Compustat
Performance		
ROA	Net income(t) / total assets(t-1)	Compustat
Tobin's Q	[Total assets(t) - common equity(t) + market capitalization(t)] / total assets (t)	Compustat-CRSP
Stock performance	1-year size and book-to-market adjusted return using 25 (5x5) matching portfolios	CRSP
Stock return volatility	Annual volatility of the firm’s monthly stock returns	CRSP
Earnings management		
Discretionary accruals	Absolute value of the difference between a firm's actual accruals and its predicted accruals from the modified Dechow and Dichev (2002) model augmented with firm fixed effects as in Lee and Masulis (2009), scaled by total assets.	Compustat
CEO characteristics		
Age	Age of the CEO	Execucomp
Tenure	Number of years the CEO has been serving as the firm's CEO	Execucomp
Total Compensation	Total direct compensation	Execucomp
Equity-based fraction of compensation	Total direct compensation minus salary, bonus, non-equity incentive plan, and long-term incentive plan, scaled by total compensation	Execucomp