Does Job Security Concern Acquiring Managers?*

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Abstract

The threat of forced turnover discourages CEOs from engaging in misbehaviors up front. Using the CEO dismissal hazard as the measure of the job (in)security, we find that CEOs with higher dismissal risk pursue fewer acquisitions; especially these CEOs chase value-destroying deals less frequently. The announcement return is higher when the acquiring CEOs are more disciplined by the threat of CEO dismissal and this superior performance can be partly explained by more effort exerted by these CEOs to achieve a better share of acquisition value split. Our findings suggest that the threat of forced turnover is an effective internal mechanism of corporate governance.

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1 Introduction

Dismissal is the fiercest penalty for CEOs. The ousted CEOs not only lose large amount of salary, bonus, and other types of compensation from the current position, they also suffer the reputation damage that has enduring and adverse effect on their future opportunities in the job market (Brickley, Linck, and Coles, 1999; Dahiya and Yermack, 2008). These both result in enormous loss to the lifetime wealth of the dismissed CEOs.[1] However, as a disciplinary mechanism, the primary function of forced CEO turnover is not the ex-post punishment but the deterrence effect that discourages the CEOs from engaging in misbehaviors ex ante. To our knowledge, little has been documented about the effectiveness of the preventive function of the threat of CEO turnover. In this paper, we explore the acquisition decisions of corporate managers facing different dismissal risk and examine whether the dismissal threat has impact on their choices. We find that CEOs with less job security engage in fewer acquisition activities, especially value-destroying deals. We also find that all else equal the acquisition deals launched by CEOs whose jobs are less secure experience higher abnormal returns. Our findings suggest that the ex-ante disciplinary effect of CEO dismissal is working, at least in the context of acquisition activities.

We choose the mergers and acquisitions (M&A) to study this topic because given the size and complexity, M&As are among the most important decisions made by the corporate managers and such decisions can cause tremendous wealth impact to the shareholders, especially when they go wrong. Moeller, Schlingemann, and Stulz (2004) show that during the period from 1980 to 2001, acquiring shareholders lose 303 billion (2001 constant) dollars that amounts to the average loss of 25.2 million per acquisition upon announcement of the deals. Therefore, acquisition decisions need to be put under particular scrutiny. Moreover, since the M&A decisions are so important, if the deterrence effect of dismissal threat is effective, the CEOs must take it into account when they weigh their choices. In particular, a CEO with less job security tends to be more cautious about acquisition activities. First, the concern for the dismissal risk restrains the managers' motives of empire building or seeking of private benefits through acquisitions.[2] Second, CEOs

[1] Based on the rough estimation by Jensen and Murphy (1990), such loss could be as high as dozens of million dollars for a CEO who is fired. The estimate may be even higher using the more recent data on CEO compensation.

[2] See, e.g., Morck, Shleifer, and Vishny (1990) and Shleifer and Vishny (1989) for the discussion of such motives of acquiring managers.

facing higher dismissal risk might become more risk averse, especially for the decisions that have greater impact on the shareholders' value. Therefore, we expect that the threat of forced turnover leads CEOs to engage in fewer acquisition activities.

We measure the job (in)security of a CEO using the estimated hazard of dismissal. Specifically, we use firm and industry performance, CEO characteristics, as well as measures of the internal corporate governance mechanisms such as board independence, board size, CEO-chairperson duality, and CEO ownership to explain the duration and termination of a CEO's career path in a firm. The estimated hazard represents the likelihood of CEO dismissal in the next year given the continuation of the CEO's job to the present. Controlling for performance, the variation of the dismissal hazard can be explained at large by the internal corporate governance mechanisms. Therefore, the CEO dismissal hazard to some extent may be viewed as a comprehensive measure of the internal corporate governance through the threat of forced turnover.

We relate the CEO dismissal hazard to the number of acquisitions engaged by the firms in the subsequent year. Consistent with our hypothesis, we find strong and negative association between the CEO dismissal hazard and the subsequent acquisition activities. This relation is robust with controls of firm characteristics including prior operating performance, CEO tenure, and external corporate governance, and it is robust in ordered logistic regression and logit regression.

The ultimate purpose of all corporate governance mechanisms is to align the managerial incentives to their shareholders'. If the threat of forced CEO turnover works up front, CEOs facing stricter discipline by the dismissal risk care more about their shareholders' welfare. Therefore, when they make acquisition related decisions, they tend to avoid the deals that have adverse wealth impact on their shareholders because doing so may deteriorate their job security. The result is that the acquisition deal picking decisions lean towards the interest of the shareholders. We define the value impact of an acquisition using its abnormal announcement return. A good (bad) acquisition deal has an abnormal announcement return in the top (bottom) quartile among the sample. Consistent with this perception, we find that CEOs with less job security pursue bad acquisitions less frequently. This relation is not affected by different controls, the regression methods, or whether it is conditional on firms making acquisitions.

On the deal level, the stock market may have different valuation for acquisitions launched

by firms whose CEOs face different level of discipline through the threat of forced turnover. To the extent that the CEO dismissal hazard mitigates the agency conflict so that CEOs act more in the interest of their shareholders, we expect that all else equal the stock market reaction is more positive to the announcements of acquisitions launched by CEOs facing higher dismissal hazard. Using both cumulative abnormal return and abnormal dollar return around the announcements of acquisitions, we confirm the positive association between the CEO dismissal hazard and the acquisition performance.

The superior acquisition performance experienced by the CEOs with higher dismissal hazard may be understood by the revaluation triggered by the acquisition events. Since our findings show that the CEOs with less job security are cautious in action and their incentives are more aligned with the shareholders, the market may increase the valuation of the firms managed by these CEOs once they come to the attention of the market. It can also be attributed to these CEOs chasing targets with higher synergy or exerting more effort in the acquisition process to achieve a better share in the acquisition value split. Though directly testing the revaluation explanation is difficult, we use the combined abnormal return and relative value split measure of Ahern (2012) to show that the last effect (more effort) may partly explain the superior acquisition performance.

To have clear identification, it requires that the predictors of the CEO dismissal hazard be orthogonal to the variables of interest in the main regressions after controlling for other relevant characteristics. We address the simultaneity issue of performance by controlling for firms' operating performance in the main regressions. The internal corporate governance measures used in the estimation of the CEO dismissal hazard are less likely to be determined by the subsequent acquisition activities. To further alleviate the potential endogeneity concerns, we propose three additional identification variables in the CEO dismissal hazard estimation: the financial restatement events, forced CEO turnovers in other firms of the same industry, and the industry stock return volatility. We show that all these three variables are strongly and positively associated with forced CEO turnovers, but they are arguably less likely to be related to the subsequent acquisition decisions. Using the CEO dismissal hazard estimated based on the additional identification variables, we still find that CEOs facing higher dismissal hazard tend to engage in fewer acquisitions, pursue fewer bad acquisition deals, and the acquisitions launched by those CEOs

experience better acquisition performance.

We explore the possibility that the effect of CEO dismissal risk might be nonlinear in the sense that the CEOs with extremely high risk of being dismissed may behave like gamblers. If this is true, the disciplinary effect of the CEO dismissal threat might be overwhelmed by the opportunistic motive so that these CEOs want to pursue more acquisitions, and even more bad deals as long as doing so brings them substantial benefits. We test this hypothesis by introducing an interaction term between the CEO dismissal hazard and the dummy indicating that the CEO is within the top decile of the dismissal hazard. We continue to find the negative association of CEO dismissal hazard with the subsequent number of acquisitions and with the frequency of bad deals. However, we also find positive and statistically significant effect of the interaction term in the analysis of the frequency of bad acquisitions. This suggests that there is indeed opportunistic behavior when the dismissal risk is extremely high.

Finally, we test whether the acquiring CEOs with different dismissal hazard have different preferences over the methods of payment in acquisitions, that is, whether an acquiring CEO with higher dismissal risk likes to use more cash to avoid additional scrutiny since equity issuance needs the approval of the shareholders. We do not find strong evidence for this hypothesis.

Our paper is closely related to Lehn and Zhao (2006) who show acquiring CEOs with poor acquisition performance are more likely to be fired. While they focus on the *ex-post* discipline of the forced CEO turnover, we emphasize the *ex-ante* deterrence for wrongdoings. Zhao (2013) uses CEO employment contract information and finds that CEOs with contracts make better acquisitions, for which she argues that job security alleviates managerial risk aversion and encourages value-enhancing decisions. Our study on the contrary provides the supporting evidence for the discipline explanation. That is, the threat of forced CEO turnover serves as a corporate governance mechanism that mitigates the agency conflict between the managers and the shareholders.

Our paper adds to the discussion of corporate governance and mergers and acquisitions. Masulis, Wang, and Xie (2007) show that acquirers experience significantly higher abnormal return when they have better external corporate governance such as fewer antitakeover provisions[3]

[3] Relevant research includes but not limit to Bebchuk, Cohen, and Ferrell (2009), Bebchuk and Cohen (2005), Cremers and Nair (2005), and Gompers, Ishii, and Metrick (2003), etc.

or facing more product market competition.[4] Our paper focuses on the internal control and shows that the threat of CEO dismissal can serve as a comprehensive and effective governance mechanism that induces better acquisition outcomes.

This paper belongs to the large literature on CEO turnover.[5] We are among the early study that looks at the effect of CEO job security on corporate decisions as well as the consequences from the ex-ante perspective. Several other relevant papers include Cziraki and Xu (2014) who study the effects of CEO job security on risk-taking and return volatility, and Walker and Zhao (2014) who study how heterogeneous CEO employment contracts determine acquisition choices.

The remainder of this paper is organized as follows. We describe the data sources and our sample in Section 2. Then we test the hypotheses and present the empirical results and analysis in Section 3. Finally, Section 4 concludes the paper.

2 Sample Description

2.1 Forced CEO Turnover

Our sample of forced CEO turnover is based on all firms in the ExecuComp database from 1993 to 2011. For each CEO turnover recorded in the ExecuComp database, we search on Google and Factiva and classify whether the executive is forced out following the classification method of Parrino (1997). The reasons for forced turnover include policy differences with the board, forced out or fired, and resignation due to bad performance or fraud. The departure is classified as voluntary when the CEO leaves due to health reasons or death. For the cases where the CEO leaves the firm but there is no pre-announcement at least six months before the departure, we classify them as forced turnovers unless the CEO keeps the title of Chairman of the board or takes executive position in another company. Following the prior literature we exclude the cases when the turnover is due to acquisition by another firm or due to firm bankruptcy.

[4] The study of the governance effect of the product market competition includes Ammann, Oesch, and Schmid (2013), Chou et al. (2011), Giroud and Mueller (2010) and Giroud and Mueller (2011), etc.

[5] Examples include but not limit to Coughlan and Schmidt (1985), Huson, Malatesta, and Parrino (2004), Huson, Parrino, and Starks (2001), Jenter and Kanaan (2014), Jenter and Lewellen (2014), Kaplan and Minton (2012), Kim (1996), Lehn and Zhao (2006), Murphy and Zimmerman (1993), Parrino (1997), Parrino, Sias, and Starks (2003), Peters and Wagner (2014), Taylor (2010), Weisbach (1988), and Weisbach (1995), etc.

2.2 Other Data Sources

We obtain other CEO characteristics from ExecuComp, including CEO age, tenure, ownership in the firm, and whether the CEO also carries the title of the chairperson of the board. Internal governance measures, including board size and board independence, are constructed based on the data from ISS (former RiskMetrics).

We merge the ExecuComp firms with Compustat to obtain the financial data, such as the total assets (size), book-to-market ratio (btm), book leverage (leverage) and the free cash flows (freecash). The firm's stock returns are from the CRSP monthly files. Instead of using the stock returns directly in the CEO job duration analysis, we follow Jenter and Kanaan (2014) and decompose the return into the industry peer induced return and idiosyncratic return. We use the average stock return of all other firms (excluding the firm itself) in the same Fama and French (1997) 48 industries as the performance benchmark. The industry peer induced return is the predicted return from a regression that runs the individual stock returns on the industry average stock returns. The idiosyncratic return is the residual of this regression.

We merge the ExecuComp data with the completed U.S. deals on Security Data Corporation's (SDC) M&A database. We require domestic targets and that the deal size to be larger than 10 million dollars. Following Masulis, Wang, and Xie (2007) we compute the 5-day cumulative abnormal returns (CARs) during the acquisition announcement window $[-2, +2]$ using the benchmark predicted from Fama and French (1992, 1993) three-factor model based on daily returns from event day -200 to event day -11. For public target firms, we also retrieve and construct their characteristics including total assets, return on assets, leverage, as well as Tobin's Q based on the financial data retrieved from Compustat. Finally, we obtain the data on the governance index (G-index) (Gompers, Ishii, and Metrick, 2003) from the Investor Responsibility Research Center's (IRRC) database.

The definitions and the construction of the variables used in the analysis are detailed in Appendix A. We report the summary statistics of these variables in Table 1. We start from 16,327 observations of firm years with which we can carry out the baseline analysis of the CEO job duration and estimate the CEO dismissal hazard. Depending on the data availability, our sample size in the main analysis reduces to around 14,000 when we control for the acquirer characteristics

and to below 10,000 when the G-index is included. The size of the subsample of firm years with acquisitions is about 6,000, and if we require both the acquirer and the target are public firms with valid stock price information, our sample size for the relevant analysis dramatically reduces to 297.

3 Empirical Analysis and Results

3.1 Measure of CEO Job Security

We measure the job security of a CEO using the hazard of forced turnover, i.e., the likelihood that a CEO is to be fired in year $t+1$ given she has been the CEO till year t. We assume that the duration of a CEO on her job follows a distribution characterized by a proportional hazard function:

$$h_t^{t+1}(x_{it}) = h_0(t)\exp(x_{it}'\delta),$$

where x_{it} is a vector of firm and CEO characteristics that determine the hazard, δ is the coefficients of these characteristics, and $h_0(t)$ is the baseline hazard function. In our analysis, the event that triggers the termination of the duration is the forced CEO turnover. CEOs who depart voluntarily truncate the duration. As long as the unobserved determinants of the voluntary turnover are not correlated with the determinants of the forced turnover, the duration analysis for the forced CEO turnover with the voluntary departure should not be largely affected. For convenience, from hereafter, we refer the continuation of a CEO on her job to "not to be fired" in the next year.

In our main analysis, we follow Cox (1972) and leave the baseline hazard function $h_0(t)$ unspecified. The advantage of this semiparametric specification is that it is flexible and is compatible with different shapes of baseline hazard, whether it is increasing, decreasing, or of other shapes in time. Therefore, it reduces the bias in the estimation of β caused by the misspecification of $h_0(t)$. As robustness, we also estimate the hazard using a Weibull model, in which the baseline hazard function is specified as $h_0(t) = pt^{p-1}$, where p is an ancillary parameter that controls the shape of the baseline hazard function. Weibull model, though fully specified, can still provide a variety of monotonically increasing or decreasing shapes of the hazard function. The shape is determined by the estimated parameter p.

After being in the office for t years, the likelihood for a specific CEO to remain on the job for the next year differs from one year ago because the situation (x_{it}) of the CEO changes. Different CEOs have different hazards of dismissal also because they face different situations. With the observation of job continuation or dismissal for the same CEO along her career path on the CEO job and for different CEOs in the cross section, we are able to estimate the hazard function, which in turn allows us to estimate the *ex ante* relative hazard of forced turnover for every CEO in each year.

Prior literature finds that CEOs are more likely to be replaced following poor performance (Jenter and Lewellen, 2014). Also, CEOs are more likely to be dismissed from their jobs after bad industry performance (Jenter and Kanaan, 2014). In our base model, we estimate the hazard of dismissal as a function of the industry-induced stock return (the stock return predicted by the industry average stock return) as well as the firm's idiosyncratic stock return (i.e., the residual of the prediction regression) from the prior year. In order to compute the industry average stock return, we follow Fama and French (1997) and group the firms into 48 industries. Following Jenter and Kanaan (2014), we also control for whether the CEO is of retirement age (between 63 and 66 years old) and if the CEO owns more than 5% of the shares of her firm.

The results of hazard rate estimation are reported in Table 2. All estimates in this table are presented as their marginal effects (hazard ratio). We report the results of the basic model that includes only the predictors discussed in Jenter and Kanaan (2014) in the first two columns–the first column for Cox method and the second for Weibull method. Consistent with the findings of Jenter and Kanaan (2014), we find that both idiosyncratic and industry-induced performance negatively predict the hazard of dismissal. In addition, we also find that a CEO in her retirement age or holding a large share in her firm face less dismissal risk given performance.

The internal corporate governance and organizational settings also affect the CEO turnover and job security. To explore these effects, we extend the basic model by including board size, CEO-chairperson duality dummy, as well as board independence (percentage of independent board members) in the determinants of the duration analysis. The results are reported in columns 3 (Cox model) and 4 (Weibull model) of Table 2. We find that given other controls a CEO who is also the chairperson of the board enjoys more job security, suggesting weaker monitoring from

the board when the CEO also serves as the chairperson of the board. Board independence is positively associated with the CEO dismissal hazard, and the effect is statistically significant in the Cox specification, partly indicating the effect of board monitoring.[6] We do not find strong effect of board size on forced CEO turnover. The reason might be that the size of the board is less important given the board independence.

Based on the estimation of the hazard regressions, we predict for every CEO in each year the relative hazard of dismissal. Because we have in total four specifications of the hazard model, we also predict four different relative hazards, each based on one column of Table 2. We respectively name them *Hazard 1*, *Hazard 2*, *Hazard 3*, and *Hazard 4*. Their summary statistics are reported in Panel A of Table 3. The predicted relative hazard does not include the baseline hazard ($h_0(t)$), indicating the hazard rate independent of how long the CEO has been on the job. Later in our analysis, we control for the CEO tenure that captures the effect of the baseline hazard. The relative hazard serves our purpose since our focus is to study the effect of the CEO dismissal risk driven by the factors such as the strictness of internal corporate governance mechanisms, not that driven by how long the CEO survives on the job. Hereafter, we refer hazard to the short name for the relative hazard for brevity.

The estimated hazards based on different model specifications exhibit similarity at large. In panel B of the table, we show the correlation among these four hazard estimates. It is not surprising that they are highly correlated. To save space, in the remainder of this paper, we only report the results based on Hazard 3 and Hazard 4.[7] More importantly, Hazard 3 and Hazard 4 are estimated using additional measures of internal corporate governance. In our analysis, once we control for the firm's performance, the variation of the CEO dismissal hazard at large reflects the effects of the internal corporate governance through the filter of the threat of forced CEO turnover. In this sense, the CEO job security measured by the CEO dismissal hazard may be viewed as one comprehensive measure of the internal control. It is arguably better than the single measures such as board independence alone since disciplining the CEO is not the only task for which the board is responsible.

[6] Whether an independent board is desirable for a firm is still controversial. As an example, Schmidt (2014) find that a friendly board may be good for the firm when the value of board advice is high.

[7] The results based on Hazard 1 and Hazard 2 are very similar and are available upon request.

3.2 Job Security and Acquisition Activities

Mergers and acquisitions are very complex restructuring activities, and in many occasions they are not appreciated by the acquiring shareholders or by the market. A CEO facing a high hazard of dismissal may tend to be more cautious and hence pursues fewer acquisitions when her job is less secure. In addition, CEOs with higher dismissal risk may tend to avoid bad acquisition deals that have adverse impact on the shareholders' wealth. We test these hypotheses in this subsection.

3.2.1 Frequency of Acquisitions

We first examine the hypothesis of negative relation between CEO dismissal hazard and number of acquisitions pursued. Below we present the univariate results, followed by the formal multivariate analysis.

A Univariate Analysis

In each fiscal year, we count the number of acquisitions undertaken by the firms. And in each year, we divide the firms into five groups based on their CEOs' dismissal hazard, group one for the lowest hazard and group five for the highest hazard. We calculate the average number of acquisitions for each group in the year, and then we average the results over time to get the average number of acquisitions undertaken by each group. The results are reported in Table 4. As acquisitions are infrequent events and for most firms there is either none or only one acquisition in a year. Therefore, we may roughly read the results as the probability of making acquisitions in the next year for firms with different CEO dismissal hazards.

The results indicate that with the lowest dismissal risk, the probability of a CEO to make an acquisition in a year is 0.32 (0.32) based on the Cox (Weibull) model. This probability reduces to 0.26 (0.26) for the group of firms with the highest CEO dismissal hazard. The difference is statistically significant with a *t*-statistic of 7.26 (6.94). The reduction is economically meaningful given that the average number of acquisitions in a firm year is 0.30.[8] This suggests that the CEOs

[8] In the untabulated results, we also divide the firms into ten groups based on the CEO dismissal hazard. The results are qualitatively the same and quantitatively stronger since the dispersion of job security between the top and bottom groups becomes larger.

are indeed more cautious about acquisition decisions when their jobs are at risk.

B Multivariate Analysis

Job security is not the only concern when a CEO makes the acquisition decision. Many other factors may influence this decision and these factors may correlate with the job security. One may be concerned about some of the univariate results being driven by these factors. We extend the analysis using multivariate regressions to address this concern.

In particular, we run the following regression

$$n_{it} = \alpha + \beta h^t_{i,t-1} + \gamma' x_{i,t-1} + \nu_j + \nu_t + \varepsilon_{it}, \tag{1}$$

where n_{it} is the number of acquisitions that firm i makes in year t, $h^t_{i,t-1}$ is the hazard that measures the CEO dismissal risk in year t given that the CEO survives on the job in the previous year, $x_{i,t-1}$ is a set of firm and CEO characteristics that affect the acquisition decision, ν_j is the industry fixed effect that controls for the time invariant industry-specific effects with j indexing the industry in which firm i operates, and ν_t is the year fixed effect that controls for the common factors in the cross-section during certain years.[9] The results of this regression are reported in Table 5.

First, we control for firm characteristics including leverage, free cash flow, size, and book-to-market ratio. As shown in column 1 of Panel A, after these firm characteristics are controlled, the CEO job security still exhibits a negative and statistically significant effect on the subsequent acquisition activities. The estimated coefficient indicates that one standard deviation increase in the CEO dismissal hazard is associated with 0.015 fewer acquisitions. Provided that the average number of acquisitions taken by a firm in one year is 0.30, this effect is significant in the economic sense.

It is possible that the finding is driven by the performance because the firm's performance is used to predict the CEO dismissal hazard and at the same time the performance also affects the acquisition decisions. It has been shown that the former relation is negative and it can be argued

[9] Harford (2005) documents mergers and acquisitions cluster in waves because of economic, regulatory, and technological shocks.

that the latter relation might be positive since a firm with good performance may have more resources for acquisitions. If so, the failure of controlling for the firms' performance may bias the estimation results, leading to the negative association between the estimated hazard and the subsequent acquisitions. We hence include firms' prior operation performance, return on assets (ROA), in the regression to control for such an effect. In addition, the hazard that we estimate from the duration analysis is relative hazard assuming common duration of survival (tenure in the CEO turnover case). That is, the baseline hazard $h_0(t)$ is not included. This may cause a spurious relation if a CEO's acquisition propensity changes over the time during her tenure on the CEO job.[10] To address this concern, we also include the tenure of the CEO in the regression.

As exhibited in column 2 of Panel A, adding ROA and tenure in the control variables does not change our estimation results. The estimated job security effect on acquisitions is of a similar magnitude and remains statistically significant. We do not find a positive relation between the firms' past performance and the subsequent acquisitions, which is needed to bias the results so as to favor our hypothesis. We do find some negative association between CEO tenure and acquisition activities though the effect is not statistically significant. However, controlling the effect of CEO tenure so as to control for the effect of the baseline hazard does not change the finding, i.e., the negative effect of CEO job security and acquisition activities.

Though our emphasis in this paper is the effects of internal corporate governance through the CEO job security, one may argue that the threat from outside of the firms through external corporate governance mechanisms also induces CEOs to behave with caution and the existence of the external corporate governance may substitute the internal control. We explore this argument by including G-index introduced by Gompers, Ishii, and Metrick (2003) in the control variables. This index counts the number of antitakeover provisions that shield the CEOs from the threat of the market of corporate control.[11] In column 3 of Panel A, we show that controlling for the external corporate governance measure, the negative effect of CEO job security on acquisition activities survives and becomes even stronger.

[10] Yim (2013) finds that CEOs are more likely to pursue acquisitions in the earlier years of their career. However, she emphasizes the effect of CEO age on acquisitions. Since CEO age and tenure are positively correlated, the effect may carry over between CEO tenure and acquisitions.

[11] In untabulated results, we substitute the G-index with the entrenchment index (E-index) advocated by Bebchuk, Cohen, and Ferrell (2009) which uses a subset of the provisions used to construct G-index. The results are similar.

Because the number of acquisitions increases in a fixed increment (from zero, to one, two, and so on), which exhibits certain discreteness, the results may be different if we use discrete regressions instead of the ordinary least squares (OLS) method. We repeat the analysis with both ordered logistic regressions and regular logistic regressions to address this possibility. In the ordered logistic regressions, we allow the number of acquisitions to be ordered by the counts. The results are reported in columns 4 to 6 of Panel A. These results confirm those from the OLS and indicate that CEOs with higher turnover risk pursue fewer acquisitions. With the regular logistic regressions, we assign a value of one to a firm year if there is at least one acquisition and zero if otherwise. The results of logistic regressions again indicate that higher CEO dismissal risk is associated with fewer subsequent acquisition activities.

The CEO dismissal hazard used in Panel A of Table 5 is estimated from the Cox model. We repeat both the OLS and the logistic regressions in Panel B using the hazard estimated from the Weibull model. The results are very similar to (and even stronger than) those in Panel A. In sum, all the above results suggest that a CEO facing higher probability of dismissal behaves more cautiously and pursues fewer acquisitions.

3.2.2 Acquisition Deal Picking

Above we show that CEOs with higher dismissal risk tend to act more conservatively in terms of acquisition frequency. If the main purpose of corporate governance is to align the incentives of the managers to their shareholders, the effective corporate governance mechanisms should induce the managers to work more for the best interest of their shareholders, or similarly speaking, to avoid the actions that hurt their shareholders' interest. In the context of acquisitions, this effect is reflected in the deal picking, i.e., the frequency of acquisitions with different quality. Because the main function of the forced CEO turnover is to punish and deter misconducts undertaken by the CEOs, we naturally expect that CEOs with higher dismissal hazard want to avoid the acquisitions that hurt the shareholders' wealth because doing bad acquisitions deteriorates the job security.

We use the stock market reaction to the announcement of an acquisition to measure the quality of the deal for the shareholders. The rationale of this measure is that if the deal creates

value for the shareholders, it is appreciated by the market and the value improvement would be accrued into the stock price of the firm; and similarly, value-destroying deals cause the firm's stock price to drop. Specifically, following the common practice in the literature, we measure the acquisition quality using the cumulative abnormal return of the acquirer in the five-day ($[-2, +2]$) window around the announcements, and we classify an acquisition to be good (bad) if the five-day cumulative abnormal return is in the top (bottom) quartile among all acquisitions in our sample. From Table 1, we see that the distribution of the five-day cumulative abnormal announcement return is roughly symmetric. According to our definition above, the good (bad) deals have substantial value impact on the shareholders' wealth. For example, good (bad) deals are associated with abnormal announcement returns of at least 2.79% (-2.81%). The deals in the middle do not have large value impact.

Based on this definition, we count the number of bad acquisitions made in each firm year, for which we denote as n_{it}^b. Our hypothesis suggests that a CEO facing higher probability of forced turnover wants to avoid bad acquisitions. In other words, everything else equal, CEO dismissal hazard is expected to be negatively associated with n_{it}^b.

We test this hypothesis using the similar empirical methods for the analysis of the effects of CEO job security on the total acquisition frequency. First, we run the same OLS regressions given in Equation (1) for the measure n_{it}^b. The results are reported in columns 1 to 3 of Panel A in Table 6. Consistent with our hypothesis, we find that with the increase of the dismissal hazard of a CEO, the tendency of the CEO to pursue bad acquisitions decreases. One standard deviation increase of the dismissal hazard is associated with a drop in the number of bad acquisitions by 0.005 to 0.008. The average number of bad acquisitions is 0.06 in our sample. Therefore the effect of the CEO dismissal hazard on the frequency of bad acquisitions is by all means important. As the results show, this effect is statistically significant and it becomes stronger with the inclusion of additional control variables such as prior firm performance, CEO tenure, as well as the external corporate governance measure.

The number of bad acquisitions is also discrete and ordered. Similarly, we examine this hypothesis using the ordered logistic regression and report the results in column 4. As expected, the ordered logistic regression confirms the negative effect of CEO dismissal risk on the frequency

of subsequent bad acquisitions.

Our above results show that CEOs with higher job security concern tend to do fewer acquisitions subsequently, and especially they want to avoid bad acquisitions. It is possible that these CEOs also want to pursue more good acquisitions to improve their situation. Because a firm may make multiple acquisitions in one year, some of which might be classified as good deals while the others might be classified as bad deals, in order to explore this possibility we construct a measure of *net* number of good deals in the following way. In each firm year, a good (bad) acquisition defined above is assigned a count of $+1$ (-1). Then we sum the counts for each firm year to get the net number of good deals, for which we denote as n^n_{it}. Given the definition of good and bad acquisitions above, by construction, the average net number of good deals is zero in the sample. A positive n^n_{it} or the increase of it indicates the deal picking is tilted toward the good acquisitions. If the job security concern really induces CEOs to pursue more good acquisitions and meanwhile to avoid bad ones, we expect that the CEO dismissal hazard has a positive association with this net number of good deals.

We follow the same empirical analysis for n_{it} and n^b_{it}. We run OLS regressions of n^n_{it} and present the results in columns 5-7 of Panel A in Table 6. In most regressions, we see a weakly positive coefficient for the CEO dismissal hazard which is not statistically significant. However, if we consider the discrete nature of the counts of acquisitions and apply the ordered logistic regression, the positive association between the CEO dismissal hazard and n^n_{it} becomes statistically significant. The weakly positive results for n^n_{it} together with the strongly negative results for n_{it} and n^b_{it} seems to suggest that facing the threat of forced turnover, the priority of the CEOs is to reduce the actions that deteriorate their job security and the actions that improve their job security are of the second-order importance. These findings are not hard to understand provided that the forced CEO turnover is more of a mechanism to punish and deter the wrongdoings than to encourage the value creation.

Some may argue that we construct the measures and conduct the analysis of the frequency of bad acquisitions as well as the net number of good deals using the whole sample of firm years. The inclusion of the observations without acquisitions may exaggerate the estimation. To address this concern, we remove those observations and use only the subsample of acquisitions.

This does not change the definition of good (bad) deals. It only changes the benchmark groups of the regressions. Within the acquisition subsample, we repeat the OLS and ordered logistic regressions for bad acquisition frequency in columns 9 and 10, and for the net number of good deals in columns 11 and 12. We find that the results are qualitatively the same and quantitatively even stronger.

Same to the previous analysis, we also check if different estimates of the CEO dismissal hazard lead to different results for the effects of CEO job security on the deal picking. In Panel B of Table 6, we repeat all the regressions presented in Panel A except that we estimate the CEO dismissal hazard using the Weibull model. The results are qualitatively the same and quantitatively very close. In sum, the analysis above all suggests that CEOs facing stricter scrutiny reduce the frequency of acquisition activities, especially the frequency of bad acquisitions. We also find some weak evidence for such CEOs chasing more good acquisitions.

3.3 Job Security and Acquisition Performance

We show in the previous subsections that the concern of job security induces CEOs to act with more caution and it also aligns the CEOs more with the shareholders' interest in terms of acquisitions activities and deal picking. If such an effect is significant, the market should hold better opinion on the actions taken by the CEOs facing stricter discipline. We call this *discipline hypothesis*. An alternative view argues that the CEO job security alleviates managers' risk aversion and encourages managers to engage in more value-enhancing acquisitions. Zhao (2013) names it *incentive effect hypothesis* and finds evidence for it. In this subsection, we use the CEO dismissal hazard and the sample conditional on acquisition activities to test these competing hypotheses.

This study may look similar to that conducted in subsection 3.2.2. In fact, there are at least several differences between the two sets of analysis. First, the previous analysis is on the firm-CEO level, which emphasizes the frequency of acquisitions. The results of frequency do not necessarily imply the results of acquisition performance on the deal level that are directly based on the continuous variable–cumulative abnormal return. And more importantly, the main part of the preceding analysis is based on the *unconditional* sample in order to study the frequency of different types of acquisitions including doing no acquisitions. The analysis of this subsection

examines the effect of CEO job security on acquisition performance and hence has to be based on the *conditional* sample of acquisitions. Moreover, the analysis of the frequency of good (bad) acquisition does not control for the deal characteristics which may have impact on the valuation.

We measure the acquisition performance using the cumulative abnormal return around the $[-2, +2]$ five-day window surrounding the announcement. We also complement the study with the abnormal dollar return constructed following the method introduced by Malatesta (1983) and later used by many others (e.g., Ahern, 2012; Bradley, Desai, and Kim, 1988; Moeller, Schlingemann, and Stulz, 2004, etc.). In the following, we first present the results based on the univariate comparison and then examine the hypotheses using multivariate regressions.

3.3.1 Univariate Analysis

Every year, we sort the firms according to the CEO dismissal hazard and divide them into five groups, group one for the lowest CEO dismissal hazard and group five for the highest hazard.[12] We calculate the average cumulative abnormal return within each group in every year, and then we average the results across time to get the average cumulative abnormal return for each group.

We report the univariate results in Table 7. At large the univariate results support the discipline hypothesis that the acquisition performance is better if the acquiring CEO faces stricter scrutiny from the dismissal risk. The average cumulative abnormal announcement return of the acquisitions made by the CEOs with the lowest dismissal risk is -0.49 (-0.52) percent based on the Cox (Weibull) hazard, while the average cumulative abnormal return of those made by the CEOs facing the highest dismissal hazard raises to -0.04 (0.05) percent. The difference is multiple times of the magnitude of the average cumulative abnormal return in our sample, and it is statistically significant with a t-statistic of 4.32 (5.70).

One may notice that the univariate results are not strictly monotonic. From the lowest hazard group to the second highest hazard group, the cumulative abnormal return improves monotonically. However, from the second highest hazard group to the highest group, the relation experiences some reversal. The reason is that in the univariate analysis we do not control for other covariates. The CEOs with the highest dismissal hazard are likely to be those with worst

[12] We also divide the firms into ten groups of different CEO dismissal hazard. The results are similar and hence are not tabulated. These results are available upon request.

performance. Therefore, their acquisitions may not be appreciated by the market because the market has doubts on their abilities. In the following, we control the effects of other covariates and test the hypotheses about acquisition performance in the multivariate regressions.

3.3.2 Multivariate Analysis

First, we run OLS regressions of the cumulative abnormal returns on the CEO dismissal hazard, controlling for acquirer characteristics such as size, book-to-market ratio, leverage, and free cash flow. It has been well documented that the method of payment plays an important role in the acquisition transactions and affects the announcement returns.[13] Therefore, we also include a dummy indicating whether the deal is an all-cash transaction. Not to mention, industry fixed effects and year fixed effects are both included. In column 1 of Panel A of Table 8, we show that the CEO dismissal hazard is indeed positively associated with the cumulative abnormal return of the acquiring firms. One standard deviation increase in the dismissal hazard comes together with about 0.31 percentage points increase of the acquirer's cumulative abnormal return surrounding the announcement. This effect has very strong economic significance given that the average acquirer cumulative abnormal return in our sample is only 0.10 percent. The effect is also statistically significant.

In the next column, we add the CEO tenure to control for the effect of the baseline hazard and add the prior operating performance to address the concern of simultaneity issue of the performance discussed in subsection 3.2.1. We also include some other commonly considered characteristics such as acquirer runup, public target dummy, and toehold. With these additional control variables, we continue to find a positive and significant relation between the CEO dismissal hazard and the cumulative abnormal return of the acquiring firms.

Prior literature documents that the external corporate governance mitigates the agency conflict in the acquiring firms, which leads to better acquisition performance for the acquiring firms (Masulis, Wang, and Xie, 2007). We therefore add G-index in our regression to control for this effect and report the results in column 3. The G-index does exhibit a negative relation with the

[13] See Berkovitch and Narayanan (1990); Betton, Eckbo, and Thorburn (2008); Eckbo, Giammarino, and Heinkel (1990); Eckbo and Thorburn (2000); Fishman (1989); Travlos (1987), for example.

abnormal announcement return of the acquirers.[14] However, the coefficient is not very significant. One possible reason is that when the internal corporate governance is effective, the effect of the external corporate governance mechanism becomes weak, suggesting the substitution between the external and internal corporate governance mechanisms.[15] Also, after controlling for G-index, we find that the effect of the CEO job security remains statistically significant and becomes even stronger.[16]

We carry out the same investigation of the abnormal dollar return for the acquiring firms. The results are presented in columns 4 to 6 of Panel A in Table 8. Similar to the results of the cumulative abnormal return, we find the positive association with the CEO dismissal hazard. This effect is both statistically and economically significant. One standard deviation increase in the CEO dismissal hazard increases acquirers' abnormal dollar return by 25 to 32 million, depending on the estimation specification. Given the average abnormal dollar return of -95 million, this effect is clearly important.[17]

In Panel B of Table 8, we repeat the above analysis using the CEO dismissal hazard estimated from the Weibull model. The results are qualitatively similar to and quantitatively stronger than those in Panel A where the CEO dismissal hazard is estimated from the Cox model.

In sum, we find that everything else equal, the stock market appreciates the acquisition activities launched by the CEOs under stricter scrutiny through the threat of dismissal. Our findings support the discipline hypothesis. The results are not surprising because the most important function of the forced CEO turnover is to punish the wrongdoings undertaken by the CEOs. Thus, the CEO job security based on the ex-ante threat of dismissal needs to reflect the disciplinary effect, which is its first order effect.

[14] G-index is constructed as the number of antitakeover provisions. The larger the index, the weaker the external corporate governance through the market of corporate control. See Gompers, Ishii, and Metrick (2003) for more detail.

[15] Giroud and Mueller (2010) find that the effect of corporate governance measured by G-index is significant only in the concentrated industries where the product market competition imposes less pressure on the managers.

[16] In the untabulated results, we show that replacing G-index with E-index advocated by Bebchuk, Cohen, and Ferrell (2009) does not change the findings.

[17] The average dollar loss of acquisitions in our sample is larger than that documented in Moeller, Schlingemann, and Stulz (2004) because the firms covered by ExecuComp are larger ones (mostly S&P 1500) and Moeller, Schlingemann, and Stulz (2004) find that the larger acquirers are more likely to experience negative announcement returns.

3.3.3 Understanding the Superior Performance

There are three possible sources of the superior acquisitions performance experienced by the CEOs facing higher dismissal hazard: First, under the pressure of job security these CEOs chase better targets that generate higher synergy. Second, such CEOs may not seek targets with higher synergy, while they exert more effort to get a better share from the value created in the acquisitions. And finally, the market may read different information from the job security of the acquiring CEOs and reevaluate their firms. It is not easy to test the third hypothesis directly. Below we provide some discussion on the first two hypotheses and then briefly comment on the third possibility.

In order to test whether the CEOs more disciplined by the dismissal hazard chase targets with higher synergy, we compute the combined cumulative abnormal return of the acquiring and target firms in the five-day window surrounding the acquisition announcement, which is often used to measure the synergy in M&A deals. If the CEOs indeed chase high synergy targets when they face stricter scrutiny of job dismissal, we expect that the CEO dismissal hazard has a positive association with the combined abnormal return. We test this hypothesis in column 1 of Table 9. This test is only available for the subsample in which both the acquirer and the target are public firms with stock information. Since the target firms are also public firms, we also control for some target characteristics including Tobin's Q, leverage ratio, ROA, and firm size of the targets. From the regression results, we do not find strong evidence for this hypothesis. Though the coefficient of the CEO dismissal is indeed positive, it is not statistically significant. In column 2, we repeat the regression for the combined abnormal dollar return. Again, the results do not support the better-synergy hypothesis.

We then explore the possibility that the CEOs facing higher dismissal risk may exert more effort to reach a better share in the split of the value created in the acquisitions. For example, these CEOs may hold tougher position in the negotiation and strive to get better bargaining power in the merger talks. We follow Ahern (2012) and compute the measure of the acquisition value split. First, we calculate the abnormal dollar returns of the acquirer and the target in the five-day window surrounding the acquisition announcement. Then we calculate the relative split of the acquisition value as the difference between the abnormal dollar return of the target and

that of the acquirer divided by the combined market capitalization of the two firms 28 days before the acquisition announcement. If the high-effort hypothesis is true, we expect that the CEO dismissal hazard is associated with lower relative share of acquisition value for the target. We test this hypothesis in column 3 of Table 9 and consistent with this hypothesis, we indeed find a negative and statistically significant coefficient for the CEO dismissal hazard.

There is still one possibility that the CEO job security conveys information about the firm that has not been fully incorporated in the stock price and the event (acquisition announcement) triggers the revaluation by the market. This hypothesis is not easy to test directly. However, we show in the previous subsection that the CEOs with less job security are more cautious in action and their incentives are more aligned with the shareholders. Therefore, between two CEOs who are identical in every other aspect except for the job security, the higher hazard of one CEO may deliver additional positive information appreciated by the market such as better internal control, which adds to the high-effort effect and results in the better announcement returns.

3.4 Endogeneity

We estimate the CEO dismissal hazard and use it in the later analysis. Some may worry about the results presented above being contaminated by the endogeneity issue. That is, if some of the predictors used in the hazard regressions can also explain the variables of interest in addition to the channel of the CEO dismissal risk, this may cause a spurious relation between the estimated hazard and the dependent variables. We have discussed this possibility with the performance. We include the prior performance in the main regressions to address this concern. With this control, the effect of the CEO dismissal is no longer due to the simultaneous effects of the performance on the CEO dismissal hazard and on the acquisitions. We do not find that it has any significant impact on our results.

To address the concern in general, it is better to have the predictors of the hazard regression orthogonal to the dependent variables of the main regressions other than through the channel of CEO dismissal. Such predictors then serve as identification variables. After controlling for other covariates, the variation of the estimated hazard is determined by the differences in the identification variables. Since they are orthogonal to the dependent variables in the main regression,

all else equal, the variation of the dependent variables can be attributed to the variation in the estimated hazard driven by the identification variables.

We are careful in the hazard regression by choosing the internal corporate governance measure such as board size, board independence, as well as CEO-chairperson duality as additional predictors. It is hard to argue that these mechanisms are imposed for the possible subsequent acquisition activities in general. To further alleviate the concern, we propose several additional plausible identification variables to be used in the first-stage hazard estimation. If they are indeed orthogonal to the dependent variables of the main regressions, including them in the first stage reduces the potential bias caused by the endogeneity.

The first candidate is the financial restatement events.[18] Restatements arise because of either mistakes (such as misapplication of accounting rules) or deliberated fraud. Prior literature finds that accounting restatements increase the likelihood of managerial turnover (e.g., Arthaud-Day et al., 2006; Desai, Hogan, and Wilkins, 2006; Land, 2010, etc.), especially when the restatements are due to fraud (Hennes, Leone, and Miller, 2008). We argue that after controlling for firm performance and financing conditions (such as leverage), the restatement activities should not have additional direct influence on the subsequent acquisitions other than through the channel of the CEO dismissal hazard. One may claim that if the acquiring managers can control the timing of restatements and particularly if they can postpone the restatements until the planned acquisitions are completed, then using the restatements as an additional identification variable actually creates more spurious relation between the estimated CEO dismissal hazard and the subsequent acquisition activities. To address this concern, in Panel C of Table 11, we show that there is no significant difference of financial restatement events between the period of one year before the acquisitions and that of one year after the acquisitions. Thus, there is no evidence for such a timing manipulation story.

The events of forced CEO turnovers in other firms of the same industry during the past years may influence the domestic CEO dismissal risk because observing the forced turnovers in other firms, the radars of the internal control may activate and pay more attention to their own CEOs. In addition, Peters and Wagner (2014) document that the CEOs are more likely to be dismissed in

[18] The data of financial restatements is from Hennes, Leone, and Miller (2008). We thank the authors for making the data available.

the industries with more volatile conditions measured by the volatility of the stock returns in the industry. These two variables, however, should not be directly associated with the subsequent acquisition decisions in general and hence can be used for identification.

We construct the measures for the three identification variables proposed above in the following way. The dummy variable *Restate* equals one if there are restatements within a firm year. The dummy variable, *ind_fire*, equals one if there are forced CEO turnovers in other firms of the same industry during the past two years. Following Peters and Wagner (2014), we measure the volatile industry conditions with the industry return volatility, *ind_vol*, that is the standard deviation of the stock returns in the industry in the past year. Industries are classified following Fama and French (1997) 48-industry classification.

To formally show the orthogonality of all the identification variables, we conduct a two-stage least squares (2SLS) regression of the total number of acquisitions (n_{it}) and the number of bad acquisitions (n_{it}^b) with the first stage being the linear probability regression of the forced CEO turnover using the identification variables as the instrumental variables. In the second stage, we include all the control variables of the regressions of n_{it} and n_{it}^b as well as all the control variables in the hazard regressions excluding the identification variables (board independence, board size, and CEO-chairperson duality). If the identification variables are really orthogonal to n_{it} and n_{it}^b other than through the channel of job security, they should be orthogonal to the residuals of the second-stage regressions. The test strategy is based on test for the overidentifying restrictions à la Sargan (1958) and Hansen (1982), with the null hypothesis of orthogonality. We report the test results in Table 10. In Panel A, the second-stage regression is based on n_{it}, and Panel B is based on n_{it}^b. We only include the baseline identification variables (board independence, board size, and CEO-chairperson duality) in the first test presented in column1, and from column 2 to column 4, we alternately add the additional identification variables—financial restatement (restate), forced turnover in the peer firms of the same industry (ind_fire), and industry volatility of stock returns (ind_vol), and in column 5 we include all the identification variables. All the results favor the null hypothesis, suggesting that our identification variables are indeed orthogonal to the main dependent variables in the second stage other than through the channel of job security.

After we establish the validity of the identification variables, we include the additional identi-

fication variables in the duration analysis to fine tune the estimation of the CEO dismissal hazard. In Panel A of Table 11, we report the hazard regression of the Cox model including the additional identification variables proposed above. As expected, all these variables positively predict the forced CEO turnover and their coefficients are all statistically significant. In the last column of this panel, we include all the three identification variables together in the hazard regression, where we find that they continue to hold strong and significant explanatory power for the hazard of forced CEO turnover. Using the Weibull model generates essentially the same results, as shown in Panel B of the table. To save space, henceforth we only report the results based on the CEO dismissal hazard estimated from the Cox model since the results based on the Weibull model are quite similar.[19]

In the following, we check whether our main results survive after we incorporate these additional identification variables.

3.4.1 Acquisition Activities

We first revisit the hypothesis that CEOs facing higher dismissal risk engage in fewer acquisition activities. In Table 12 we repeat the OLS regressions of the number of acquisitions on the CEO dismissal hazard that is estimated with the additional identification variables. In the first three columns, we alternately add restate, ind_fire, and ind_vol in the estimation of the CEO dismissal hazard, and in the last column, we add all these three identification variables in the estimation. To save space, we only present the results with the full control variables in the main regressions.[20]

The results indicate that the inclusion of the additional identification variables does not change our findings. The CEO dismissal hazard continues to exhibit negative and statistically significant association with the subsequent acquisitions. The coefficients of the hazard are quantitatively similar to the ones from the main regressions reported in Table 5.

We then examine if the inclusion of the additional identification variables in the first stage changes our findings about the acquisition deal picking by the CEOs facing stricter scrutiny. In Table 13, we report in columns 1, 3, 5, and 7 the results for the frequency of making bad acquisitions and in columns 2, 4, 6, and 8 the results for the net number of good acquisitions, with

[19] The results based on Weibull model are available upon request.
[20] The results based on other specifications with fewer control variables are similar and they available upon request.

the identification variables alternately added in the first-stage estimation for the CEO dismissal hazard. Again, these results are similar to those from the main regressions in Table 6, both qualitatively and quantitatively.

These additional pieces of evidence strengthen our argument for the hypothesis that all else equal, CEOs under stricter discipline from the threat of job dismissal act with more caution; in addition, their incentives are more aligned with the shareholders. Therefore, in the context of the M&A, these CEOs engage in fewer acquisitions and they especially pursue fewer bad deals.

3.4.2 Acquisition Performance

Next we reexamine the hypotheses regarding the effects of CEO job security on subsequent acquisition performance. Similar to the main tests presented in the previous subsection, we check both the cumulative abnormal return and the abnormal dollar return of the acquiring firms in the five-day window surrounding the announcements.

We present the results in Table 14. Columns 1, 3, 5, and 7 are for the cumulative abnormal return, and columns 2, 4, 6, and 8 are for the abnormal dollar return, with the additional identification variables alternately added in the first-stage estimation of the CEO dismissal hazard. With the inclusion of the additional identification variables, we continue to find that acquirers whose CEOs have less job security experience better announcement returns. The effects are similar to those from the main regressions presented in Table 8.

We also revisit the possible sources of the higher abnormal return enjoyed by the CEOs with higher dismissal risk. In columns 4 to 6 of Table 9, we repeat the regressions in columns 1 to 3 expect that we include the three additional identification variables in the estimation of the CEO dismissal hazard. The results are similar to the baseline analysis.

In sum, our findings suggest that the stock market takes into account the disciplinary effect of the CEO dismissal threat on the acquiring managers' action; therefore the market reacts more positively to the acquisition activities pursued by the CEOs under tighter scrutiny.

3.5 Robustness and Discussion

In the preceding subsections, we present the analysis with varieties of specifications and we find that our results are robust to all the variations. Next, we add more tests to address remaining concerns about our findings.

In the analysis above, we use all available firm-CEO-year observations. Some may be concerned that the results are biased because of the terminal CEOs. For example, one CEO is dismissed early in one year and another CEO succeeds and makes decisions in the remainder of the year. These decisions made by the successor in her initial year might be mistakenly attributed to the dismissal hazard of the previous CEO. To address this concern, we rule out the observations with CEO departure and repeat the above analysis and our results are essentially unchanged.[21]

We show that CEO dismissal hazard is negatively associated with the subsequent acquisition activities especially with bad acquisition deals. It is possible that the CEOs facing the dismissal risk that is extremely high behave differently than others. That is, these CEOs may behave like gamblers. Prior literature document that CEOs get better off through making deals of acquisitions because of either the extra compensation or bonus or private benefits realized in the process (e.g., Bliss and Rosen, 2001; Grinstein and Hribar, 2004; Harford and Li, 2007; Lee, Shakespeare, and Walsh, 2009; Li, 2014, ect.). Anticipating very high likelihood of being sacked, the CEOs may engage in more acquisitions while such deals might not be valuable for the shareholders. If this is common, the relation between the CEO dismissal hazard and the subsequent acquisition activities should exhibit some nonlinearity. In particular, the relation could be reversed for those with very high dismissal hazard.

To examine this argument, we introduce the interaction of the CEO dismissal hazard and a dummy variable that equals one if the CEO belongs to the group with the dismissal hazard in the top decile of the sample. Then we repeat the regression of the subsequent acquisitions and the frequency of bad acquisitions. If this argument is true, we expect that the coefficient of the interaction term has an opposite sign to the coefficient of the CEO dismissal hazard.

We report the results in Table 15. Based the results, we do not find significantly more subsequent acquisitions pursued by the CEOs with extremely high dismissal risk. However, we

[21] For brevity, these results are not tabulated. However, the results are available upon request.

indeed find that these CEOs engage in more bad acquisitions and the effect of the interaction term on the frequency of bad acquisitions is statistically significant. However, after we include the interaction term, the effects of CEO dismissal hazard continue to have the expected sign and remain statistically significant. Moreover, the coefficient of the CEO dismissal hazard dominates the coefficient of the interaction term. These findings suggest that though on average the CEOs engage in fewer acquisitions, especially bad acquisitions when they face high dismissal hazard, this effect is indeed weaker for those whose dismissal risk is extremely high. For these CEOs, the motives of pursuance of private benefits in the process of acquisitions at the cost of their shareholders undermine the disciplinary effect since they are already at the edge of the cliff.

Acquiring CEOs may have different preferences on the methods of payment in acquisitions when they face different levels of job security. One argument is that the acquiring CEOs with higher dismissal risk like to use more cash because the issuance of equity may be subject to the shareholders' approval which attracts more scrutiny. To test this hypothesis, we run regressions of the use of cash in the acquisition offers on the dismissal hazard of the acquiring CEOs. The results are reported in Table 16. In general we do not find strong supporting evidence for this argument, no matter whether we use the baseline hazard (columns 1-4) or the hazard estimated with more identification variables (columns 5-8), use pure-cash dummy (columns 1, 3, 5, and 7) or cash percentage in the offer (columns 2, 4, 6, and 8) as the dependent variable, or use the full acquisition sample (columns 1, 2, 5, and 6) or the subsample of public targets (columns 3, 4, 7, and 8). Therefore, we cannot conclude if acquiring CEOs with different dismissal risk tend to use different method of payment in the acquisitions.

4 Conclusion

Though CEOs are rarely fired, the threat of dismissal concerns the CEOs and deters them from engaging in misconducts ex ante. In this paper, we use the hazard of CEO dismissal to measure the CEO job security and study its effects on the acquisition decisions and performance. We find that CEOs whose jobs are less secure tend to be less active in acquisition activities. In terms of acquisition deal picking, we find that these CEOs especially avoid engaging in bad

deals. The market appreciates the disciplinary effect of the CEO dismissal threat so that the acquisitions launched by the CEOs with higher dismissal risk experience better abnormal returns. This superior acquisition performance can be partly explained by the higher effort exerted by these CEOs to achieve a better share of acquisition value split.

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Appendix

A Variable Definition

Table A.1: : Definitions of the Variables Used in the Analysis

Variable	Definition	Detailed Explanation
A: Deal Characteristics		
abnret	Acquirer CARs	Acquirer's five day [-2, +2) cumulative abnormal return using Fama and French (1992, 1993) three-factor model. The model parameters are estimated using return data during event window [-200, -11]
dlrgain	Acquirer dollar gain	Acquirer's five day total dollar return during [-2, 2] measured in hundred of million dollars. The total dollar return is the sum of daily dollar returns, which is the daily percentage return multiplied by acquirer's market value of equity on the previous day
cash	Cash deal	Dummy variable that equals one if transaction is 100% paid with cash
pub_target	Public target	Dummy variable that equals one if target status is a public firm
toehold	Toehold	Dummy variable that equals one if the acquirer's toehold ownership is positive
runup	Acquirer stock price run-up	Buy and hold return of acquirer during event window [-200, -11]
rdealsize	Relative deal size	Deal value divided by the market value of equity of acquirer 28 days before merger event
B: Acquirer Firm Characteristics		
peer_induced_ret	Industry peer induced return	Predicted value of regression model by regressing firm return on industry return (Jenter and Kanaan, 2014)
idiosyncratic_ret	Idiosyncratic return	Residual value of regression model by regressing firm return on industry return (Jenter and Kanaan, 2014)
boardsize	Board size	Number of directors on board
boardindp	Board independence	Percentage of independent directors
gindex	Governance index	As defined in Gompers, Ishii, and Metrick (2003)
freecash	Acquirer free cash flow	Operating income before depreciation minus tax, interest and capital expenditures then normalized by total assets
size	Acquirer size	Logarithm of acquirer book value of total assets
roa	Return on asset	Income Before Extraordinary Items divided by book value of assets
leverage	Book leverage	Long-term debt plus debt in current liabilities divided by book assets
btm	Book-to-market ratio	Book value of equity over market value of equity
restate	Accounting restatement	Dummy equal to one if the firm has accounting restatement (Hennes, Leone, and Miller, 2008)
ind_fire	Industry forced turnover event	Number of industry forced turnover event in the past 2 years
ind_vol	Industry return volatility	The standard deviation of stock returns in the Fama and French (1997) industry in the past year

Continued on next page

Table A.1 Continued

Variable	Definition	Detailed Explanation
C: CEO Characteristics		
tenure	CEO tenure	Number of year on the position of CEO
agedum	CEO age dummy	dummy variable equal to one if the CEO is between 63 and 66 years old
ownership	CEO ownership	Dummy variable that is equal to one if CEO owns more than 5% of the shares outstanding
Hazard 1	CEO dismissal hazard	The estimated hazard rate of being fired with the base specification using Cox model
Hazard 2	CEO dismissal hazard	The estimated hazard rate of being fired with the base specification using Weibull model
Hazard 3	CEO dismissal hazard	The estimated hazard rate of being fired using Cox model with controls for internal governance measures
Hazard 4	CEO dismissal hazard	The estimated hazard rate of being fired using Weibull model with controls for internal governance measures
D: Target Firm Characteristics		
tsize	Target size	Logarithm of target book value of total assets
troa	Target return on asset	Income Before Extraordinary Items divided by book value of assets
tleverage	Target book leverage	Long-term debt plus debt in current liabilities divided by book assets
ttobinq	Target Tobin's Q	Target firm's market value of assets dividend by book value of assets

Table 1: : Summary Statistics

The table reports the summary statistics of our firm-year observations for ExecuComp firms from 1993 to 2011. In Panel A, firm's stock return is decomposed into peer_induced_ret and idiosyncratic_ret are the industry peer-induced return and firm's idiosyncratic return based on Jenter and Kanaan (2014). boardsize, boardindp and ceodual are the board size, percentage of independent board members and a dummy for CEO-chairperson duality, respectively. agedum is a dummy variable equal to one if the CEO is between 63 and 66 years old. ownership is a dummy variable that is equal to one if CEO owns more than 5% of the shares outstanding. In Panel B, size is the logarithm of total assets, btm is the firm's book-to-market ratio, leverage is the book leverage, freecash is the free cash flow, gindex is the index for shareholder rights à la Gompers, Ishii, and Metrick (2003), and tenure is the tenure of CEO. In Panel C, totnum and badnum are the total number of acquisitions and bad acquisitions made by the firm in a given year. abnret is cumulative abnormal return during event window [-2, 2] using Fama and French (1992, 1993) three-factor model. dlrgain is acquirer's abnormal dollar return measured in hundred of million dollars. runup is buy and hold return of the acquirer during event window [-200, -11]. cash, pub_target and toehold are dummy variables equal to one if the acquisition is an all-cash deal, if the acquisition involves public target, and if the acquirer's toehold ownership is positive. tsize, troa, tleverage, and ttobinq are the logarithm of total assets, return on assets, leverage ratio, and Tobin's Q of the target firm.

Variable	*N*	Mean	Std. Dev.	25%	Median	75%
A: Predictors of CEO Dismissal Hazard						
peer_induced_ret (%)	16,327	21.10	29.55	4.16	19.38	33.56
idiosyncratic_ret (%)	16,327	−1.78	51.26	−28.92	−8.27	14.41
boardsize	16,327	9.47	2.69	8.00	9.00	11.00
boardindp	16,327	0.70	0.17	0.60	0.73	0.83
ceodual	16,327	0.56	0.50	0.00	1.00	1.00
agedum	16,327	0.10	0.29	0.00	0.00	0.00
ownership	16,327	0.08	0.27	0.00	0.00	0.00
B: Acquirer Firm and CEO Characteristics						
size	16,128	7.66	1.63	6.46	7.48	8.72
btm	16,125	0.55	0.37	0.29	0.47	0.72
leverage	16,064	0.21	0.16	0.06	0.20	0.32
freecash	14,295	0.09	0.06	0.05	0.08	0.12
gindex	10,439	9.29	2.66	7.00	9.00	11.00
tenure	16,327	6.11	4.30	3.00	5.00	8.00
C: Acquisition Related Characteristics						
totnum	16,327	0.30	0.67	0.00	0.00	0.00
badnum	16,327	0.06	0.23	0.00	0.00	0.00
abnret (%)	6,253	0.10	6.30	−2.81	−0.01	2.79
dlrgain ($Mil.)	6,253	−0.95	7.78	−1.03	0.01	0.82
runup (%)	6,253	−1.44	20.91	−11.00	−1.05	7.78
cash	6,253	0.62	0.49	0.00	1.00	1.00
pub_target	6,253	0.37	0.48	0.00	0.00	1.00
toehold	6,253	0.07	0.26	0.00	0.00	0.00
D: Target Firm Characteristics						
tsize	297	6.00	1.78	4.64	5.92	7.14
troa	297	0.02	0.25	−0.02	0.09	0.16
tleverage	297	0.15	0.16	0.01	0.08	0.25
ttobinq	297	2.32	1.78	1.21	1.71	2.81

Table 2: : Forced CEO Turnover and Dismissal Hazard

This table presents the hazard estimation under four model specifications. Models 1 and 2 are basic specifications, and models 3 and 4 add additional variables of internal corporate governance. Model 1 and 3 use the Cox hazard model and model 2 and 4 use the Weibull model. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. ***. ** and * indicate statistical significance for the two-sided test at 0.01, 0.05, and 0.10, respectively.

	(1)	(2)	(3)	(4)
Variable	Cox	Weibull	Cox	Weibull
peer_induced_ret	-0.006^{***}	-0.005^{***}	-0.006^{**}	-0.005^{**}
	(-2.87)	(-2.76)	(-2.36)	(-2.26)
idiosyncratic_ret	-0.011^{***}	-0.011^{***}	-0.013^{***}	-0.013^{***}
	(-8.25)	(-8.25)	(-7.25)	(-7.30)
agedum	-1.117^{***}	-1.103^{***}	-1.224^{**}	-1.206^{**}
	(-2.93)	(-2.89)	(-2.43)	(-2.39)
ownership	-2.902^{***}	-2.837^{***}	-3.028^{***}	-3.081^{***}
	(-4.09)	(-4.00)	(-3.02)	(-3.07)
boardsize			0.023	0.024
			(1.08)	(1.12)
ceodual			-0.614^{***}	-0.448^{***}
			(-4.82)	(-3.69)
boardindp			0.890^{**}	0.150
			(2.18)	(0.40)
Observations	29,538	29,538	16,323	16,323

Table 3: : Summary Statistics of Estimated CEO Dismissal Hazard

This table presents the summary statistics of the hazard ratio estimated based on four specifications outlined in Table 2. Panel A shows the sample statistics and the first order autocorrelation of the hazard. Panel B shows the correlation matrix between the four hazard ratios.

	Panel A: Summary Statistics						
Variable	*N*	Mean	Std. Dev.	25%	Median	75%	Auto Correlation
Hazard 1	29,544	0.90	0.50	0.60	0.92	1.18	0.28
Hazard 2	29,538	0.93	0.51	0.62	0.95	1.21	0.29
Hazard 3	16,327	1.67	1.15	0.88	1.52	2.27	0.30
Hazard 4	16,323	1.09	0.70	0.63	1.04	1.46	0.27
	Panel B: Correlation Matrix						
	Hazard 1	Hazard 2	Hazard 3	Hazard 4			
Hazard 1	1.00						
Hazard 2	0.99	1.00					
Hazard 3	0.84	0.84	1.00				
Hazard 4	0.89	0.91	0.97	1.00			

Table 4: : CEO Job Security and Frequency of Acquisitions - Univariate Analysis

This table presents the univariate results of the effect of CEO dismissal hazard on the total number of acquisitions. In each year the firms are first sorted into 5 groups based on the CEO dismissal hazard. We calculate the average number of total acquisitions (totnum) in each group and in each year. Then we compute the time-series averages in each group over time. Hazard 3 and Hazard 4 are based on the CEO dismissal hazards estimated with the third and fourth specifications in Table 2, respectively.

Group	Hazard 3	Hazard 4
1	0.32	0.32
2	0.32	0.32
3	0.27	0.27
4	0.29	0.28
5	0.26	0.26
$1-5$	0.06	0.06
t-statistic	7.26	6.94

Table 5: : CEO Job Security and Frequency of Acqusitions - Multivariate Analysis

This table reports the regressions of acquisition numbers on CEO dismissal hazard. Panel A uses Cox model (Hazard 3) and Panel B uses the Weibull model (Hazard 4) to estimate the hazard. Within each panel, we include the OLS, ordered logit and the logit specifications. In regressions (1) through (6), the dependent variable is the total number of acquisitions while in regressions (7) through (9), the dependent variable is a dummy variable equal to one if the firm undertakes acquisitions in the year. All regressions include industry and year fixed effects. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. ***. ** and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively

	Panel A: Analysis Based on Hazard Estimated from Cox Model								
	OLS			Ordered Logit			Logit		
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
hazard	-0.013^{***}	-0.013^{***}	-0.016^{***}	-0.053^{***}	-0.060^{***}	-0.061^{**}	-0.048^{***}	-0.058^{***}	-0.056^{**}
	(-3.34)	(-3.25)	(-2.92)	(-2.84)	(-3.13)	(-2.38)	(-2.64)	(-3.12)	(-2.22)
gindex			-0.010^{**}			-0.030^{**}			-0.022^{*}
			(-2.39)			(-2.11)			(-1.67)
roa		-0.532^{***}	-0.456		-2.641^{***}	-2.202^{*}		-2.396^{***}	-1.928
		(-2.95)	(-1.50)		(-3.41)	(-1.73)		(-3.06)	(-1.51)
tenure		-0.000	-0.001		-0.008	-0.005		-0.012^{*}	-0.008
		(-0.24)	(-0.21)		(-1.14)	(-0.46)		(-1.75)	(-0.78)
leverage	-0.185^{*}	-0.183^{*}	-0.165	-0.647^{*}	-0.635^{*}	-0.448	-0.609^{**}	-0.600^{**}	-0.421
	(-1.76)	(-1.76)	(-1.46)	(-1.90)	(-1.92)	(-1.31)	(-2.00)	(-2.03)	(-1.31)
freecash	0.218	0.818^{***}	0.690^{*}	0.880	3.928^{***}	3.358^{*}	0.873	3.627^{***}	3.080^{*}
	(1.24)	(3.76)	(1.87)	(1.21)	(3.51)	(1.86)	(1.26)	(3.29)	(1.70)
size	0.115^{***}	0.115^{***}	0.136^{***}	0.389^{***}	0.391^{***}	0.436^{***}	0.346^{***}	0.347^{***}	0.382^{***}
	(7.54)	(7.52)	(7.18)	(14.36)	(14.33)	(12.82)	(14.09)	(14.09)	(12.96)
btm	-0.134^{***}	-0.153^{***}	-0.179^{***}	-0.650^{***}	-0.746^{***}	-0.870^{***}	-0.617^{***}	-0.700^{***}	-0.812^{***}
	(-4.28)	(-4.72)	(-4.91)	(-4.99)	(-5.70)	(-5.68)	(-5.11)	(-5.68)	(-5.63)
Constant	-0.478^{***}	-0.438^{***}	-0.425^{***}				-3.471^{***}	-3.205^{***}	-3.548^{***}
	(-5.35)	(-4.86)	(-4.28)				(-15.69)	(-12.19)	(-13.09)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,218	14,218	9,159	14,218	14,218	9,159	14,217	14,217	9,155
Adj. R^2	0.072	0.073	0.082	0.078	0.079	0.083	0.091	0.093	0.097

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Table 5 Continued

	Panel B: Analysis Based on Hazard Estimated from Weibull Model								
	OLS			Ordered Logit			Logit		
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
hazard	−0.022***	−0.022***	−0.026***	−0.087***	−0.094***	−0.089**	−0.080***	−0.092***	−0.081**
	(−3.16)	(−3.04)	(−3.17)	(−2.83)	(−3.05)	(−2.46)	(−2.69)	(−3.11)	(−2.29)
gindex			−0.010**			−0.030**			−0.022*
			(−2.41)			(−2.12)			(−1.68)
roa		−0.530***	−0.453		−2.628***	−2.189*		−2.384***	−1.919
		(−2.94)	(−1.49)		(−3.40)	(−1.72)		(−3.05)	(−1.50)
tenure		−0.000	−0.000		−0.008	−0.004		−0.011*	−0.007
		(−0.19)	(−0.16)		(−1.08)	(−0.40)		(−1.70)	(−0.72)
leverage	−0.186*	−0.183*	−0.166	−0.648*	−0.636*	−0.448	−0.611**	−0.601**	−0.422
	(−1.77)	(−1.77)	(−1.46)	(−1.91)	(−1.93)	(−1.31)	(−2.01)	(−2.04)	(−1.32)
freecash	0.218	0.815***	0.689*	0.883	3.916***	3.353*	0.875	3.616***	3.077*
	(1.24)	(3.75)	(1.86)	(1.21)	(3.49)	(1.86)	(1.26)	(3.28)	(1.70)
size	0.115***	0.115***	0.136***	0.389***	0.392***	0.436***	0.346***	0.347***	0.382***
	(7.54)	(7.51)	(7.18)	(14.29)	(14.26)	(12.74)	(14.01)	(14.00)	(12.86)
btm	−0.132***	−0.151***	−0.177***	−0.644***	−0.741***	−0.865***	−0.611***	−0.695***	−0.808***
	(−4.31)	(−4.77)	(−4.93)	(−5.01)	(−5.75)	(−5.67)	(−5.13)	(−5.73)	(−5.61)
Constant	−0.469***	−0.431***	−0.419***				−3.477***	−3.217***	−3.565***
	(−5.28)	(−4.78)	(−4.27)				(−15.66)	(−12.25)	(−13.16)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,215	14,215	9,156	14,215	14,215	9,156	14,214	14,214	9,152
Adj. R^2	0.0724	0.0731	0.0820	0.0784	0.0793	0.0833	0.0914	0.0927	0.0965

Table 6: : CEO Job Security and Acquisition Deal Picking

This table presents the regressions of acquisition deal picking. Panel A is based hazard estimated from the Cox model and Panel B is based on the Weibull model. Within each panel, we include the OLS and ordered logit specifications. A deal is classified as bad (good) if the acquirer's cumulative abnormal return during [-2, 2] is in the bottom (top) quartile. n_{it}^{b} is the total number of bad acquisitions made in a given year. n_{it}^{n} is the number of good minus bad deals in a given year. All regressions include industry and year fixed effects. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	Panel A: Analysis Based on Hazard Estimated from Cox Model											
	Full Sample								Acquisition Sample			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS	OLS	OLS	OLGT	OLS	OLS	OLS	OLGT	OLS	OLGT	OLS	OLGT
Variable	n_{it}^{b}	n_{it}^{b}	n_{it}^{b}	n_{it}^{b}	n_{it}^{n}	n_{it}^{n}	n_{it}^{n}	n_{it}^{n}	n_{it}^{b}	n_{it}^{b}	n_{it}^{n}	n_{it}^{n}
hazard	−0.004***	−0.005***	−0.007***	−0.129***	−0.000	0.000	0.003	0.058**	−0.021**	−0.109**	0.015	0.071**
	(−2.83)	(−2.93)	(−2.93)	(−2.68)	(−0.07)	(0.13)	(1.11)	(2.21)	(−2.16)	(−2.04)	(1.15)	(2.20)
gindex			−0.001	−0.004			−0.002	−0.015	0.004	0.020	−0.009	−0.023
			(−0.60)	(−0.21)			(−1.15)	(−1.29)	(0.93)	(0.96)	(−1.12)	(−1.42)
roa		−0.220***	−0.305***	−6.069***		0.030	0.282***	2.935***	−1.287***	−7.057***	1.399***	4.096***
		(−4.13)	(−3.10)	(−3.86)		(0.46)	(2.95)	(3.68)	(−4.22)	(−4.01)	(2.96)	(3.67)
tenure		−0.001	−0.001	−0.011		0.000	0.001	0.006	−0.003	−0.017	0.005	0.014
		(−1.16)	(−0.75)	(−0.73)		(0.53)	(0.59)	(0.61)	(−1.26)	(−1.40)	(0.97)	(1.11)
leverage	−0.036	−0.035	−0.039	−0.463	0.020	0.019	−0.006	0.082	−0.025	−0.063	−0.115	−0.157
	(−1.42)	(−1.42)	(−1.31)	(−1.08)	(0.85)	(0.84)	(−0.21)	(0.30)	(−0.27)	(−0.13)	(−0.73)	(−0.41)
freecash	0.021	0.269***	0.366***	7.233***	−0.006	−0.039	−0.316**	−3.524***	1.476***	8.075***	−1.645***	−5.148***
	(0.52)	(3.84)	(2.77)	(3.01)	(−0.10)	(−0.41)	(−2.40)	(−2.90)	(3.57)	(3.46)	(−2.69)	(−3.23)
size	0.019***	0.019***	0.025***	0.394***	−0.006**	−0.006**	−0.003	−0.096***	0.019***	0.095***	−0.011	−0.059**
	(6.21)	(6.32)	(5.72)	(11.51)	(−2.58)	(−2.51)	(−0.64)	(−3.09)	(3.06)	(3.16)	(−0.83)	(−2.08)
btm	−0.036***	−0.044***	−0.050***	−1.024***	0.003	0.004	0.010	0.187*	−0.087*	−0.418*	0.043	0.179
	(−4.34)	(−5.21)	(−4.45)	(−4.08)	(0.49)	(0.54)	(0.97)	(1.76)	(−1.94)	(−1.70)	(0.59)	(0.87)
Constant	−0.029	−0.009	−0.035		−0.020	−0.026	0.015		0.306***		0.082	
	(−1.68)	(−0.53)	(−1.45)		(−1.35)	(−1.38)	(0.63)		(3.64)		(0.61)	
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,218	14,218	9,159	9,159	14,218	14,218	9,159	9,159	1,961	1,961	1,961	1,961
Adj. R^2	0.029	0.030	0.038	0.132	0.001	0.001	0.003	0.013	0.063	0.094	0.040	0.020

Continued on next page

Table 6 Continued

	Panel B: Analysis Based on Hazard Estimated from Weibull Model											
	Full Sample								Acquisition Sample			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	OLS	OLS	OLS	OLGT	OLS	OLS	OLS	OLGT	OLS	OLGT	OLS	OLGT
Variable	n^b_{it}	n^b_{it}	n^b_{it}	n^b_{it}	n^n_{it}	n^n_{it}	n^n_{it}	n^n_{it}	n^b_{it}	n^b_{it}	n^n_{it}	n^n_{it}
hazard	−0.008***	−0.009***	−0.012***	−0.211***	0.002	0.002	0.006	0.115***	−0.039**	−0.199**	0.032	0.138***
	(−3.09)	(−3.07)	(−3.26)	(−3.06)	(0.65)	(0.77)	(1.54)	(2.73)	(−2.65)	(−2.50)	(1.60)	(2.81)
gindex			−0.001	−0.004			−0.002	−0.015	0.004	0.021	−0.009	−0.023
			(−0.62)	(−0.22)			(−1.14)	(−1.27)	(0.96)	(0.98)	(−1.14)	(−1.43)
roa		−0.219***	−0.303***	−6.038***		0.029	0.281***	2.913***	−1.274***	−7.007***	1.386***	4.039***
		(−4.11)	(−3.08)	(−3.83)		(0.45)	(2.93)	(3.65)	(−4.13)	(−3.93)	(2.94)	(3.60)
tenure		−0.001	−0.001	−0.011		0.000	0.001	0.007	−0.003	−0.017	0.005	0.015
		(−1.14)	(−0.73)	(−0.71)		(0.61)	(0.64)	(0.66)	(−1.29)	(−1.43)	(1.04)	(1.16)
leverage	−0.036	−0.035	−0.039	−0.458	0.019	0.019	−0.007	0.079	−0.025	−0.059	−0.114	−0.156
	(−1.42)	(−1.43)	(−1.30)	(−1.06)	(0.84)	(0.83)	(−0.21)	(0.28)	(−0.27)	(−0.12)	(−0.74)	(−0.41)
freecash	0.021	0.268***	0.364***	7.204***	−0.006	−0.038	−0.314**	−3.494***	1.462***	8.024***	−1.630***	−5.081***
	(0.51)	(3.82)	(2.75)	(2.99)	(−0.09)	(−0.40)	(−2.39)	(−2.87)	(3.51)	(3.41)	(−2.70)	(−3.19)
size	0.019***	0.019***	0.025***	0.394***	−0.006**	−0.006**	−0.003	−0.096***	0.019***	0.097***	−0.011	−0.060**
	(6.20)	(6.31)	(5.72)	(11.49)	(−2.60)	(−2.52)	(−0.65)	(−3.11)	(3.13)	(3.22)	(−0.87)	(−2.14)
btm	−0.036***	−0.043***	−0.049***	−1.005***	0.002	0.003	0.009	0.172	−0.082*	−0.394	0.037	0.159
	(−4.33)	(−5.21)	(−4.42)	(−3.99)	(0.33)	(0.39)	(0.86)	(1.62)	(−1.85)	(−1.60)	(0.51)	(0.79)
Constant	−0.025	−0.005	−0.031		−0.023	−0.029	0.011		0.308***		0.048	
	(−1.40)	(−0.27)	(−1.26)		(−1.56)	(−1.55)	(0.43)		(3.68)		(0.35)	
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,215	14,215	9,156	9,156	14,215	14,215	9,156	9,156	1,961	1,961	1,961	1,961
Adj. R^2	0.029	0.030	0.038	0.133	0.001	0.002	0.003	0.013	0.064	0.095	0.012	0.020

Table 7: : CEO Job Security and Acquisition Performance - Univariate Analysis

This table presents the univariate results of the effects of CEO dismissal hazard on the acquisition performance. In each year the firms are first sorted into 5 groups based on the hazard ratios. We calculate the average cumulative abnormal return (abnret) for each group in each year. Then we compute their time-series averages over time. Hazard 3 and Hazard 4 are the CEO dismissal hazard estimated from the third and fourth specifications in Table 2, respectively.

Group	Hazard 3	Hazard 4
1	−0.49	−0.52
2	−0.20	−0.14
3	0.10	−0.14
4	0.18	0.33
5	−0.04	0.05
$1-5$	−0.44	−0.57
t-statistic	−4.32	−5.70

Table 8: : CEO Job Security and Acqusition Performance - Multivariate Analysis

This table presents the regressions of acquisition performance. In specifications (1) through (3) the acquisition performance is measured by cumulative abnormal return (abnret) during event window [-2, 2], while in specifications (4) through (6) it is measured by abnormal dollar return (dlrgain). Panel A uses hazard estimated from Cox model and Panel B is based on the Weibull model. All regressions include industry and year fixed effects. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	Panel A: Analysis Based on Hazard Estimated from Cox Model					
	Abnormal Announcement Return			Abnormal Dollar Return		
Variable	(1)	(2)	(3)	(4)	(5)	(6)
hazard	0.270**	0.222*	0.386***	0.254**	0.221*	0.247***
	(2.40)	(1.94)	(3.21)	(2.06)	(1.93)	(2.88)
runup		0.024***	0.020		0.015**	0.013
		(2.75)	(1.57)		(2.16)	(1.42)
pub_target		−0.909***	−0.921***		−0.611	0.126
		(−4.33)	(−3.33)		(−1.11)	(0.31)
toehold		0.746**	0.760*		1.284**	0.039
		(2.06)	(1.88)		(2.01)	(0.06)
cash		0.264	0.255		0.264	0.693**
		(0.91)	(0.75)		(0.92)	(2.29)
gindex			−0.036			0.039
			(−0.71)			(0.50)
roa	1.627	1.537	2.803	−0.753	−0.967	−0.141
	(0.84)	(0.78)	(1.36)	(−0.23)	(−0.30)	(−0.05)
tenure	0.034	0.026	0.053**	0.038	0.030	0.018
	(1.55)	(1.26)	(2.14)	(0.60)	(0.50)	(0.34)
rdealsize		−1.547	−2.323*		−1.048**	−1.107*
		(−1.37)	(−2.01)		(−2.33)	(−1.94)
leverage	1.711*	1.659**	1.528	0.535	0.489	0.583
	(1.84)	(2.13)	(1.58)	(0.57)	(0.54)	(0.52)
freecash	−1.167	−1.327	−3.630	−2.814	−2.654	−1.065
	(−0.39)	(−0.49)	(−1.06)	(−0.80)	(−0.85)	(−0.33)
size	−0.249***	−0.254***	−0.248***	−0.774**	−0.795***	−0.583***
	(−4.14)	(−4.00)	(−3.37)	(−2.66)	(−3.02)	(−3.23)
btm	0.492	0.416	0.918**	0.825	0.724	1.399**
	(1.00)	(0.90)	(2.07)	(1.66)	(1.48)	(2.14)
Constant	3.122***	3.384***	3.170***	6.258**	6.515***	2.381*
	(4.31)	(4.16)	(3.60)	(2.67)	(2.85)	(1.77)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,307	4,307	2,918	4,307	4,307	2,918
Adj. R^2	0.041	0.054	0.063	0.104	0.109	0.053

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Table 8 Continued

	Panel B: Analysis Based on Hazard Estimated from Weibull Model					
	Abnormal Announcement Return			Abnormal Dollar Return		
Variable	(1)	(2)	(3)	(4)	(5)	(6)
hazard	0.638**	0.545**	0.879***	0.499**	0.463**	0.532***
	(2.55)	(2.10)	(3.10)	(2.49)	(2.39)	(4.14)
runup		0.022**	0.018		0.007	0.005
		(2.62)	(1.37)		(1.33)	(0.70)
pub_target		−0.849***	−0.949***		−0.400	−0.252
		(−4.08)	(−3.31)		(−1.06)	(−0.71)
toehold		0.718*	0.794*		1.061**	0.408
		(1.88)	(1.87)		(2.36)	(0.79)
cash		0.325	0.278		0.271	0.460**
		(1.16)	(0.84)		(1.26)	(2.24)
gindex			−0.054			0.054
			(−1.01)			(0.74)
roa	1.476	1.394	2.332	−1.983	−2.124	−1.392
	(0.80)	(0.75)	(1.13)	(−0.89)	(−1.02)	(−0.67)
tenure	0.036*	0.029	0.053**	0.033	0.027	0.021
	(1.75)	(1.50)	(2.36)	(0.60)	(0.51)	(0.48)
rdealsize		−1.609	−2.370**		−1.084***	−1.074**
		(−1.45)	(−2.11)		(−2.95)	(−2.40)
leverage	2.246**	2.202**	2.108**	1.735*	1.741*	1.757
	(2.32)	(2.64)	(2.02)	(1.85)	(1.89)	(1.65)
freecash	−0.460	−0.613	−3.634	−1.316	−1.128	−0.880
	(−0.16)	(−0.23)	(−1.06)	(−0.49)	(−0.49)	(−0.34)
size	−0.284***	−0.296***	−0.310***	−0.857***	−0.889***	−0.749***
	(−5.06)	(−4.78)	(−4.22)	(−3.95)	(−4.48)	(−5.12)
btm	0.534	0.465	0.842*	0.874**	0.842**	1.167**
	(1.11)	(1.02)	(1.97)	(2.48)	(2.50)	(2.57)
Constant	3.321***	3.570***	4.120***	6.673***	6.933***	4.003***
	(4.85)	(4.61)	(5.36)	(3.64)	(3.90)	(3.95)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,189	4,189	2,844	4,189	4,189	2,844
Adj. R^2	0.0420	0.055	0.064	0.120	0.123	0.082

Table 9: : Sources of Superior Acquisition Performance Experienced by CEOs with Less Job Security

This table tests the two hypotheses on the superior acquisition performance experienced by the CEOs facing higher dismissal risk. The columns 1, 2, 4, and 5 report the results for the hypothesis that such CEOs chase targets with higher synergy. The columns 3 and 6 report the results for the hypothesis that such CEOs exert more effort to obtain a better share in the value created in acquisitions. Combined CAR means the combined cumulative abnormal return of the acquiring and target firms surrounding the acquisition announcement. Combined ADR is the combined abnormal dollar return. Relative Split is the measure of the relative share of acquisition value for the target vs. the acquirer (Ahern, 2012). In columns (1)-(3), the results are based on the hazard estimated using the base model, and in columns (4)-(6) the hazard is estimated with additional identification variables (discussed in Table 11). All regressions include industry and year fixed effects. *t*-statistics are presented in parentheses. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	Hazard from Base Cox Model			Hazard with More Identification Variables		
Variable	Combined CAR (1)	Combined ADR (2)	Relative Split (3)	Combined CAR (4)	Combined ADR (5)	Relative Split (6)
hazard	0.003	−0.040	−0.008*	0.002	0.360	−0.004**
	(0.53)	(−0.02)	(−1.81)	(1.08)	(0.52)	(−2.11)
ttobinq	−0.004	−1.764*	0.006**	−0.004	−1.799*	0.006**
	(−1.57)	(−1.84)	(2.40)	(−1.60)	(−1.88)	(2.40)
tleverage	−0.044	−14.653	−0.010	−0.046	−15.624	−0.010
	(−1.43)	(−1.28)	(−0.33)	(−1.51)	(−1.37)	(−0.33)
troa	−0.010	2.802	−0.009	−0.010	2.852	−0.009
	(−0.53)	(0.39)	(−0.47)	(−0.53)	(0.39)	(−0.46)
tsize	0.003	0.785	0.012***	0.003	0.794	0.013***
	(0.95)	(0.64)	(3.92)	(0.95)	(0.65)	(3.95)
toehold	0.028*	5.855	−0.025	0.029*	6.163	−0.026*
	(1.76)	(0.98)	(−1.64)	(1.81)	(1.04)	(−1.67)
cash	0.013	4.720	−0.012	0.013	4.601	−0.012
	(1.37)	(1.34)	(−1.29)	(1.36)	(1.31)	(−1.32)
gindex	0.001	−0.437	0.001	0.001	−0.459	0.001
	(0.36)	(−0.74)	(0.95)	(0.33)	(−0.78)	(0.95)
roa	0.436***	16.883	0.012	0.432***	17.054	0.026
	(3.49)	(0.36)	(0.10)	(3.48)	(0.37)	(0.21)
tenure	−0.001	0.371	−0.001	−0.001	0.397	−0.001
	(−1.21)	(0.90)	(−1.39)	(−1.17)	(0.97)	(−1.38)
rdealsize	0.051***	7.037	0.059***	0.051***	7.074	0.060***
	(2.77)	(1.03)	(3.31)	(2.77)	(1.04)	(3.35)
leverage	0.052	10.172	−0.027	0.052	10.482	−0.024
	(1.63)	(0.86)	(−0.87)	(1.64)	(0.89)	(−0.79)
freecash	−0.576***	−10.215	−0.033	−0.573***	−10.656	−0.046
	(−3.65)	(−0.17)	(−0.21)	(−3.64)	(−0.18)	(−0.30)
size	−0.003	1.378	−0.009**	−0.004	1.304	−0.008**
	(−1.00)	(1.06)	(−2.53)	(−1.07)	(1.00)	(−2.48)
btm	0.013	−8.973	0.022	0.011	−9.584	0.023
	(0.66)	(−1.23)	(1.15)	(0.57)	(−1.31)	(1.21)
Constant	0.095*	−15.568	−0.094*	0.098*	−14.845	−0.100*
	(1.67)	(−0.74)	(−1.70)	(1.73)	(−0.70)	(−1.81)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	293	293	293	293	293	293
Adj. R^2	0.180	0.022	0.286	0.183	0.021	0.290

Table 10: : Orthogonality Test of Identification Variables

This table reports the orthogonality test of the identification variables. The test is based on the two-stage least squares (2SLS) with the first stage being the linear probability regression of the forced CEO turnover. In Panel A, the second stage is the regression of the total number of acquisitions (n_{it}), and in Panel B, the second stage is the regression of the number of bad acquisitions (n_{it}^b), with all the control variables in the regressions of n_{it} and n_{it}^b as well as all the control variables in the hazard regression included. In either panel, column 1 tests the overidentifying restriction of the identification variables in the baseline model (i.e., board independence, board size, and CEO-chairperson duality). From column 2 to column 4, the additional identification variables—financial restatement (restate), forced turnover in the peer firms of the same industry (ind_fire), and industry volatility of stock returns (ind_vol), are added alternately. And in column 5, all the additional identification variables are added.

	Panel A: Second Stage Based on n_{it}				
	Baseline	restate	ind_fire	ind_vol	All
	(1)	(2)	(3)	(4)	(5)
J-Statistic	0.545	0.554	1.384	1.556	2.488
p-Value	0.762	0.907	0.709	0.670	0.778
	Panel B: Second Stage Based on n_{it}^b				
	Baseline	restate	ind_fire	ind_vol	All
	(1)	(2)	(3)	(4)	(5)
J-Statistic	0.621	1.730	0.633	2.322	4.098
p-Value	0.733	0.630	0.889	0.508	0.535

Table 11: : Forced CEO Turnover and Dismissal Hazard - Additional Identification Variables

This table presents the hazard estimation with the additional identification variables. restate is a dummy variable equal to one if the firm has accounting restatements in the past year. ind_fire is a dummy equal to one if there are forced CEO turnover events in the firm's Fama and French (1997) 48 industries in the past 2 years. ind_vol is the standard deviation of stock returns in the Fama and French (1997) 48 industries in the past fiscal year. Panel A uses Cox model and Panel B uses the Weibull model for the hazard estimation. Panel C shows the average number of restatements of the firm one year before and one year after each acquisition event, and the difference between these two statistics. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	Panel A: Cox Model			
Variable	(1)	(2)	(3)	(4)
peer_induced_ret	−0.006**	−0.006**	−0.005*	−0.005*
	(−2.25)	(−2.14)	(−1.85)	(−1.93)
idiosyncratic_ret	−0.013***	−0.013***	−0.013***	−0.012***
	(−7.13)	(−7.29)	(−7.21)	(−7.11)
agedum	−1.207**	−1.207**	−1.223**	−1.192**
	(−2.39)	(−2.39)	(−2.43)	(−2.36)
ownership	−3.020***	−3.033***	−3.015***	−3.017***
	(−3.01)	(−3.02)	(−3.00)	(−3.01)
ceodual	−0.619***	−0.601***	−0.610***	−0.604***
	(−4.85)	(−4.71)	(−4.78)	(−4.73)
boardsize	0.023	0.034	0.032	0.041*
	(1.06)	(1.58)	(1.45)	(1.83)
boardindp	0.889**	0.907**	0.927**	0.950**
	(2.17)	(2.21)	(2.27)	(2.31)
restate	1.014***			1.021***
	(4.37)			(4.40)
ind_fire		0.260***		0.249***
		(3.43)		(3.28)
ind_vol			0.005**	0.004*
			(2.14)	(1.92)
Observations	16,323	16,323	16,323	16,323

Continued on next page

Table 11 Continued

	Panel B: Weibull Model			
Variable	(1)	(2)	(3)	(4)
peer_induced_ret	−0.005**	−0.004**	−0.003	−0.003
	(−2.26)	(−2.05)	(−1.37)	(−1.54)
idiosyncratic_ret	−0.013***	−0.013***	−0.013***	−0.012***
	(−7.15)	(−7.32)	(−7.03)	(−6.90)
agedum	−1.184**	−1.178**	−1.199**	−1.155**
	(−2.35)	(−2.34)	(−2.38)	(−2.29)
ownership	−3.065***	−3.076***	−3.058***	−3.042***
	(−3.05)	(−3.06)	(−3.05)	(−3.03)
ceodual	−0.473***	−0.448***	−0.464***	−0.490***
	(−3.88)	(−3.69)	(−3.82)	(−4.02)
boardsize	0.024	0.036	0.033	0.043*
	(1.13)	(1.64)	(1.50)	(1.95)
boardindp	0.203	0.158	0.272	0.329
	(0.54)	(0.42)	(0.72)	(0.86)
restate	1.126***			1.097***
	(5.02)			(4.89)
ind_fire		0.264***		0.249***
		(3.60)		(3.39)
ind_vol			0.006***	0.006***
			(3.14)	(3.02)
Observations	16,323	16,323	16,323	16,323

	Panel C: Restatements before and after Acquisitions		
	One Year before Acquisitions	One Year after Acquisitions	Difference
Restatements	0.019	0.022	0.003
			(0.704)

Table 12: : CEO Job Security and Frequency of Acquisitions When CEO Dismissal Hazard Estimated with Additional Identification Variables

This table reports the regressions of acquisition numbers on CEO dismissal hazard estimated using additional identification variables. We use the hazard estimated with different identification variables (restate, ind_fire, ind_vol, and all above) from specifications (1) through (4). All regressions include industry and year fixed effects. *t*-statistics are presented in parentheses. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	restate	ind_fire	ind_vol	All
Variable	(1)	(2)	(3)	(4)
hazard	-0.016^{***}	-0.009^{**}	-0.009^{**}	-0.006^{**}
	(-2.61)	(-2.11)	(-2.24)	(-2.36)
gindex	-0.010^{***}	-0.010^{***}	-0.010^{***}	-0.010^{***}
	(-3.67)	(-3.65)	(-3.65)	(-3.65)
roa	-0.462^{**}	-0.454^{**}	-0.455^{**}	-0.458^{**}
	(-2.01)	(-1.98)	(-1.98)	(-1.99)
tenure	-0.001	-0.000	-0.000	-0.000
	(-0.29)	(-0.19)	(-0.24)	(-0.19)
leverage	-0.165^{***}	-0.165^{***}	-0.166^{***}	-0.166^{***}
	(-3.14)	(-3.15)	(-3.15)	(-3.15)
freecash	0.694^{**}	0.690^{**}	0.689^{**}	0.690^{**}
	(2.31)	(2.30)	(2.29)	(2.30)
size	0.136^{***}	0.136^{***}	0.136^{***}	0.136^{***}
	(25.17)	(25.18)	(25.18)	(25.21)
btm	-0.179^{***}	-0.181^{***}	-0.180^{***}	-0.181^{***}
	(-7.23)	(-7.28)	(-7.25)	(-7.31)
Constant	-0.260	-0.270	-0.271	-0.275
	(-0.38)	(-0.39)	(-0.39)	(-0.40)
Year F.E.	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes
Observations	9,159	9,159	9,159	9,159
Adj. R^2	0.125	0.124	0.125	0.125

Table 13: : CEO Job Security and Acquisition Deal Picking When CEO Dismissal Hazard Estimated with Additional Identification Variables

This table presents the regressions of acquisition deal picking using CEO dismissal hazards estimated with additional identification variables. We use the hazards estimated from different identification variables (restate, ind_fire, forced_5, and all above) from specifications (1) through (8). n^b_{it} is the total number of bad acquisitions made in a given year. n^n_{it} is the total number of good minus bad deals. All regressions include industry and year fixed effects. The variable definitions can be found in Appendix A. t-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	restate		ind_fire		ind_vol		All	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	n^b_{it}	n^n_{it}	n^b_{it}	n^n_{it}	n^b_{it}	n^n_{it}	n^b_{it}	n^n_{it}
hazard	-0.007^{***}	0.003	-0.004^{**}	0.000	-0.004^{***}	0.003	-0.003^{***}	0.001
	(-3.02)	(0.80)	(-2.49)	(0.09)	(-2.91)	(1.11)	(-2.88)	(0.55)
gindex	-0.001	-0.002	-0.001	-0.002	-0.001	-0.002	-0.001	-0.002
	(-0.68)	(-1.33)	(-0.66)	(-1.33)	(-0.65)	(-1.35)	(-0.66)	(-1.33)
roa	-0.307^{***}	0.283^{**}	-0.304^{***}	0.283^{**}	-0.304^{***}	0.281^{**}	-0.306^{***}	0.283^{**}
	(-3.74)	(2.23)	(-3.70)	(2.22)	(-3.70)	(2.21)	(-3.72)	(2.22)
tenure	-0.001	0.001	-0.000	0.000	-0.001	0.001	-0.001	0.001
	(-0.82)	(0.60)	(-0.70)	(0.46)	(-0.82)	(0.68)	(-0.73)	(0.54)
leverage	-0.039^{**}	-0.006	-0.039^{**}	-0.006	-0.039^{**}	-0.007	-0.039^{**}	-0.006
	(-2.07)	(-0.22)	(-2.07)	(-0.21)	(-2.07)	(-0.22)	(-2.07)	(-0.22)
freecash	0.367^{***}	-0.317^{*}	0.366^{***}	-0.318^{*}	0.364^{***}	-0.314^{*}	0.365^{***}	-0.317^{*}
	(3.42)	(-1.90)	(3.40)	(-1.91)	(3.39)	(-1.89)	(3.40)	(-1.90)
size	0.025^{***}	-0.003	0.025^{***}	-0.003	0.025^{***}	-0.003	0.026^{***}	-0.003
	(13.15)	(-0.90)	(13.16)	(-0.89)	(13.18)	(-0.92)	(13.21)	(-0.91)
btm	-0.051^{***}	0.010	-0.051^{***}	0.012	-0.050^{***}	0.009	-0.051^{***}	0.011
	(-5.71)	(0.72)	(-5.77)	(0.84)	(-5.68)	(0.65)	(-5.78)	(0.77)
Constant	-0.073	0.014	-0.076	0.017	-0.076	0.015	-0.079	0.017
	(-0.29)	(0.04)	(-0.31)	(0.04)	(-0.31)	(0.04)	(-0.32)	(0.04)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,159	9,159	9,159	9,159	9,159	9,159	9,159	9,159
Adj. R^2	0.007	0.064	0.007	0.064	0.008	0.064	0.007	0.028

Table 14: : CEO Job Security and Acquisition Performance When CEO Dismissal Hazard Estimated with Additional Identification Variables

This table presents the regressions of acquisition performance with additional identification variables for the hazard rate estimation. The performance is measured by cumulative abnormal return (CAR) during event window [-2, 2] and abnormal dollar return (ADR). We use the CEO dismissal hazard estimated using different identification variables (restate, ind_fire2, ind_vol, and all above) from specification 1 through 8. All regressions include industry and year fixed effects. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	restate		ind_fire		ind_vol		All	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	CAR	ADR	CAR	ADR	CAR	ADR	CAR	ADR
hazard	0.443***	0.283**	0.276***	0.180**	0.307***	0.182**	0.156***	0.092**
	(4.23)	(2.55)	(3.93)	(2.42)	(4.58)	(2.56)	(3.70)	(2.06)
runup	0.018***	0.005	0.019***	0.005	0.018***	0.005	0.019***	0.005
	(2.98)	(0.76)	(3.01)	(0.77)	(2.93)	(0.74)	(3.04)	(0.81)
pub_target	−0.943***	−0.246	−0.961***	−0.258	−0.946***	−0.250	−0.947***	−0.251
	(−3.88)	(−0.96)	(−3.95)	(−1.00)	(−3.90)	(−0.97)	(−3.90)	(−0.98)
toehold	0.809**	0.416	0.817**	0.421	0.810**	0.418	0.818**	0.423
	(2.00)	(0.97)	(2.02)	(0.98)	(2.01)	(0.98)	(2.02)	(0.99)
cash	0.283	0.463*	0.276	0.458*	0.280	0.461*	0.284	0.464*
	(1.15)	(1.77)	(1.12)	(1.75)	(1.14)	(1.77)	(1.15)	(1.78)
gindex	−0.052	0.055	−0.051	0.056	−0.053	0.055	−0.053	0.055
	(−1.23)	(1.23)	(−1.20)	(1.24)	(−1.24)	(1.23)	(−1.24)	(1.23)
roa	2.447	−1.328	2.479	−1.310	2.479	−1.302	2.518	−1.278
	(1.09)	(−0.56)	(1.11)	(−0.55)	(1.11)	(−0.55)	(1.12)	(−0.54)
tenure	0.050	0.020	0.047	0.018	0.054*	0.021	0.044	0.015
	(1.59)	(0.60)	(1.49)	(0.55)	(1.70)	(0.63)	(1.39)	(0.45)
rdealsize	−2.336***	−1.053	−2.377***	−1.080	−2.348***	−1.060	−2.354***	−1.063
	(−3.77)	(−1.60)	(−3.83)	(−1.64)	(−3.79)	(−1.61)	(−3.79)	(−1.62)
leverage	2.024**	1.709*	2.022**	1.709*	2.104**	1.752*	1.999**	1.689*
	(2.37)	(1.89)	(2.37)	(1.89)	(2.46)	(1.93)	(2.34)	(1.87)
freecash	−3.643	−0.872	−3.892	−1.029	−3.745	−0.951	−3.848	−1.013
	(−1.38)	(−0.31)	(−1.48)	(−0.37)	(−1.42)	(−0.34)	(−1.46)	(−0.36)
size	−0.299***	−0.743***	−0.302***	−0.746***	−0.305***	−0.745***	−0.300***	−0.742***
	(−3.71)	(−8.70)	(−3.74)	(−8.71)	(−3.79)	(−8.72)	(−3.71)	(−8.66)
btm	0.998**	1.247**	1.012**	1.251**	0.919*	1.219**	1.085**	1.319***
	(2.06)	(2.43)	(2.09)	(2.43)	(1.89)	(2.37)	(2.25)	(2.58)
Constant	4.073**	3.986*	4.268**	4.117**	4.083**	3.977*	4.227**	4.059*
	(2.08)	(1.92)	(2.17)	(1.98)	(2.08)	(1.91)	(2.15)	(1.95)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,844	2,844	2,844	2,844	2,844	2,844	2,844	2,844
Adj. R^2	0.057	0.059	0.057	0.059	0.058	0.059	0.056	0.059

Table 15: : Acquisition Activities When CEO Dismissal Risk Is Extremely High

This table tests whether CEOs with extremely high dismissal risk behave like gamblers. hazard is the CEO dismissal hazard estimated from specification (3) in Table 2. hz_hzD10 is interaction between hazard and a dummy variable that is equal to one if the hazard is in the top decile. All regressions include industry and year fixed effects. The variable definitions can be found in Appendix A. t-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Variable	n_{it}	n_{it}	n_{it}	n^b_{it}	n^b_{it}	n^b_{it}
hazard	-0.019^{***}	-0.019^{***}	-0.023^{**}	-0.012^{***}	-0.013^{***}	-0.014^{***}
	(-2.67)	(-2.61)	(-2.39)	(-4.68)	(-4.85)	(-4.11)
hz_hzD10	0.007	0.006	0.008	0.009^{***}	0.009^{***}	0.009^{***}
	(1.10)	(1.02)	(0.95)	(4.09)	(4.08)	(3.01)
gindex			-0.010^{***}			-0.001
			(-3.62)			(-0.55)
roa		-0.527^{***}	-0.450^{*}		-0.213^{***}	-0.298^{***}
		(-3.42)	(-1.96)		(-3.82)	(-3.62)
tenure		-0.001	-0.001		-0.001^{*}	-0.001
		(-0.40)	(-0.37)		(-1.72)	(-1.07)
leverage	-0.185^{***}	-0.183^{***}	-0.166^{***}	-0.037^{***}	-0.036^{**}	-0.039^{**}
	(-4.73)	(-4.67)	(-3.15)	(-2.59)	(-2.52)	(-2.09)
freecash	0.219^{**}	0.813^{***}	0.684^{**}	0.023	0.262^{***}	0.359^{***}
	(2.27)	(4.09)	(2.28)	(0.65)	(3.66)	(3.34)
size	0.115^{***}	0.115^{***}	0.136^{***}	0.019^{***}	0.019^{***}	0.026^{***}
	(28.92)	(28.91)	(25.15)	(13.51)	(13.46)	(13.33)
btm	-0.134^{***}	-0.153^{***}	-0.179^{***}	-0.038^{***}	-0.045^{***}	-0.051^{***}
	(-7.74)	(-8.37)	(-7.21)	(-6.00)	(-6.76)	(-5.73)
Constant	-0.315	-0.270	-0.255	-0.032	-0.008	-0.066
	(-0.48)	(-0.42)	(-0.37)	(-0.14)	(-0.03)	(-0.27)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,218	14,218	9,159	14,218	14,218	9,159
Adj. R^2	0.115	0.115	0.125	0.047	0.048	0.058

Table 16: : CEO Job Security and Method of Payment in Acquisitions

This table tests whether acquiring CEOs with different dismissal hazard prefer different methods of payment in acquisitions. In columns 1 to 4, the hazard is estimated from specification (3) in Table 2. In columns 5 to 8, the hazard is estimated with the three additional identification variables discussed in Table 11. In columns 1, 3, 5, and 7, the dependent variables is the pure-cash dummy, and in the other columns, the dependent variables is the percentage of deal value offered in cash. Columns 1, 2, 5, and 6 use the full acquisition sample, while columns 3, 4, 7, and 8 use the subsample of public targets. All regressions include industry and year fixed effects. The variable definitions can be found in Appendix A. *t*-statistics are presented in parentheses. Superscripts ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.10, respectively.

	Hazard from Base Cox Model				Hazard with More Identification Variables			
	Cash	Cash Pct.	Cash	Cash Pct.	Cash	Cash Pct.	Cash	Cash Pct.
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
hazard	0.015*	0.008	0.044	0.010	0.005	0.003*	0.013	−0.000
	(1.74)	(1.36)	(1.35)	(0.46)	(1.47)	(1.82)	(1.04)	(−0.06)
ttobinq			−0.051***	−0.040***			−0.051***	−0.039***
			(−3.00)	(−3.62)			(−2.96)	(−3.57)
tleverage			−0.601***	−0.485***			−0.585***	−0.479***
			(−2.93)	(−3.47)			(−2.86)	(−3.43)
troa			0.114	−0.095			0.112	−0.095
			(0.86)	(−0.97)			(0.84)	(−0.98)
tsize			−0.091***	−0.046***			−0.092***	−0.046***
			(−4.23)	(−3.20)			(−4.26)	(−3.21)
toehold	0.099***	0.022**	0.308***	0.208***	0.100***	0.022**	0.305***	0.205***
	(3.62)	(2.28)	(2.91)	(2.86)	(3.64)	(2.28)	(2.88)	(2.82)
gindex	0.011***	0.001	0.014	0.005	0.011***	0.001	0.015	0.005
	(3.39)	(0.89)	(1.33)	(0.62)	(3.38)	(0.88)	(1.38)	(0.64)
roa	0.417	0.142	0.857	−0.427	0.416	0.143	0.785	−0.439
	(1.51)	(0.78)	(1.01)	(−0.69)	(1.50)	(0.79)	(0.92)	(−0.70)
tenure	0.003	0.000	0.001	0.001	0.003	−0.000	0.000	0.001
	(1.32)	(0.00)	(0.14)	(0.25)	(1.22)	(−0.04)	(0.06)	(0.23)
rdealsize	−0.729***	−0.360***	−0.161	−0.203***	−0.729***	−0.360***	−0.165	−0.209***
	(−16.22)	(−11.25)	(−1.29)	(−2.63)	(−16.22)	(−11.28)	(−1.32)	(−2.70)
leverage	0.134**	0.017	0.265	0.104	0.131**	0.015	0.246	0.104
	(2.07)	(0.53)	(1.22)	(0.71)	(2.02)	(0.47)	(1.14)	(0.71)
freecash	−0.335	−0.060	−0.303	1.114	−0.334	−0.061	−0.224	1.134
	(−0.92)	(−0.23)	(−0.28)	(1.47)	(−0.92)	(−0.23)	(−0.21)	(1.50)
size	0.027***	0.006	0.058**	0.040***	0.027***	0.006	0.059**	0.040***
	(5.05)	(1.65)	(2.47)	(2.66)	(5.06)	(1.60)	(2.48)	(2.67)
btm	0.209***	0.047***	0.143	0.014	0.214***	0.048***	0.148	0.021
	(5.68)	(3.17)	(1.06)	(0.17)	(5.88)	(3.13)	(1.10)	(0.24)
Constant	0.040	0.910***	0.396	0.828***	0.046	0.915***	0.417	0.829***
	(0.27)	(14.89)	(1.02)	(3.24)	(0.30)	(14.88)	(1.07)	(3.24)
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,252	2,691	297	197	3,252	2,691	297	197
Adj. R^2	0.164	0.131	0.328	0.406	0.163	0.131	0.326	0.405