

Acquisitions and CEO Compensation Changes^{1*}

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October 2019

Abstract

We report that increases in CEO compensation following acquisitions are unique to stock-financed deals. Moreover, because the frequency of stock financed deals has dropped sharply over our sample period (1993-2017), acquisition related increases in CEO compensation are significant only in the first half of the sample period. We further find that the CEO compensation increases in stock financed deals are driven by increases in equity based compensation, and are concentrated in riskier acquirers, riskier deals, and in acquirers whose CEOs have low exposure to the stock price. These findings support the *Dual Adverse Selection Hypothesis*, which posits that acquirers use stock to overcome adverse selection in the target firm, while increasing the equity based compensation of the acquirer CEO to mitigate adverse selection concerns on the part of target shareholders. We find little support for the hypothesis that acquisition-related increases in CEO compensation are due to entrenched, empire building CEOs.

* We are grateful for helpful comments received from Igor Cunha, Brad Jordan, Paige Ouimet and seminar participants at Iowa State, Middle Tennessee State, and St. John's. We are also grateful for the support of the Institute for the study of Free Enterprise.

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1. Introduction

A number of prior studies analyze the evolution of CEO compensation around acquisitions and generally report that (i) CEOs benefit from acquisitions, on average, and (ii) these benefits are uncorrelated with measures of the quality of the acquisitions. For example, Grinstein and Hribar (2004) examine the period from 1993 to 1999 and find that CEOs are rewarded with higher bonuses for completed acquisitions. These bonuses are positively associated with measures of CEO power and are unrelated to deal performance. Similarly, examining acquisitions over the period from 1993 to 2000, Harford and Li (2007) find that the value of the acquiring firm CEO's portfolio is positively related to long term stock returns when those returns are positive, but unrelated to stock returns when those returns are negative. They conclude that compensation changes following acquisitions insulate CEOs from downside risk. Most recently, Yim (2013) finds that acquisitions completed between 1993 and 2007 are associated with large, permanent increases in CEO compensation. Because such compensation increases are more valuable for CEOs with long career horizons, Yim argues that this creates strong financial incentives for CEOs to pursue acquisitions early in their career. Consistent with this conjecture, Yim (2013) reports that acquisition propensities decline with CEO age.

We re-examine the link between CEO compensation and acquisitions over an extended and more recent sample period (1993-2017) and find that the positive association between acquisitions and CEO compensation is not robust over time. Consistent with Yim (2013), we find a positive association between changes in CEO compensation and acquisitions in the first half of our sample (1993-2005). However, during the second half of our sample (2006-2017), we find no significant association between acquisitions and changes in CEO compensation.

We further find that the disappearance of any association between acquisitions and changes in CEO compensation in the latter part of our sample period is strongly linked with the sharp decline in the propensity of all-stock deals since 2001. In the first half of our sample, acquisitions for which the method of payment is common stock comprise 23% of all acquisitions. While all-stock deals are positively

associated with changes in CEO compensation, there is no evidence of such an association for either all-cash deals or deals in which the method of payment is a mixture of cash and stock. Importantly, we find similar patterns in the second half of our sample. All stock deals are positively associated with changes in CEO pay, while all-cash and mixed deals are not. The difference, however, is that the frequency of all-stock deals declines from 23% in the first half of our sample to only 5% of acquisitions in the second half of the sample. As a result, the unconditional association between acquisitions and changes in CEO compensation disappears in the second half of the sample.

These findings imply that in order to understand the factors driving changes in CEO compensation following acquisitions, we need to understand why such changes are specific to all-stock deals. Moreover, as we later show, increases in compensation following all-stock deals are driven primarily by changes in equity-based compensation. Although there is some evidence of changes in salary and bonus, these changes are economically much smaller and often statistically insignificant. Thus, any explanation for CEO compensation increases following all-stock acquisitions should also explain why these compensation changes are primarily due to increases in equity-based compensation.

One possibility is that both the acquisitions themselves and the subsequent compensation changes are a manifestation of agency problems in the acquiring firm. Under this view, entrenched managers pursue acquisitions to expand their empire and use the acquisition and their influence over the board to increase their compensation. This might be particularly effective in stock deals because such deals avoid the scrutiny of the capital market that is associated with raising cash through external financings. Contrary to this hypothesis, however, we find no evidence that changes in compensation following all-stock deals are associated with measures of poor corporate governance. In fact, using one measure of corporate governance, board capture, we find the evidence goes in the opposite direction. Moreover, it is unclear why entrenched managers would choose to increase their compensation via risky, equity-based pay rather than salary or bonus. Finally, insofar as entrenched CEOs capture higher compensation, our additional finding that greater CEO compensation in all-stock deals is concentrated in CEOs with low levels of compensation prior to the deal announcement is also inconsistent with this hypothesis.

An alternative is that the compensation dynamics that we observe surrounding all-stock acquisitions represent endogenous contracting solutions to frictions associated with adverse selection in the acquisition market. Prior studies dating back to Hansen (1987) predict that acquirers offer stock as a means of payment when target value is uncertain and when the target has superior information about its value. The use of stock serves as a contingent payment mechanism whereby target shareholders receive smaller payments if the value of the target (and, therefore, the combined post-acquisition company) subsequently declines. At the same time, however, the value of the stock offered in the acquisition is also uncertain, leading target shareholders to be concerned about adverse selection in the method of payment chosen by the acquirer. A shift in compensation towards greater equity-based pay for the acquiring firm CEO is one way for the acquirer to credibly signal that the acquirer's stock is not overvalued. However, because greater equity-based pay increases the risk of the CEO's overall compensation package, the CEO's total compensation will correspondingly have to increase in order to satisfy the CEO's participation constraint (e.g. Hölmstrom, 1979).

We report a series of results consistent with this two-sided adverse selection argument. First, we find that changes in CEO compensation for all-stock deals are greater for riskier acquirers (as measured by the standard deviation of market adjusted returns or by the absence of a debt rating) than for less risky acquirers. This association with acquirer risk is not present in either mixed payment acquisitions or all-cash acquisitions. Second, when the CEO's exposure to the stock price is low prior to the acquisition we find that post-acquisition increases in pay are larger in all-stock acquisition years than in non-deal years, all-cash acquisition years or mixed acquisition years. These two findings are consistent with acquirers in all-stock deals using equity-based pay to bond the CEO to the post-acquisition stock price and mitigate target firm concerns about overvalued equity when (i) there is more uncertainty about the acquirer's value, and (ii) when the acquiring firm CEO is less bonded to the acquirer's stock price prior to the acquisition.

With respect to the acquirer's concern about the value of the acquisition, we find that increases in CEO compensation following all-stock deals are significantly greater in acquisitions with above-median risk. Moreover, this increase is paid predominately in equity-based compensation. For acquisitions with

below-median risk, there is no evidence of increases in either fixed or equity-based compensation. Furthermore, there is no evidence of compensation changes for high-risk acquisitions that are either all-cash or mixed payment.

Perhaps most notably, we find increases in equity-based compensation only when both dimensions of adverse selection are present; that is, when both acquirer risk and deal risk are high. These results provide additional support for the two-sided adverse selection hypothesis in that equity-based compensation apparently increases only when there is reason for acquirer shareholders to be concerned about the value of the acquisition and reason for target shareholders to be concerned about the value of the consideration paid. Moreover, consistent with the increase in equity-based compensation serving as a credible signal of acquirer value, we find that the acquirer's stock price reaction to the acquisition is positively associated with increases in equity-based compensation, but unrelated to changes in other components of CEO compensation.

Our study contributes to the literatures that study the compensation incentives of acquisitions and the optimal design of executive pay. While previous studies document significant increases in CEO pay following acquisitions and the extent to which these changes in pay are correlated with the wealth created in the acquisitions, we report new and important stylized facts about the time-series of compensation changes around acquisitions, which acquisitions in the cross-section exhibit compensation changes, and the form of compensation that is changed. Specifically, we find that compensation changes are limited to acquisitions for which the medium of exchange is acquirer stock. In these deals, compensation is increased primarily through equity-based pay. By contrast, when the medium of exchange is either all cash or a mix of cash and acquirer shares, there is no evidence of any post-acquisition changes in CEO compensation. Moreover, because all-stock acquisitions declined substantially in the latter half of the sample period, there is little evidence that CEO compensation increases, on average, following successful acquisitions in recent years.

Together, these findings cast doubt on the view that compensation changes provide perverse incentives for CEOs to pursue acquisitions even if they are value-reducing. It is unclear why such perverse

incentives would be present only in stock acquisitions. Moreover, we find little evidence that agency problems drive compensation changes in the acquiring firms. Rather, our evidence supports a more benign, contracting motive for the observed compensation changes whereby such changes solve a two-sided adverse selection problem in acquisitions for which the medium of exchange is acquirer stock.

2. Literature review

Previous studies of the evolution of CEO compensation around acquisitions find that CEOs benefit from acquisitions. Grinstein and Hribar (2004), examining the period 1993 to 1999, find that CEO bonus compensation for completed deals is positively related to CEO power and these increases are not related to deal performance. They conclude, “Managerial power is the primary driver of M&A bonuses.” Examining the period 1993 to 2000, Harford and Li (2007) find acquisitions insulate the CEOs from downside risk. The value of the CEO’s portfolio after an acquisition is positively related to long-term stock returns for positive returns, but unrelated to stock returns for negative returns.² Similarly, Fu, Lin, and Officer (2013) suggest CEOs in firms with overvalued stock pursue stock financed acquisitions in order to receive large equity grants. In the study most closely related to our study, Yim (2013) investigates the period 1993 to 2007. She finds CEO compensation increases are greater in years in which firms announce an acquisition. We confirm this result in the first half of our sample period, but find the result does not hold in the second half of the sample. Yim further finds the positive relation between acquisitions and CEO compensation increases is driven by young CEOs.

A vast literature investigates acquiring firm returns and operating performance across different periods around and after acquisition announcements. Although neoclassical theory suggests that mergers should increase the value of both the target and acquiring firm, studies find that average returns for acquirers

² In the Harford and Li (2007) sample of acquisitions with a relative size of at least 10%, 73% of the acquisitions are stock deals.

around the announcement of an acquisition are indistinguishable from zero, on average, and negative in the case of acquisitions financed by stock (e.g. Travlos, 1987; Loughran and Vijh, 1997).

Several hypotheses explain why firms might pursue acquisitions associated with decreases in the market value of the firm's equity. Jensen (1986), Jensen and Murphy (1990), and Stulz (1990) highlight managers' agency based motivations to increase the size of the firm, such as increased managerial power and compensation. Roll (1986) posits that hubristic CEOs overbid for target firms because they overestimate the value of the target firm under their control. Shleifer and Vishny (2003) model an inefficient market and show that rational managers can take advantage of market inefficiencies by using overvalued stock as a cheap currency to buy other firms. The market interprets the choice to pay with stock as a potential signal of overvaluation of the acquirer and decreases the acquirer stock price accordingly. In this paper, we develop a hypothesis that integrates the acquirer's motive to share the risk of overvaluing the deal with the target firm and the target shareholders' motive to avoid accepting overvalued equity.

Given the potential of financing an acquisition with overvalued equity, recent research questions whether stock financed acquisitions actually destroy shareholder value. Savor and Lu (2009) find that acquirers use overvalued equity in stock financed acquisitions to increase shareholder value. Golubov, Petmezas, and Travlos (2016) suggest the negative announcement returns for stock financed acquisitions comes entirely from the negative signal associated with issuing stock. In contrast, Fu, Lin, and Officer (2013) conclude poor governance and CEO self-interest are the primary reasons overvalued firms acquire. In related research, Eckbo, Makaew, and Thorburn (2018) report that acquirers use more stock when the target knows more about the bidder and is therefore less susceptible to accepting overvalued equity as payment.

Another branch of the literature examines how executive compensation and its components relates to the probability and characteristics of a subsequent acquisition. Datta, Iskandar-Datta and Raman (2001) find acquirers with high equity-based compensation pay lower acquisition premiums and have higher acquirer announcement returns. Cai and Vijh (2007) investigate the effects of CEO stock and option holdings on acquisitions. They find more valuable CEO stock and option holdings are associated with a

higher probability of being an acquirer and higher acquisition premiums. These studies focus on executive compensation and equity based holdings before an acquisition. In contrast, our study examines changes in CEO compensation around acquisition announcements.

Two recent papers explore the sharp drop in the proportion of acquirers paying exclusively with stock. Boone, Lie, and Liu (2014) document the decreased frequency of stock financed acquisitions since the early to mid-2000s in their sample of acquisitions with public acquirers and public targets and find that only a portion of the time series variation in methods of payment is due to variation in their measures of adverse selection, taxation, and contracting costs. De Bodt, Cousin, and Roll (2018) note that the percentage of stock financed deals drops from around 50% before 2001 to around 10% after 2010 and that the beginning of the decline in 2001 coincides with the abolishment of the pooling method of accounting.

We extend the above literature by re-examining CEO compensation changes over a longer and more recent time period and across different methods of payment. We then develop and test two primary hypotheses for the cross-sectional variation in compensation changes following acquisitions; the Agency Hypothesis and the Dual Adverse Selection Hypothesis.

3. Sample selection and data description

We begin with the Compustat universe of firms between 1993 and 2017 and merge this dataset with data from a variety of different data sources. The acquisition data comes from Thomson Reuters SDC Platinum database (SDC). We include acquisitions by U.S. public acquirers and require the deal to be a merger, acquisition, acquisition of majority interest, or acquisition of assets. Similar to Yim (2013), we further require the deal value to be at least 5% of the market value of equity of the acquiring firm as of the previous fiscal year end. The CEO compensation data comes from the Execucomp database. Return data is from the Center for Research in Security Prices (CRSP) and implied volatility data is from the Optionmetrics database. We also use governance data from the Institutional Shareholder Services' Governance database.

To investigate the persistence of the positive relation between takeovers and increases in CEO compensation, we partition the sample into two sub-periods: 1993 to 2005 and 2006 to 2017. Table 1 reports the summary statistics for each period. Panel A details the characteristics of the 5% or greater relative size acquisitions (5% acquisition) within each period. The frequency of 5% acquisitions decreases from 12.4% of firm-years in the early period to 11.0% in the late period. Consistent with prior literature (e.g. Boone, Lie, and Liu, 2014; de Bodt, Cousin, and Roll 2016), the method of payment for the acquisitions changes sharply across the periods. The frequency of deals in which the consideration is composed of at least 95% stock (*All stock*) drops from 23.3% in the early period to 5.4% in the late period. Making up for most of the drop in all stock deals, the frequency of deals in which the consideration is composed of at least 95% cash (*All cash*) jumps from 26.4% to 41.0%. The frequency of all other deals, designated *Mixed* deals, increases slightly from 50.3% to 53.6%.

For each of the two sub-periods respectively, Panel B and Panel C of Table 1 detail the firm characteristics for the non-acquiring firm-years and the subset of firm-years with an acquisition announcement. *Chg CEO Comp* is the change in total CEO compensation from the prior year divided by the prior year compensation and is winsorized at the 1st and 99th percentile. *Assets* is the prior year assets for the firm (denoted in \$millions). *Firm age* is the number of years since the firm was listed on CRSP. *Mkt to Book* is the prior fiscal year end ratio of the market value of assets divided to the book value of assets and is winsorized at the 1st and 99th percentile. *Prior year return* is the buy and hold return for the stock over the prior fiscal year. *ROA* is the return on assets at the end of the prior fiscal year and is winsorized at the 1st and 99th percentile. *Change in CEO* is an indicator variable equal to one if there was a change in CEO. *CEO age* is the age of the CEO. *CEO tenure* is the number of years the CEO has served as CEO at the firm. *CEO compensation* is the total compensation for the CEO of the firm in the prior year. We use these variables throughout the paper. We will discuss the variables that are specific to the second part of the analysis later in the paper when we examine cross-sectional variation in the relation between increases in CEO compensation and method of payment in an acquisition.

In the early period, the increase in total CEO compensation is higher in acquisition firm-years than in non-acquisition firm-years by a 6.8% (p -value = 0.016). In the late period, however, the increases in compensation for the two samples are almost identical. With the exception of *Mkt to Book*, the difference in means tests between the acquisition and non-acquisition samples yield similar results in the two periods. Acquiring firms have fewer assets, are younger, have higher prior year returns, have higher ROA, are less likely to replace the CEO, and have younger CEOs. We find no significant differences in CEO tenure or prior year CEO total compensation between the acquisition and non-acquisition sample. Somewhat surprisingly, the lagged market to book ratio is higher for acquiring firms in the early period, but lower for acquiring firms in the late period.

4. Changes in CEO Compensation Following Acquisitions

Table 2 reports coefficient estimates and t -statistics from regressions that test for differences in the change in CEO compensation for firm-years in which a 5% acquisition is announced during the year and non-acquiring firm-years for the two sub periods in our sample. The model is based on those estimated in Yim (2013). The variable of interest (*Announced 5% deal - completed*) indicates the firm announced a 5% acquisition during the year that was subsequently completed. We also include the variable (*Announced 5% deal - withdrawn*) indicating the firm announced a 5% acquisition during the year that was subsequently withdrawn. In Models (2) and (4), we add variables indicating the firm announced a 5% acquisition in the prior year, separated based on whether the deal was completed. Additional variables in each model control for log of assets, firm age, market to book, prior year return, ROA, and an indicator for a change in the CEO. Industry-year fixed effects are included in each model and standard errors are clustered by firm.

Consistent with Yim (2013), we find that changes in CEO compensation in the early period are significantly greater in firms-years in which a firm announces a 5% acquisition that is subsequently completed than in firm-years for which there is no 5% acquisition announcement. However, our results suggest the greater increases in CEO compensation associated with acquisitions are specific to the early

sample period. The coefficient drops from between 7.6% to 7.9% in the early period to 2.5% to 2.7% in the later period and is no longer statistically significant. We further find that 5% acquisitions that are subsequently withdrawn are not associated with significantly greater increases in CEO compensation and that 5% acquisitions announced in the prior year are not associated with significantly greater increases in CEO compensation whether they are subsequently completed or not.

Table 3 breaks down the changes in compensation into its component parts: salary, bonus, equity (stock plus options), stock, option, and other. For each component of compensation, the dependent variable is defined as the change in the component (value in the current year minus the value in the prior year) divided by the prior year total compensation. We again analyze the early period (1993 – 2005) and late period (2006 – 2017) separately. As in the previous table, the control variables and industry-year fixed effects are included in each model and standard errors are clustered by firm.

The results suggest that the increase in compensation associated with acquisitions is predominately coming from equity based compensation. In the early period, acquisitions are associated with an additional 6.8% increase in CEO compensation through equity grants (restricted stock and options). In the late period the additional increase is halved to 3.4%. Salary increases are also larger for acquirers in both periods, but the economic magnitude is only 0.4% of prior compensation. Acquisitions are associated with larger bonuses in the early period, equal to 1.3% of prior compensation, but not in the later period. In summary, the bump in CEO compensation related to 5% acquisitions is composed primarily of equity grants, but these additional grants drop sharply in the later period. Further, acquisition related bonuses disappear in the second half of the sample.

Tables 2 and 3 reveal another interesting pattern. The results in Table 2 suggest CEO compensation increases sharply around CEO transitions. We find a 58% increase in the early period and a 34% in the late period. Table 3 further suggests this additional compensation for new CEOs is paid through equity grants. In the early period the equity grants are mostly option grants, while in the late period they become a balance of restricted stock and option grants. These findings are consistent with firms attempting to quickly align new CEOs incentives with those of shareholders.

To further understand the disappearance of acquisition related CEO compensation increases, we separate deals based on the method of payment in the acquisition, specifically all-stock, all-cash or mixed deals. Table 4 presents these results. Model (1) and model (3) examine the early period and model (2) and model (4) examine the late period. In models (1) and (2) we include indicator variables for all-stock deals, all-cash deals, and mixed deals. Models (3) and (4) further divide each type of consideration into completed and withdrawn deals. As in the previous regressions, the control variables and industry-year fixed effects are included in each model and standard errors are clustered by firm.

The data indicate that all-stock deals overwhelmingly drive the acquisition related increase in CEO compensation, specifically all-stock deals that are subsequently completed. All-stock deals are associated with a 20% extra increase in CEO compensation in the early period and 27% extra increase in the late period. These estimates increase to 21% and 31%, respectively, for completed all-stock deals. Neither all-cash deals nor mixed deals are associated with statistically significant CEO compensation increases in either period. Interestingly, despite the disappearance of acquisition related CEO compensation increases in the late period of the sample, the estimate of the effect for all-stock deals is actually larger in the late period. These findings suggest that the disappearance of acquisition related CEO compensation increases in the late period of the sample is the result of the decrease in the frequency of all-stock deals noted in Table 1.

To investigate which components of CEO compensation increase around acquisitions for each method of payment, Table 5 breaks down the changes in compensation into its component parts for each type of deal consideration. In the early period, the increase in acquisition related CEO compensation for all-stock deals is paid primarily with option grants. In the late period, the increase in compensation shifts to restricted stock. These results coincide with the general shift away from option based pay around the implementation of mandatory option expensing imposed by FASB 123 in the latter part of 2005. Somewhat surprisingly, in the model (8) regression for change in equity in the late period, the estimated coefficient on (All-stock * Completed) of 9.0% does not attain statistical significance. The sharp drop in the frequency of all-stock deals could be contributing to this lack of statistical significance. The results also suggest that restricted stock compensation increased for mixed deals in both periods. In summary, the increase in CEO

compensation associated with all-stock deals is paid in the form of equity based compensation throughout the sample period, primarily options in the early period with a shift to restricted stock in the late period.

5. Why are Changes in Compensation Unique to Stock Deals?

Our results to this point suggest that significant changes in CEO compensation following acquisitions are limited to deals in which common stock is used as the primary method of payment. Moreover, the changes in compensation are driven primarily by changes in equity-based compensation such as stock options and restricted stock. In this section, we introduce two broad hypotheses that can explain these patterns and derive additional testable implications of each hypothesis that we later analyze empirically.

The *Agency Hypothesis* posits that an entrenched CEO pursues an acquisition to increase the size of her empire. The empire building CEO avoids using debt to bypass market scrutiny of the deal, evade additional monitoring, and preserve flexibility in the allocation of future cash flows (e.g. Jensen, 1986). In addition, the entrenched CEO takes advantage of the transition event by leveraging her influence over the board of directors to increase her own compensation (Grinstein and Hribar, 2004).³ Under this hypothesis, therefore, we expect greater CEO compensation increases in all stock deals with entrenched CEOs and weak board oversight. Moreover, insofar as the empire building CEO knows the acquisition is value destroying, we expect the compensation increase to come in the form of non-equity compensation. Finally, we expect these entrenched CEOs to have used their power to capture abnormally high compensation prior to a deal (Bebchuk and Fried, 2003).

The *Dual Adverse Selection Hypothesis* posits that observed changes in compensation represent an optimal contracting solution to frictions from potential adverse selection concerns in the target and

³ Grinstein and Hribar (2004) state, “If the shareholders perceive the arrangement as a blunt expropriation, they are likely to act against it. This argument implies that CEOs that want to maximize rent extraction might try to find justifiable reasons for their compensation. A merger or acquisition could provide such a justification — a manager who acquires another company spends extra time and effort in constructing the deal, and thus the manager can use this task as a justification for additional compensation.”

acquiring firms. The acquirer can mitigate the adverse selection concern of overpaying for the target firm by using stock as the method of payment (Hansen, 1987). However, stock payment creates an adverse selection concern for target shareholders of accepting overvalued equity from the acquirer (Shleifer and Vishny, 2003). To reduce the target firm's overvaluation concerns, the CEO of the acquirer can bond herself to the accuracy of the acquirer stock price by increasing her stock based compensation. That is, the privately informed CEO credibly signals the acquirer is not overvalued by increasing her exposure to the firm's stock price. The resulting increase in the acquiring CEO's exposure to firm risk increases her participation constraint, requiring an increase in overall CEO compensation (Hölmstrom, 1979).

The Dual Adverse Selection hypothesis thus predicts that in stock financed deals, greater increases in CEO compensation are related to greater concerns about target firm adverse selection and acquirer firm overvaluation. It also predicts greater increases in equity based CEO compensation in acquisitions using stock as the form of payment. The required increase in equity compensation is greater when the CEO's exposure to the stock price before the acquisition is low.⁴

5. Tests of the Agency and Dual Adverse Selection Hypotheses

In this section, we attempt to uncover the motives for the observed CEO compensation increases around acquisitions by conducting more direct tests of our hypotheses. To do so, we first create a set of indicator variables based on firm and deal categories that relate to the predictions of the hypotheses. We then test for cross-sectional differences in CEO compensation changes between acquisitions with different firm and deal characteristics. Because we find the acquisition related increases in CEO compensation are specific to all-stock deals, we focus our analysis of the different firm and deal categories on firm-years with all-stock acquisition announcements versus firm-years without acquisition announcements or versus firm-

⁴ The Dual Adverse Selection hypothesis does not predict that higher risk deals are necessarily more likely to be all-stock. It predicts increases in acquirer CEO compensation, specifically equity compensation, in high risk all-stock deals with low prior CEO exposure to the stock price. The form of payment is an equilibrium outcome of the tradeoff between costs and benefits to the target and acquirer. The form of payment will be all-stock in those high risk deals in which the benefits of sharing the risk with the target outweigh the costs of bonding the CEO to the stock price through greater equity compensation.

years with acquisition announcements using other methods of payment. However, we also conduct tests using all-cash deal firm-years or mixed deal firm-years versus non-acquisition firm-years.

More specifically, after presenting summary statistics for the variables of interest, we conduct two types of multivariate tests. First, we test whether within each firm and deal category, changes in CEO compensation within firm-years with acquisition announcements using a specific type of consideration differ from non-acquisition firm-years, and whether this difference is sensitive to the firm or deal characteristic. For example, we test if the larger change in CEO compensation for firms announcing all-stock acquisitions is greater for firms with captured boards than for firms with less captured boards.

Second, we examine the subsample of firm-years with 5% acquisition announcements and investigate if, for a particular acquirer or deal characteristic, the change in CEO compensation when the consideration is all-stock differs from when the consideration is all-cash or mixed. For example, for firms with captured boards, is the change in CEO compensation greater when an all-stock deal is announced than when an all-cash deal is announced. We also test if, within all-stock firm-years, the change in CEO compensation for below median values of the firm or deal characteristic of interest differs from the change in CEO compensation for above median values of the firm or deal characteristic of interest. For example, for all-stock acquisition announcement years, is the change in CEO compensation greater for firms with captured boards than for firms without captured boards. We repeat this analysis for the other two classifications of method of payment, all-cash and mixed.

5.1 Variables of Interest and Predictions

To test the predictions of our hypotheses, we create a set of variables related to these predictions and group the variables into four categories: (i) CEO compensation variables; (ii) Acquirer board variables; (iii) Acquirer risk variables; and (iv) Deal risk variables. Three variables quantify past CEO compensation and the associated incentives: *Excess CEO compensation* is an indicator variable equal to one if the CEO's

excess compensation in the prior year was above the median across all firms in the year.⁵ *CEO delta* and *CEO vega* are estimates of the CEO's exposure to changes in the firm's stock price and volatility. They are calculated based on the methodology in Core and Guay (2002).⁶ Under the *Agency Hypothesis*, we expect compensation changes following acquisitions to be greater in firms with high excess compensation and low sensitivity of compensation to performance. We also expect greater changes in CEO compensation following all-stock deals when the sensitivity of the CEO's prior compensation to stock price is low under the *Dual Adverse Selection Hypothesis*. The difference, however, is that under the *Agency Hypothesis*, we expect *CEO delta* to remain low following the acquisition, whereas the *Dual Adverse Selection Hypothesis* predicts an increase in *CEO delta*.

Two variables are commonly used measures of board monitoring and CEO entrenchment: *Fraction of directors after CEO* is the fraction of co-opted directors, directors that were appointed to the board during the CEO's tenure. The data, from Coles, Daniel, and Naveen (2014), span 1996 to 2014. *Classified board* is an indicator variable equal to one if elections to board seats are staggered across years. The variable is downloaded from the Institutional Shareholder Services governance database. Under the *Agency Hypothesis*, we expect greater increases in CEO compensation following all-stock acquisitions when the fraction of co-opted directors is high and if the acquirer has a classified board.

Two variables relate to acquirer risk and potential misvaluation. *Stdev mkt-adj return* is the standard deviation of the difference between the daily firm return and the market return calculated over the one year period prior to the deal announcement. The variable serves as a proxy for the uncertainty in firm value. *Investment grade* is an indicator variable equal to one if the firm has an investment grade rating and zero if it is unrated or has a non-investment grade rating.⁷ We assume that non-investment grade and unrated firms

⁵ Excess compensation is the residual from a regression of CEO compensation on log of firm sales, firm market to book, the prior year return on the firm's stock, firm ROA, CEO tenure, and an indicator variable equal to one if the CEO is at least 60 years old. The regression includes industry-year fixed effects.

⁶ We use Kai Chen's adaptation of Lalitha Naveen's program to calculate delta and vega in Coles, Daniel, and Naveen (2006).

⁷ For the observations with *Investment grade* equal to zero, 75% are unrated firms and 25% are rated below investment grade.

are riskier than investment grade firms and have greater asymmetric information. The variable is downloaded from the Institutional Shareholder Services governance database. Under the *Dual Adverse Selection Hypothesis*, we expect greater increases in CEO compensation following all-stock acquisitions when acquirer risk is high.

Finally, three variables relate to the risk of the deal. $Abs(DGTW\ abret)$, an ex-post measure of the realized uncertainty in the deal, is the absolute value of the DGTW adjusted buy and hold return for the acquirer in the twelve month period after the deal announcement using the technique of Daniel, Grinblatt, Titman, and Wermers (1997). $Abs(DGTW\ abret)$ is a proxy for the magnitude of the change in the market's perception of the deal's value during the one-year period after the initial announcement of the deal. *Excess change implied volatility* measures the market's perception of the change in the expected risk of the firm over the fiscal year. It is calculated as the market adjusted change in the implied volatility of the one-year at-the-money option (the average of the call and put option) from the end of the prior fiscal year just prior to the acquisition to the end of the current fiscal year following the acquisition.⁸ The implied volatility data is from Optionmetrics volatility surface database. *Change stdev* is the difference in the daily standard deviation of returns of the acquirer from the one year period prior to the announcement to the one year period after the deal announcement. Under the *Dual Adverse Selection Hypothesis*, we expect greater increases in CEO compensation following stock acquisitions when the riskiness of the deal is high.

Panel A of Table 6 tabulates the number of observations, the mean value, and the median value of each of the variables of interest within each of the four firm-year types: all-stock deals, no deal, all-cash deals, and mixed deals. Panel B presents difference-in-means tests between all stock deals and the each of the other firm-year types. For the variables that are specific to years with acquisition announcements, statistics for no deal firm-years and the respective tests are excluded.

Consistent with our earlier results, the change in CEO compensation is significantly higher in all-stock deal years than in the other firm-years. All-stock deals are also associated with higher board capture

⁸ To adjust for the change in market volatility we subtract the change in the implied volatility of the S&P 500 at-the-money options over the same time period.

greater variation in returns in the year after the acquisition announcement, and greater uncertainty in acquirer value.

5.2 Cross-sectional Variation in Changes in CEO compensation

Having found that all-stock deals are associated with large increases in CEO compensation, we now analyze which categories of all-stock acquirers drive this relation. The results of this analysis are presented in Tables 7 and 8. Table 7 compares the change in CEO compensation in all-stock deal years to non-deal years, while Table 8 limits the analysis to acquisition years only and compares the change in CEO compensation in all-stock deal years to all-cash and mixed deal years.

Our analysis in Table 7 addresses two primary questions: 1) Within firm-years with a *low* value for the variable of interest, is the change in CEO compensation in all-stock deal years greater than in non-deal firm-years? 2) Within firm-years with a *high* value for the variable of interest, is the change in CEO compensation in all-stock deal years greater than in non-deal firm-years? These two questions allow us to hone in on the types of all-stock deals driving the large increases in CEO compensation and directly test the *Agency* and *Dual Adverse Selection* hypotheses. The analysis in Table 7 covers all firm-years and incorporates only the variables of interest that are available for non-deal firm-years. It presents one regression model for each variable of interest in which the dependent variable is *Change in CEO compensation*. The regressions include an indicator variable for a high value of the variable of interest, indicator variables for all-stock deals, all-cash deals, and mixed deals, and interactions of each of the three deal types and the indicator variable for a high value of the variable of interest.⁹ Each model also includes an indicator for withdrawn deals, the control variables used in Table 2, and industry-year fixed effects. The standard errors are clustered at the firm level.

⁹ For the continuous variables of interest, we separate into above and below median categories: CEO delta, CEO vega, Fraction of directors after CEO, Acquirer CAR, DGTW abret, Change stdev, Change implied volatility, and Abs(DGTW abret). We use the indicator form of these variables in the regression analysis to mitigate potential issues arising from assuming linearity.

The coefficient on *All-stock deal* addresses the first question: Within firm-years with a *low* value for the variable of interest, is the change in CEO compensation in all-stock deal years greater than in non-deal firm-years? The coefficients on *All-cash deal* and *Mixed deal* address the related questions for cash and mixed deals, respectively. The coefficient in F-test (1) sums the coefficients on the method of payment indicator and the respective interaction term to address the second question: Within firm-years with a *high* value for the variable of interest, is the change in CEO compensation in all-stock deal years greater than in non-deal firm-years? The coefficients on F-test (2) and F-test (3) address the related questions for cash and mixed deals.

The analysis in Table 8 restricts the sample to firm-years with 5% acquisition announcements and investigates three primary questions: (1) Within firm-years with a *low* value for the variable of interest, is the change in CEO compensation in all-stock deal years greater than in all-cash and mixed deal years? (2) Within firm-years with a *high* value for the variable of interest, is the change in CEO compensation in all-stock deal years greater than in all-cash and mixed deal years? (3) Within all-stock deal years is the change in CEO compensation in firms with a *high* value of the variable of interest different than in firms with a *low* value of the variable of interest?¹⁰

The variables of interest for which the change in CEO compensation is higher for stock deals than other types of deals in the low variable of interest group but not the high group, or vice versa, are of particular interest. This pattern suggests that CEOs in firms of that type, but not the opposing type, receive a greater increase in compensation, on average, when all stock is chosen as the method of payment. As with Table 7, these results allow us to identify the types of all-stock deals driving the large increases in CEO compensation and test the hypotheses.

We proceed with a joint discussion of Table 7 and Table 8 organized by variable of interest. For CEOs with *low* levels of *Excess CEO compensation* we find that the increase in CEO compensation is

¹⁰ The models in Table 8 do not include an indicator for withdrawn deals. The coefficient on the variable of interest can therefore be interpreted as the difference in the change in CEO compensation between high and low type categories of the variable of interest for withdrawn deals.

greater in all-stock deal years than in non-deal years, all-cash deal years, and mixed deal years; however, this does not hold for CEOs with *high* levels of *Excess CEO compensation*. These results are inconsistent with entrenched CEOs and weak boards using stock deals to increase CEO compensation because we expect high, not low, levels of excess CEO compensation before the deal for entrenched CEOs and weak boards.

For CEOs with *low* levels of *CEO delta (CEO vega)* we find that the increase in CEO compensation is greater in all-stock deal years than in non-deal years, all-cash deal years, and mixed deal years; however, this does not hold for CEOs with *high* levels of *CEO delta (CEO vega)*. These results suggest CEOs with low exposure to firm stock price and volatility receive greater increases in compensation for all-stock deals. Combining these results with the earlier finding that the increase in CEO compensation related to all-stock deals comes primarily through equity based compensation, this is consistent with acquiring firms bonding the CEO to the deal when CEOs with low exposure to firm risk pursue all-stock deals. These findings support the *Dual Adverse Selection* hypothesis.

Regarding board monitoring and CEO entrenchment, for *low* levels of *Fraction of directors after CEO* we find that the increase in CEO compensation is greater in all-stock deal years than in non-deal years, all-cash deal years, and mixed deal years; however, this does not hold for CEOs with *high* levels of *Fraction of directors after CEO*. The finding that the increases in CEO compensation for all-stock deals is focused in firms with low board capture is not consistent with the Agency hypothesis, which predicts captured boards are more likely to acquiesce to CEO demands for higher compensation. The only difference we observe between deal types with respect to *Classified boards* is a marginally significant difference between all-stock deal years and non-deal years when boards are classified.

With respect to potential misvaluation, for *non-investment grade* firms we find that the increase in CEO compensation is greater in all-stock deal years than in non-deal years, all-cash deal years, and mixed deal years; however, this does not hold for *investment grade* firms. We further find that the increase in CEO compensation in all-stock deal years is higher for non-investment grade firms than investment grade firms. These results suggest that greater risk in the value of the acquiring firm is related to greater increases in CEO compensation for all-stock deals. For *high* levels of *Stdev mkt-adj return* firms we find that the

increase in CEO compensation is greater in all-stock deal years than in all-cash deal years and mixed deal years; however, this does not hold for CEOs with *low* levels of *Stdev mkt-adj return*. We also find that the increase in CEO compensation in all-stock deal years is higher for high *Stdev mkt-adj return* firms than low *Stdev mkt-adj return* firms. The results for these two variables are consistent with the acquirer bonding its CEO to the stock price in response to target firm fear of the acquirer using overvalued stock as consideration, as in the *Dual Adverse Selection* hypothesis.

We next consider the variables relating to the risk of the deal. For *high* levels of *Excess change in implied volatility* Table 7 suggests the increase in CEO compensation is greater in all-stock deal years than in non-deal years, but this does not hold for *low* levels of *Excess change in implied volatility*. In Table 8 we see CEO compensation increases more for all-stock deal years than all-cash or mixed deal years regardless of the level of *Excess change in implied volatility* or *Change stdev*. We find more conclusive results for the magnitude of post-announcement returns. For *high* levels of *Abs(DGTW abret)* we find that the increase in CEO compensation is greater in all-stock deal years than in all-cash deal years and mixed deal years; however, this does not hold for CEOs with *low* levels of *Abs(DGTW abret)*. We also find that increases in CEO compensation for all-stock deals are greater when *Abs(DGTW abret)* is high than when it is low. In sum, we find evidence of greater increases in CEO compensation for all-stock deals when the risk of the deal is greater.

5.3. Cross-sectional Variation in Changes in the Components of CEO Compensation

In Table 9, we extend the analysis from Table 8 to the different components of CEO compensation to further investigate the relation between deal risk and the riskiness of the increases in compensation associated with all-stock deals versus all-cash and mixed deals. Specifically, we replace the dependent variable, change in total CEO compensation, with the components of CEO compensation: salary, bonus, and equity. We then examine each of our measures of CEO compensation (Panel A), Board structure (Panel B), Acquirer risk (Panel C), and Deal risk (Panel D) separately. As in Table 8, the key results are the F-tests comparing all-cash deals to all-stock deals and mixed deals.

For the most part, we find that changes in salary and bonus are no different in years with all-stock deals than in years with all-cash deals, regardless of differences in compensation, board structure, acquirer risk, or deal risk. By contrast, changes in equity-based compensation are often significantly different for all-stock deals than for cash and mixed deals. Moreover, the magnitude of this difference is associated with differences in compensation, acquirer risk, and deal risk.

Specifically, we find that, in all-stock deals, changes in equity-based compensation are greater for firms with low levels of compensation, low CEO delta, and low CEO vega. The same is not true for all-cash or mixed deals. Similarly, in all-stock deals, we find that changes in equity-based compensation in all-stock deals are greater for firms in which the fraction of ‘co-opted’ directors is low. However, this is not the case for all-cash and mixed deals. For both measures of acquirer risk, changes in equity-based compensation are greater in all-stock deals than in all-cash or mixed deals when acquirer risk is high (i.e. non-investment grade firms and high standard deviation of return firms), but this does not hold for changes in salary or bonuses.

Finally, for all three measures of deal risk, we find the changes in *salary* and *bonus* are no different in years with all-stock deals than in years with all-cash or mixed deals for both high and low risk deals (F-tests 1, 2, 3, and 4). This is not the case for *equity* compensation. For all three measures of deal risk, we find increases in CEO equity compensation are greater in all-stock deals. Moreover, the results for *Abs(DGTW abret)* and *Excess change implied volatility* indicate the increase in equity compensation is exclusive to deals with above median risk. Combining these results with our earlier results suggests all-stock deals are associated with greater compensation, particularly in high risk deals, and the greater compensation in high risk deals comes in the form equity compensation.

5.4. Are Both Dimensions of Adverse Selection Necessary for Changes in Compensation?

Under the *Dual Adverse Selection Hypothesis*, changes in CEO compensation represent a contracting solution to a situation in which there is uncertainty about both the value of the acquirer's shares and the value of the acquisition. This implies that changes in compensation should be particularly important when both acquirer risk and deal risk is high. By contrast, if just one dimension of risk is high, the predictions for changes in compensation are less clear. For example, if deal risk is high, acquirers might have the incentive to use stock as the method of payment. However, if there is little uncertainty about the value of that stock, there is little need for an increase in equity-based compensation to certify the value of the acquirer's shares.

To test this Table 10 reports the results of regressions in which the dependent variable in each regression is *Chg CEO comp*. Models (1) and (2) test for CEO compensation changes when both dimensions of adverse selection are present; that is when both acquirer risk and deal risk are high. Models (3) and (4) test for CEO compensation changes when only one dimension, either acquirer or deal risk, is high, not both. In Models (1) and (3), the measure of acquirer risk is based on *Stdev mkt-adj* return and the measure of deal risk is based on *Abs(DGTW abret)*. In Models (2) and (4), the measure for acquirer risk is based on *Investment grade* return and the measure for deal risk is based on *Abs(DGTW abret)*. In Models (1) and (2), the indicator variable *Group of interest* is equal to one if both measures indicate adverse selection. In Models (3) and (4), the indicator variable *Group of interest* is equal to one if only one of the measures indicate adverse selection and the other measure does not. The observations for which both measures indicate adverse selection are exclude from the analysis in Models (3) and (4).

The results from Table 10 indicate that changes in CEO compensation following acquisitions are significantly greater for all-stock deals than for cash or mixed deals only when both dimensions of adverse selection are present. When only one dimension of adverse selection is present (Models (3) and (4)), we find no evidence that changes in compensation following all-stock deals are any different from those in either all-cash or mixed deals. These findings provide further support for the *Dual Adverse Selection* hypothesis.

5.5. Is the Certification of Acquirer Stock Value Credible?

The *Dual Adverse Selection Hypothesis* predicts that acquiring companies boost the equity-based component of CEO pay in order to credibly certify that the acquirer's stock price is not overvalued. An alternative view, however, is that acquirers use all-stock as the method of payment when they perceive their equity to be overvalued. The board then awards the acquiring firm CEO more equity-based compensation because their current holdings are likely to decline in value. Although this alternative cannot explain our cross-sectional findings, it potentially can explain the observed increase in equity-based pay for CEOs following acquisitions.

To provide evidence on these alternative views, we calculate cumulative abnormal returns (CARs) for the three days centered on the announcement of the acquisition. We then estimate regressions of the CAR on changes in CEO compensation and other determinants of the announcement period CAR. We decompose changes in compensation into its three components: salary, bonus, and equity-based pay. As control variables, we include the log of total assets, firm age, the market-to-book ratio, the prior year's stock return, the acquirer's return on assets, an indicator variable denoting a change in CEO and the relative size of the acquisition. Under the *Dual Adverse Selection Hypothesis*, we expect increased equity-based compensation to mitigate the negative stock price reaction typically associated with all-stock acquisitions. By contrast, the alternative hypothesis predicts that greater increases in equity-based pay will be associated with lower CARs because they signal greater overvaluation.

The results, presented in Table 11, indicate that announcement-period CARs are positively associated with increases in equity-based pay, but unrelated to increases in either salary or bonus. These findings support the *Dual Adverse Selection Hypothesis* but are counter to the hypothesis that firms boost the pay of CEOs to compensate them for expected declines in the value of their equity holdings.

5.6 Discussion

Our results indicate that the greater increase in CEO compensation for stock deals is concentrated in deals with low excess CEO compensation, low CEO exposure to the stock price and volatility, low board capture, high levels of acquirer risk, and high levels of deal risk. Further, we observe that the increase in CEO compensation in higher risk all-stock deals is primarily in the form equity based compensation and are concentrated in acquisitions that are characterized by both high levels of acquirer risk and deal risk. Finally, when equity-based compensation is increased, the market reacts more favorably to the announcement of the acquisitions. Taken together, these results are consistent with the predictions of the *Dual Adverse Selection Hypothesis* but contradict the predictions of the *Agency Hypothesis*.

Three sets of results are not consistent with the *Agency Hypothesis*. First, CEOs of low board capture firms, but not high board capture firms, receive greater increase in CEO compensation for all-stock deals. Second, we expect entrenched CEOs to have high excess compensation before the acquisition, but we find low excess compensation CEOs drive the greater increases in compensation in all-stock deals. Third, we expect entrenched CEOs to avoid equity based compensation when they pursue a value destroying all-stock acquisition, but we find the increase in compensation in all-stock deals is primarily equity based.

The results are consistent with the *Dual Adverse Selection Hypothesis*. The hypothesis predicts an acquirer pursuing a riskier deal prefers to share the risk with target firm shareholders by using stock as consideration. To ease target shareholders concerns about accepting potentially overvalued acquirer stock as consideration, especially when the potential for misvaluation is high, greater equity compensation credibly bonds the acquirer CEO to the stock price, particularly when the CEO's exposure to the stock price is low before the deal. Consistent with these predictions, we find that for riskier acquirers and for riskier deals, all-stock deals are associated with larger increases in CEO compensation than all-cash or mixed deals. Moreover, the larger increases in compensation are only found when both dimensions of risk are present. We also find greater increases in CEO compensation for all-stock deals when the acquiring firm CEO less bonded to the stock price before the deal.

In further support of the *Dual Adverse Selection Hypothesis*, the increases in CEO compensation in the all-stock deals are composed of equity based compensation. Consistent with the imposition of greater risk on the CEO requiring a higher level of expected compensation to satisfy the CEO's participation constraint, we observe significant increases in CEO pay only when the riskiness of the pay is increased. Finally, within all-stock deals, an increase in equity based compensation is also associated with higher announcement period returns, suggesting the market responds to the signal of CEO bonding.

6. Conclusion

We report novel evidence about CEO compensation changes around acquisitions and use the related cross-sectional variation to explore the motives for these compensation changes. We find that the previously documented increase in CEO compensation following acquisitions is driven by stock financed acquisitions. Further, these increases in compensation related to stock financed acquisition are similar in the early and late sample period. However, because of the sharp drop in the frequency of stock financed acquisitions in the latter part of our sample period, the unconditional relation between CEO compensation increase and acquisitions disappears.

We then use the variation in CEO compensation changes across methods of payment in acquisitions to distinguish between two hypotheses motivating the CEO compensation increases. The *Agency Hypothesis* posits that entrenched CEOs pursue stock financed acquisitions to bypass market scrutiny while building their empire. They also take advantage of the opportunity presented by the transition event to increase their compensation. Alternatively, the *Dual Adverse Selection Hypothesis* posits that the combination of financing the acquisition with stock and bonding the CEO to the acquirer stock price with equity compensation mitigates the two sided adverse selection problem in takeovers.

The results do not support the *Agency Hypothesis*. We find no evidence that changes in compensation following all-stock deals are associated with measures of poor corporate governance. We find that the compensation increases are composed primarily of equity based pay that would be particularly

unattractive to CEOs pursuing an agency motivated, value destroying acquisition. Further, although we expect entrenched CEOs to garner high levels of compensation, we find that greater CEO compensation in all-stock deals is concentrated in CEOs with low levels of compensation prior to the deal announcement.

The results offer strong support for the *Dual Adverse Selection Hypothesis*. Consistent with acquirers in all-stock deals using equity-based compensation to bond the CEO to the post-acquisition stock price and mitigate target firm concerns about overvalued equity, we find that CEO equity compensation increases around all-stock acquisitions when (i) there is more uncertainty about the acquirer's value, and (ii) when the acquiring firm CEO is less bonded to the acquirer's stock price prior to the acquisition. In addition, with regard to the acquirer's concern about the value of the acquisition, we find that the increase in CEO compensation following all-stock deals is significantly greater in acquisitions with above-median risk, and that this increase in compensation is paid predominately in equity based compensation. In short, equity-based CEO compensation is increased when acquirer shareholders have reason to be concerned about the value of the acquisition at the same time target shareholders have reason to be concerned about the value of the stock consideration being paid.

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Table 1: Summary statistics by period**Panel A: Acquisition variables**

	All years	1993-2005	2006-2017	Diff. Mean	<i>p-value</i>
Obs (require CEO compensation)	44,641	22,429	22,212		
5% Acquisition	5,230	2,786	2,444		
<i>Proportion of all obs</i>	<i>0.117</i>	<i>0.124</i>	<i>0.110</i>	<i>0.014</i>	<i>0.000***</i>
5% All equity	783	650	133		
<i>Proportion of 5% Acq.</i>	<i>0.150</i>	<i>0.233</i>	<i>0.054</i>	<i>0.179</i>	<i>0.000***</i>
5% All cash	1,736	735	1,001		
<i>Proportion of 5% Acq.</i>	<i>0.332</i>	<i>0.264</i>	<i>0.410</i>	<i>-0.146</i>	<i>0.000***</i>
5% Mixed	2,711	1,401	1,310		
<i>Proportion of 5% Acq.</i>	<i>0.518</i>	<i>0.503</i>	<i>0.536</i>	<i>-0.033</i>	<i>0.017**</i>

Panel B: CEO and firm characteristics in the 1993 – 2005 period

	1993 - 2005				1993 - 2005				Diff Means	
	N	Non-acquiring firms			N	Acquiring firms			Diff. Mean	<i>p-value</i>
Mean		Median	Std dev.	Mean		Median	Std dev.			
Chg CEO Comp	17,511	0.488	0.094	1.501	2,499	0.566	0.149	1.577	0.078	<i>0.016**</i>
Assets	19,579	9,366	1,143	44,560	2,786	7,757	1,039	40,466	-1,609	<i>0.071*</i>
Firm age	19,643	23.29	19.00	15.86	2,786	20.83	15.00	14.98	-2.462	<i>0.000***</i>
Mkt to Book	19,193	2.09	1.48	2.24	2,786	2.19	1.51	3.31	0.097	<i>0.046**</i>
Prior year return	16,699	0.230	0.124	0.713	2,668	0.296	0.186	0.790	0.066	<i>0.000***</i>
ROA	19,567	0.024	0.041	0.224	2,786	0.039	0.044	0.110	0.015	<i>0.000***</i>
Change in CEO	17,980	0.123	0.000	0.329	2,575	0.094	0.000	0.291	-0.030	<i>0.000***</i>
CEO age	17,562	55.62	56.00	7.71	2,507	55.15	55.00	7.40	-0.464	<i>0.005***</i>
CEO tenure	17,569	7.24	5.00	7.65	2,448	7.51	5.00	7.24	0.267	<i>0.103</i>
CEO compensation	17,547	4,089	1,841	11,021	2,503	4,024	1,852	7,685	-64	<i>0.778</i>

Table 1: continued**Panel C: CEO and firm characteristics in the 2006 – 2017 period**

	2006 - 2017				2006 - 2017				Diff Means	
	N	Mean	Median	Std dev.	N	Mean	Median	Std dev.	Diff. Mean	<i>p-value</i>
Chg CEO Comp	18,830	0.299	0.052	1.134	2,341	0.297	0.083	1.043	-0.001	0.967
Assets	19,587	18,687	2,151	120,924	2,444	11,345	1,892	62,222	-7,342	0.003***
Firm age	19,768	26.64	21.00	17.54	2,444	24.96	20.00	16.29	-1.680	0.000***
Mkt to Book	18,802	1.882	1.454	1.469	2,444	1.733	1.469	0.919	-0.149	0.000***
Prior year return	17,056	0.134	0.084	0.568	2,388	0.181	0.129	0.570	0.048	0.000***
ROA	19,567	0.027	0.040	0.228	2,443	0.044	0.045	0.093	0.017	0.000***
Change in CEO	18,964	0.102	0.000	0.302	2,363	0.078	0.000	0.269	-0.023	0.000***
CEO age	19,601	55.81	56.00	7.37	2,425	55.26	55.00	7.48	-0.548	0.001***
CEO tenure	18,863	7.35	5.00	7.36	2,345	7.53	6.00	6.91	0.182	0.257
CEO compensation	18,873	5,406	3,442	6,719	2,343	5,377	3,675	6,266	-29	0.842

This table presents the summary statistics within each of the two sample periods, 1993 to 2005 and 2006 to 2017. Panel A presents the acquisition variables. The first column reports all years in the sample and the second and third columns report the two sub-periods. The last two columns report the difference in means between the early and late period for each of the variables and the *p-value* resulting from difference in means tests. *5% Acquisition* is an indicator variable equal to one if the firm announced an acquisition in which the deal value was at least 5% of the market value of equity of the acquirer. *5% All equity* is an indicator variable equal to one if the form of payment for the announced deal was at least 95% equity and zero for all other 5% deal years. *5% All cash* is an indicator variable equal to one if the form of payment for the announced deal was at least 95% cash and zero for all other 5% deal years. *5% Mixed* is an indicator variable equal to one if the form of payment for the announced deal was neither a 95% equity deal nor a 95% cash deal. Panel B and Panel C present statistics for the CEO and firm characteristics in the early and late period, respectively. Each panel reports the number of observations, the mean, the median and the standard deviation for each variable within each period. The last two columns report the difference in means between the early and late period for each of the variables and the *p-value* resulting from difference in means tests. *Chg CEO Comp* is the change in total CEO compensation from the prior year divided by the prior year compensation and is winsorized at the 1st and 99th percentile. *Assets* is the prior year assets for the firm (denoted in \$millions). *Firm age* is the number of years since the firm was listed on CRSP. *Mkt to Book* is the prior fiscal year end ratio of the market value of assets divided to the book value of assets and is winsorized at the 1st and 99th percentile. *Prior year return* is the buy and hold return for the stock over the prior fiscal year. *ROA* is the return on assets at the end of the prior fiscal year and is winsorized at the 1st and 99th percentile. *Change in CEO* is an indicator variable equal to one in years there was a change in CEO. *CEO age* is the age of the CEO. *CEO tenure* is the number of years the CEO has served as CEO at the firm. *CEO compensation* is the total compensation for the CEO of the firm in the prior year. In all panels *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 2: Multivariate analysis of CEO compensation by period

	1993 - 2005		2006 - 2017	
	(1) Chg CEO comp	(2) Chg CEO comp	(3) Chg CEO comp	(4) Chg CEO comp
Announced 5% deal - completed	0.076** (2.201)	0.079** (2.206)	0.027 (1.167)	0.025 (1.068)
Announced 5% deal - withdrawn	-0.015 (-0.138)	-0.012 (-0.107)	0.066 (0.658)	0.067 (0.663)
Prior year announced 5% deal - completed		-0.020 (-0.596)		0.026 (1.106)
Prior year announced 5% deal - withdrawn		-0.055 (-0.495)		0.048 (0.410)
Log assets	0.027*** (3.528)	0.027*** (3.541)	-0.013** (-2.338)	-0.013** (-2.362)
Firm age	-0.005*** (-6.874)	-0.005*** (-6.854)	-0.002*** (-5.524)	-0.002*** (-5.480)
Mkt to Book	0.027** (2.043)	0.027** (2.030)	0.026*** (2.641)	0.027*** (2.695)
Prior year return	0.102*** (3.374)	0.102*** (3.376)	0.056** (2.551)	0.056** (2.538)
ROA	-0.282*** (-2.780)	-0.283*** (-2.780)	-0.188* (-1.652)	-0.187* (-1.646)
Change in CEO	0.577*** (11.841)	0.576*** (11.841)	0.336*** (8.004)	0.337*** (8.026)
Observations	17,268	17,268	18,678	18,678
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm
Adjusted R ²	0.0411	0.0410	0.0240	0.0239

This table presents regressions of the change in CEO compensation. The dependent variable in each model, *Chg CEO comp*, is the change in CEO compensation as a proportion of the prior year CEO compensation, winsorized at the 1st and 99th percentile. *Announced 5% deal – completed* is an indicator variable equal to one if a 5% acquisition was announced by the firm during the year and subsequently completed. *Announced 5% deal – withdrawn* is an indicator variable equal to one if a 5% acquisition was announced by the firm during the year and subsequently withdrawn. *Prior year announced 5% deal – completed* is an indicator variable equal to one if a 5% acquisition was announced by the firm during the prior year and subsequently completed. *Prior year announced 5% deal – withdrawn* is an indicator variable equal to one if a 5% acquisition was announced by the firm during the prior year and subsequently withdrawn. *Log assets* is the logged value of the prior year assets for the firm. The remaining variables are defined in Table 1. In each model, industry*year fixed effects are included and standard errors are clustered at the firm level. *t*-statistics are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 3: Change in the components of CEO compensation by period**Panel A: 1993 – 2005 period**

	1993 - 2005					
	(1)	(2)	(3)	(4)	(5)	(6)
	Chg salary	Chg bonus	Chg equity	Chg stock	Chg options	Chg other
Announced 5% deal - completed	0.004** (2.304)	0.013*** (2.716)	0.068** (2.294)	0.023*** (3.040)	0.039 (1.552)	-0.006 (-1.250)
Announced 5% deal - withdrawn	0.001 (0.108)	0.007 (0.376)	-0.041 (-0.452)	0.019 (0.693)	-0.059 (-0.762)	0.019 (0.815)
Log assets	-0.005*** (-12.816)	-0.002** (-2.299)	0.025*** (3.971)	0.009*** (5.901)	0.015*** (2.851)	0.005*** (4.459)
Firm age	-0.000*** (-2.892)	0.000 (1.015)	-0.005*** (-7.620)	-0.000 (-1.075)	-0.004*** (-7.780)	0.000 (1.209)
Mkt to Book	0.000 (0.301)	-0.003** (-2.126)	0.027** (2.471)	-0.001 (-1.448)	0.024*** (2.604)	-0.002** (-2.560)
Prior year return	0.004*** (3.533)	-0.009** (-2.232)	0.097*** (3.768)	-0.001 (-0.152)	0.093*** (4.095)	0.004 (1.590)
ROA	-0.001 (-0.119)	-0.065*** (-3.252)	-0.175* (-1.872)	-0.013 (-0.919)	-0.153* (-1.784)	-0.013 (-1.214)
Change in CEO	-0.013*** (-3.555)	0.044*** (6.526)	0.541*** (13.727)	0.085*** (8.339)	0.430*** (12.940)	-0.048*** (-7.072)
Observations	17,381	17,381	17,281	17,381	17,281	17,381
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0283	0.0468	0.0534	0.0134	0.0601	0.0131

Panel B: 2006 – 2017 period

	2006 - 2017					
	(1)	(2)	(3)	(4)	(5)	(6)
	Chg salary	Chg bonus	Chg equity	Chg stock	Chg options	Chg other
Announced 5% deal - completed	0.004*** (2.605)	0.003 (1.104)	0.034* (1.870)	0.024** (2.228)	0.007 (0.718)	-0.004 (-0.619)
Announced 5% deal - withdrawn	-0.004 (-0.942)	-0.015 (-1.267)	0.114 (1.283)	0.029 (0.652)	0.070 (1.068)	0.001 (0.028)
Log assets	-0.003*** (-9.999)	-0.002*** (-3.388)	-0.000 (-0.098)	0.000 (0.282)	-0.002 (-0.858)	-0.006*** (-4.928)
Firm age	-0.000*** (-3.783)	-0.000** (-2.327)	-0.002*** (-5.222)	-0.001*** (-4.562)	-0.001*** (-2.800)	-0.000* (-1.916)
Mkt to Book	-0.001** (-2.154)	-0.001 (-0.943)	0.029*** (4.129)	0.001 (0.253)	0.022*** (5.047)	-0.007*** (-3.748)
Prior year return	0.004*** (3.090)	-0.005 (-1.434)	0.075*** (3.412)	0.042*** (2.940)	0.030*** (3.421)	-0.007 (-1.571)
ROA	0.006 (1.193)	-0.036** (-2.332)	-0.076 (-1.166)	0.005 (0.225)	-0.067 (-1.507)	-0.062** (-1.969)
Change in CEO	-0.021*** (-6.678)	0.034*** (7.147)	0.317*** (10.366)	0.117*** (7.682)	0.163*** (8.933)	-0.055*** (-5.631)
Observations	18,708	18,708	18,683	18,708	18,683	18,684
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0188	0.0630	0.0241	0.0199	0.0143	0.0581

Table 3: continued

This table presents regressions of the change in the different components of CEO compensation. We analyze change in salary in Model (1), change in bonus in Model (2), change in equity (combining stock and options) in Model (3), change in stock in Model (4), change in options in Model (5), and change in other compensation in Model (6). The dependent variable is the change in the respective component of compensation from the prior year divided by the total CEO compensation from the prior year. Each dependent variable is winsorized at the 1st and 99th percentile. The independent variables are defined in Table 1 and Table 2. In each model, industry*year fixed effects are included and standard errors are clustered at the firm level. *t-statistics* are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 4: Change in CEO compensation by method of payment

	(1)	(2)	(3)	(4)
	1993-2005	2006-2017	1993-2005	2006-2017
	Chg CEO comp	Chg CEO comp	Chg CEO comp	Chg CEO comp
All-stock	0.195** (2.239)	0.269** (2.011)		
All-cash	0.062 (1.048)	0.019 (0.495)		
Mixed	0.023 (0.561)	0.012 (0.434)		
All-stock * Completed			0.210** (2.308)	0.305** (1.994)
All-stock * Withdrawn			0.013 (0.048)	0.027 (0.170)
All-cash * Completed			0.053 (0.882)	0.012 (0.307)
All-cash * Withdrawn			0.238 (0.765)	0.129 (0.714)
Mixed * Completed			0.033 (0.777)	0.013 (0.445)
Mixed * Withdrawn			-0.142 (-1.070)	-0.009 (-0.089)
Log assets	0.027*** (3.509)	-0.013** (-2.336)	0.027*** (3.519)	-0.013** (-2.319)
Firm age	-0.005*** (-6.873)	-0.002*** (-5.521)	-0.005*** (-6.865)	-0.002*** (-5.547)
Mkt to Book	0.027** (1.963)	0.026*** (2.631)	0.027** (1.961)	0.026*** (2.623)
Prior year return	0.101*** (3.361)	0.056** (2.549)	0.101*** (3.352)	0.056** (2.548)
ROA	-0.281*** (-2.777)	-0.186* (-1.646)	-0.281*** (-2.775)	-0.187* (-1.648)
Change in CEO	0.576*** (11.844)	0.335*** (8.001)	0.577*** (11.843)	0.335*** (7.993)
Observations	17,268	18,678	17,268	18,678
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm
Adjusted R ²	0.0413	0.0243	0.0412	0.0242

This table presents regressions of the change in CEO compensation across different methods of payment. *All-stock* (*All-cash*) indicates the consideration offered in the deal was at least 95% stock (cash). *Mixed* indicates the consideration offered in the deal was neither 95% stock deal nor 95% cash. Model (1) and Model (3) analyze the 1993 through 2005 period. Model (2) and Model (4) analyze the 2006 through 2017 period. Model (3) and Model (4) analyze completed and withdrawn deals separately by including interactions terms between completed and each method of payment and interaction terms between withdrawn and each method of payment. The independent variables are defined in Table 1 and Table 2. In each model, industry*year fixed effects are included and standard errors are clustered at the firm level. *t*-statistics are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 5: Change in the components of CEO compensation by method of payment

	1993-2005					2006-2017				
	(1) Chg salary	(2) Chg bonus	(3) Chg equity	(4) Chg stock	(5) Chg options	(6) Chg salary	(7) Chg bonus	(8) Chg equity	(9) Chg stock	(10) Chg options
All-stock * Completed	0.007* (1.915)	0.011 (1.209)	0.202** (2.549)	0.029* (1.816)	0.173** (2.529)	0.002 (0.239)	0.032* (1.923)	0.090 (0.999)	0.096* (1.680)	0.012 (0.208)
All-stock * Withdrawn	-0.028** (-2.426)	-0.008 (-0.219)	-0.019 (-0.085)	-0.020 (-0.489)	-0.001 (-0.007)	0.007 (1.002)	-0.056** (-2.168)	0.081 (0.597)	0.089 (0.688)	0.008 (0.263)
All-cash * Completed	0.005 (1.546)	0.022** (2.466)	0.025 (0.494)	0.015 (1.110)	-0.006 (-0.128)	0.003* (1.676)	0.000 (0.076)	0.023 (0.774)	0.010 (0.555)	0.008 (0.500)
All-cash * Withdrawn	0.037** (2.062)	0.069 (1.609)	0.173 (0.598)	0.007 (0.289)	0.139 (0.524)	-0.001 (-0.120)	-0.011 (-0.585)	0.143 (0.904)	-0.003 (-0.043)	0.103 (0.842)
Mixed * Completed	0.003 (1.122)	0.008 (1.264)	0.036 (1.014)	0.025** (2.402)	0.009 (0.289)	0.004** (2.187)	0.003 (0.739)	0.037 (1.587)	0.028** (1.991)	0.006 (0.498)
Mixed * Withdrawn	0.001 (0.103)	-0.013 (-0.548)	-0.147 (-1.463)	0.046 (0.964)	-0.178** (-2.310)	-0.014* (-1.801)	-0.002 (-0.186)	0.085 (0.864)	0.050 (0.660)	0.047 (0.879)
Log assets	-0.005*** (-12.810)	-0.002** (-2.262)	0.025*** (3.950)	0.009*** (5.879)	0.015*** (2.830)	-0.003*** (-9.962)	-0.002*** (-3.373)	-0.000 (-0.077)	0.001 (0.307)	-0.002 (-0.846)
Firm age	-0.000*** (-2.904)	0.000 (0.961)	-0.005*** (-7.589)	-0.000 (-1.048)	-0.004*** (-7.742)	-0.000*** (-3.776)	-0.000** (-2.366)	-0.002*** (-5.229)	-0.001*** (-4.560)	-0.001*** (-2.811)
Mkt to Book	0.000 (0.287)	-0.003** (-2.105)	0.026** (2.372)	-0.001 (-1.475)	0.023** (2.490)	-0.001** (-2.147)	-0.001 (-0.967)	0.029*** (4.123)	0.001 (0.243)	0.022*** (5.043)
Prior year return	0.004*** (3.514)	-0.009** (-2.216)	0.096*** (3.735)	-0.001 (-0.178)	0.092*** (4.054)	0.004*** (3.124)	-0.005 (-1.455)	0.075*** (3.410)	0.041*** (2.940)	0.030*** (3.423)
ROA	-0.001 (-0.121)	-0.065*** (-3.253)	-0.173* (-1.857)	-0.013 (-0.901)	-0.151* (-1.767)	0.006 (1.188)	-0.036** (-2.328)	-0.076 (-1.164)	0.005 (0.255)	-0.067 (-1.510)
Change in CEO	-0.013*** (-3.541)	0.044*** (6.533)	0.540*** (13.732)	0.085*** (8.351)	0.429*** (12.941)	-0.021*** (-6.675)	0.034*** (7.127)	0.317*** (10.369)	0.117*** (7.684)	0.162*** (8.946)
Observations	17,381	17,381	17,281	17,381	17,281	18,708	18,708	18,683	18,708	18,683
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0288	0.0469	0.0536	0.0132	0.0605	0.0187	0.0632	0.0239	0.0199	0.0141

This table presents regressions of the change in the different components of CEO compensation across different methods of payment. We analyze change in salary in Models (1) and (6), change in bonus in Models (2) and (7), change in equity (combining stock and options) in Models (3) and (8), change in stock in Models (4) and (9), and change in options in Models (5) and (10). The dependent variable is the change in the respective component of compensation from the prior year divided by the total CEO compensation from the prior year. Each dependent variable is winsorized at the 1st and 99th percentile. The independent variables are defined in previous tables. In each model, industry*year fixed effects are included and standard errors are clustered at the firm level. *t*-statistics are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 6: Summary Statistics for classification variables

Panel A: Statistics by deal type

	All-stock deal			No deal			All-cash deal			Mixed deal		
	N	Mean	Median	N	Mean	Median	N	Mean	Median	N	Mean	Median
Chg CEO compensation	687	0.735	0.176	36,341	0.390	0.069	1,642	0.375	0.094	2,511	0.394	0.101
Excess CEO compensation	490	0.549	1	26,884	0.497	0	1,367	0.529	1	2,014	0.533	1
CEO delta	738	678	165	36,052	580	145	1,649	508	175	2,557	458	147
CEO vega	719	81.8	27.3	34,808	95.7	27.5	1,622	107.1	43.6	2,519	86.8	28.1
Fraction of directors after CEO	411	0.558	0.571	19,479	0.463	0.429	911	0.487	0.500	1,325	0.501	0.462
Classified board	466	0.545	1	23,540	0.526	1	1,243	0.541	1	1,781	0.541	1
Stdev mkt-adj return	775	0.027	0.023				1,701	0.020	0.018	2,645	0.022	0.020
Investment grade	796	0.290	0	39,777	0.322	0	1,741	0.295	0	2,729	0.288	0
Abs(DGTW abret)	761	0.325	0.219				1,617	0.258	0.191	2,389	0.292	0.205
Excess chg imp vol	415	-0.006	-0.006	22,548	-0.002	-0.003	1,221	-0.001	-0.002	1,756	-0.003	-0.003
Change stdev	765	0.002	0.001				1,671	0.001	0.001	2,577	0.001	0.000

Panel B: Difference in means

	All-stock - No deal		All-stock - All-cash		All-stock - Mixed	
	Diff mean	<i>p-value</i>	Diff mean	<i>p-value</i>	Diff mean	<i>p-value</i>
Chg CEO compensation	0.345	<i>0.000***</i>	0.360	<i>0.000***</i>	0.341	<i>0.000***</i>
Excess CEO compensation	0.052	<i>0.022**</i>	0.020	<i>0.445</i>	0.016	<i>0.532</i>
CEO delta	98	<i>0.070*</i>	170	<i>0.006***</i>	220	<i>0.000***</i>
CEO vega	-13.9	<i>0.043**</i>	-25.4	<i>0.001***</i>	-5.1	<i>0.475</i>
Fraction of directors after CEO	0.095	<i>0.000***</i>	0.071	<i>0.000***</i>	0.057	<i>0.002***</i>
Classified board	0.019	<i>0.407</i>	0.004	<i>0.893</i>	0.004	<i>0.884</i>
Stdev mkt-adj return			0.007	<i>0.000***</i>	0.005	<i>0.000***</i>
Investment grade	-0.031	<i>0.060*</i>	-0.005	<i>0.796</i>	0.002	<i>0.921</i>
Abs(DGTW abret 1-year)			0.067	<i>0.000***</i>	0.033	<i>0.028**</i>
Excess Chg ImpVol next year	-0.004	<i>0.422</i>	-0.005	<i>0.437</i>	-0.003	<i>0.584</i>
Change stdev			0.001	<i>0.175</i>	0.001	<i>0.015**</i>

Table 6: continued

This table presents the summary statistics for the variables we use to classify acquisitions. Panel A lists the summary statistics (number of observations, mean, and median) for each deal type: All-stock, No deal, All-cash, and Mixed. For the variables that are specific to years with an acquisition announcement, the No deal statistics are blank. Panel B tabulates the difference in means between the All-stock deal years and each of the other deal types. The panel also tabulates *p-values* from difference-in-means tests. *Excess CEO compensation* is an indicator variable equal to one if the CEO's excess compensation in the prior year was above the median across all firms in the year. Excess compensation is the residual from a regression of CEO compensation on log of firm sales, firm market to book, prior year return on the firm's stock, firm ROA, CEO tenure, and an indicator variable equal to one if the CEO is at least 60 years old. The regression includes industry-year fixed effects. *CEO delta* and *CEO vega* are estimates of the CEO's exposure to changes in the firm's stock price and volatility. They are calculated based on the methodology in Core and Guay (2002) and winsorized at the 1st and 99th percentile. *Fraction of directors after CEO* is the fraction of directors that were appointed to the board during the CEO's tenure. The data, from Coles, Daniel, and Naveen (2014), span 1996 to 2014. *Classified board* is an indicator variable equal to one if elections to board seats are staggered across years. *Stdev mkt-adj return* is the standard deviation of the difference between the daily firm return and the market return calculated over the one year period prior to the deal announcement. *Investment grade* is an indicator variable equal to one if the firm has an investment grade rating and zero if it is unrated or has a non-investment grade rating. *Excess change implied volatility* is the market adjusted change in the implied volatility of the one year at-the-money option (the average of the call and put option) from the end of the prior fiscal year to the end of the current fiscal year. *Change stdev* is the difference in the daily standard deviation of returns of the acquirer from the one year period prior to the deal announcement to the one year period after the deal announcement. *Abs(DGTW abret)* is the absolute value of the DGTW adjusted buy and hold return for the acquirer in the twelve month period after the deal announcement using the technique of Daniel, Grinblatt, Titman, and Wermers (1997) and is winsorized at the 1st and 99th percentile.

Table 7: Change in CEO compensation within deal categories by method of payment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Excess CEO compensation (median)	CEO delta (median)	CEO vega (median)	Fraction of directors after CEO (median)	Classified board	Investment grade	Excess chg imp vol (median)
All-stock deal	0.327** (2.369)	0.273** (2.244)	0.320*** (2.664)	0.384** (2.084)	0.158 (1.161)	0.323*** (3.101)	0.213 (1.361)
All-cash deal	0.084 (1.422)	-0.004 (-0.091)	0.079 (1.390)	0.043 (0.654)	-0.022 (-0.404)	-0.009 (-0.230)	0.038 (0.658)
Mixed deal	0.018 (0.408)	0.023 (0.682)	0.105*** (2.648)	-0.001 (-0.022)	0.011 (0.295)	0.023 (0.708)	0.050 (1.013)
Variable of interest indicator	-0.560*** (-32.297)	-0.010 (-0.599)	-0.068*** (-4.389)	0.074*** (3.967)	-0.017 (-1.048)	-0.082*** (-4.822)	-0.031* (-1.714)
Variable of interest indicator * All-stock deal	-0.288* (-1.685)	-0.141 (-0.894)	-0.253* (-1.694)	-0.277 (-1.238)	0.041 (0.238)	-0.304** (-2.395)	0.102 (0.467)
Variable of interest indicator * All-cash deal	-0.049 (-0.735)	0.071 (1.073)	-0.065 (-0.946)	-0.075 (-0.774)	0.066 (0.885)	0.121* (1.699)	-0.098 (-1.427)
Variable of interest indicator * Mixed deal	0.054 (1.040)	0.001 (0.018)	-0.148*** (-2.921)	0.023 (0.311)	0.043 (0.769)	0.016 (0.314)	-0.071 (-1.189)
Observations	30,679	34,587	34,480	18,888	24,229	35,858	25,086
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0943	0.0340	0.0351	0.0441	0.0346	0.0417	0.0427
F-tests with <i>p</i>-values							
1. All-stock deal + (VOI indicator * All-stock deal)	0.039	0.132	0.067	0.107	0.199	0.019	0.315
<i>p</i> -value	<i>0.679</i>	<i>0.178</i>	<i>0.470</i>	<i>0.382</i>	<i>0.064*</i>	<i>0.824</i>	<i>0.041**</i>
2. All-cash deal + (VOI indicator * All-cash deal)	0.035	0.067	0.014	-0.032	0.044	0.112	-0.06
<i>p</i> -value	<i>0.330</i>	<i>0.151</i>	<i>0.743</i>	<i>0.651</i>	<i>0.401</i>	<i>0.060*</i>	<i>0.138</i>
3. Mixed deal + (VOI indicator * Mixed deal)	0.072	0.024	-0.043	0.022	0.054	0.039	-0.021
<i>p</i> -value	<i>0.007***</i>	<i>0.524</i>	<i>0.167</i>	<i>0.665</i>	<i>0.196</i>	<i>0.321</i>	<i>0.538</i>

This table presents regressions of the change in CEO compensation within various deal categories for different methods of payment. The analysis includes all firm-years, regardless of whether an acquisition was announced. The dependent variable in each model is *Chg CEO comp*. We include indicator variables for each deal type, All-stock, All-cash, and Mixed, and a term interacting each deal type with the variable of interest in the model. The variable of interest in each model is as follows: Model (1) uses an indicator variable equal to one if *Excess CEO compensation* is above the sample median. Model (2) uses an indicator variable equal to one if *CEO Delta* is above the median for the year. Model (3) uses an indicator variable equal to one if *CEO Vega* is above the median for the year. Model (4) uses an indicator variable equal to one if *Fraction of directors after CEO* is above the median for the year. Model (5) uses *Classified board*. Model (6) uses *Investment grade*. Model (7) uses an indicator variable equal to one if *Excess chg imp vol* is above the median for the year. For each method of payment, F-tests (1), (2), and (3) test the hypothesis that when the variable of interest equals one *Chg CEO comp* in deal years with the given method of payment is no different than *Chg CEO comp* in years with no deal announcement. *P*-values for the F-tests are listed in italics. Each model also includes an indicator for withdrawn deals, the control variables used in Table 2, and industry-year fixed effects, but, for ease of presentation, these are untabulated. Standard errors are clustered at the firm level. *t*-statistics are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 8: Change in CEO compensation within deal categories by method of payment – acquisition years only

	(1)	(2)	(3)	(4)	(5)
	CEO Compensation Variables			Acquirer Board Variables	
	Excess CEO compensation (median)	CEO delta (median)	CEO vega (median)	Fraction of directors after CEO (median)	Classified board
All-stock deal	0.435** (2.012)	0.225 (1.168)	0.233 (1.167)	0.487* (1.727)	0.179 (0.843)
All-cash deal	0.087 (0.508)	-0.148 (-0.969)	-0.111 (-0.676)	-0.089 (-0.401)	-0.094 (-0.551)
Mixed deal	0.051 (0.318)	-0.103 (-0.708)	-0.064 (-0.404)	-0.056 (-0.262)	-0.021 (-0.128)
Variable of interest indicator	-0.493** (-2.552)	-0.204 (-1.096)	-0.426** (-2.141)	-0.187 (-0.747)	-0.084 (-0.422)
Variable of interest indicator * All-stock deal	-0.329 (-1.251)	0.137 (0.557)	0.109 (0.435)	-0.048 (-0.137)	0.008 (0.030)
Variable of interest indicator * All-cash deal	-0.112 (-0.534)	0.336* (1.652)	0.293 (1.419)	0.316 (1.163)	0.143 (0.662)
Variable of interest indicator * Mixed deal	-0.060 (-0.301)	0.254 (1.318)	0.202 (0.981)	0.271 (1.025)	0.078 (0.379)
Observations	3,628	4,269	4,242	2,174	2,939
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0607	0.0182	0.0240	0.0177	0.0245
F-tests with p-values					
<i>Is stock different than cash (mixed) for VOI = 0 firms?</i>					
1. All-stock deal - All-cash deal	0.348	0.373	0.344	0.576	0.273
<i>p-value</i>	0.037**	0.011**	0.021**	0.005***	0.113
2. All-stock deal - Mixed deal	0.384	0.328	0.297	0.543	0.200
<i>p-value</i>	0.020**	0.020**	0.031**	0.009***	0.232
<i>Is stock different than cash (mixed) for VOI = 1 firms?</i>					
3. (All-stock + VOI * All-stock) - (All-cash + VOI * All-cash)	0.131	0.174	0.160	0.212	0.138
<i>p-value</i>	0.227	0.153	0.171	0.238	0.338
4. (All-stock + VOI * All-stock) - (Mixed + VOI * Mixed)	0.115	0.211	0.204	0.224	0.130
<i>p-value</i>	0.283	0.075*	0.069*	0.176	0.349
<i>Are VOI = 1 firms different than VOI = 0 firms within each MOP?</i>					
5. VOI + (VOI * All-stock)	-0.822	-0.067	-0.317	-0.235	-0.076
<i>p-value</i>	0.000***	0.693	0.049**	0.317	0.695
6. VOI + (VOI * All-cash)	-0.605	0.132	-0.133	0.129	0.059
<i>p-value</i>	0.000***	0.087*	0.084*	0.283	0.522
7. VOI + (VOI * Mixed)	-0.553	0.050	-0.224	0.084	-0.006
<i>p-value</i>	0.000***	0.413	0.000***	0.368	0.926

Panel B – Acquirer risk variables and deal risk variables

	(6)	(7)	(8)	(9)	(10)
	Acquirer Risk Variables		Deal Risk Variables		
	Stdev mkt-adj return (median)	Investment grade	Abs(DGTW abret)	Excess chg imp vol (median)	Change stdev (median)
All-stock deal	0.169 (1.181)	0.418** (2.561)	0.182 (1.244)	0.279 (1.167)	0.351** (2.013)
All-cash deal	0.002 (0.015)	-0.042 (-0.313)	0.073 (0.666)	-0.059 (-0.308)	-0.015 (-0.122)
Mixed deal	0.024 (0.200)	0.010 (0.074)	0.090 (0.828)	-0.033 (-0.177)	-0.017 (-0.139)
Variable of interest indicator	0.070 (0.359)	-0.029 (-0.157)	0.124 (0.626)	-0.285 (-1.345)	-0.052 (-0.259)
Variable of interest indicator * All-stock deal	0.437 (1.568)	-0.279 (-1.257)	0.314 (1.156)	0.333 (1.057)	-0.015 (-0.055)
Variable of interest indicator * All-cash deal	0.057 (0.269)	0.175 (0.904)	-0.107 (-0.504)	0.165 (0.722)	0.063 (0.293)
Variable of interest indicator * Mixed deal	0.008 (0.038)	0.041 (0.210)	-0.122 (-0.587)	0.187 (0.829)	0.064 (0.302)
Observations	4,384	4,375	4,067	3,045	4,282
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0288	0.0273	0.0233	0.0283	0.0283
F-tests with p-values					
<i>Is stock different than cash (mixed) for VOI = 0 firms?</i>					
1. All-stock deal - All-cash deal	0.167	0.460	0.109	0.338	0.366
<i>p-value</i>	<i>0.101</i>	<i>0.000***</i>	<i>0.367</i>	<i>0.060*</i>	<i>0.017**</i>
2. All-stock deal - Mixed deal	0.145	0.408	0.092	0.312	0.368
<i>p-value</i>	<i>0.125</i>	<i>0.001***</i>	<i>0.404</i>	<i>0.091*</i>	<i>0.014**</i>
<i>Is stock different than cash (mixed) for VOI = 1 firms?</i>					
3. (All-stock + VOI * All-stock) - (All-cash + VOI * All-cash)	0.547	0.006	0.530	0.506	0.288
<i>p-value</i>	<i>0.006***</i>	<i>0.963</i>	<i>0.001***</i>	<i>0.004***</i>	<i>0.025**</i>
4. (All-stock + VOI * All-stock) - (Mixed + VOI * Mixed)	0.574	0.088	0.528	0.458	0.289
<i>p-value</i>	<i>0.004***</i>	<i>0.422</i>	<i>0.001***</i>	<i>0.006***</i>	<i>0.017**</i>
<i>Are VOI = 1 firms different than VOI = 0 firms within each MOP?</i>					
5. VOI + (VOI * All-stock)	0.507	-0.308	0.438	0.048	-0.067
<i>p-value</i>	<i>0.015**</i>	<i>0.026**</i>	<i>0.014**</i>	<i>0.834</i>	<i>0.711</i>
6. VOI + (VOI * All-cash)	0.127	0.146	0.017	-0.120	0.011
<i>p-value</i>	<i>0.161</i>	<i>0.087*</i>	<i>0.826</i>	<i>0.113</i>	<i>0.886</i>
7. VOI + (VOI * Mixed)	0.078	0.012	0.002	-0.098	0.012
<i>p-value</i>	<i>0.280</i>	<i>0.871</i>	<i>0.970</i>	<i>0.166</i>	<i>0.838</i>

Table 8: continued

This table presents regressions of the change in CEO compensation within various deal categories for different methods of payment. The sample includes only firm-years with a 5% acquisition announcement. The dependent variable in each model is *Chg CEO comp*. We include indicator variables for each deal type, All-stock, All-cash, and Mixed, and a term interacting each deal type with the variable of interest in the model. Panel A presents the CEO compensation variables and the acquirer board of director variables as the variables of interest: Model (1) uses an indicator variable equal to one if *Excess CEO compensation* is above the sample median. Model (2) uses an indicator variable equal to one if *CEO Delta* is above the median for the year. Model (3) uses an indicator variable equal to one if *CEO Vega* is above the median for the year. Model (4) uses an indicator variable equal to one if *Fraction of directors after CEO* is above the median for the year. Model (5) uses *Classified board*. Panel B presents the acquirer risk variables and the deal risk variables as the variables of interest: Model (6) uses an indicator variable equal to one if *Stdev mkt-adj return* is above the median for the year. Model (7) uses *Investment grade*. Model (8) uses an indicator variable equal to one if *Abs(DGTW abret)* is above the median for the year. Model (9) uses an indicator variable equal to one if *Excess chg imp vol* is above the median for the year. Model (10) uses an indicator variable equal to one if *Change stdev* is above the median for the year. For each method of payment, F-tests (1) and (2) test the hypothesis that when the variable of interest equals zero *Chg CEO comp* in All-stock deal years is no different than *Chg CEO comp* in All-cash deal years and Mixed deal years, respectively. F-tests (3) and (4) repeats these tests for deals in which the variable of interest equals one. Within each method of payment, F-tests (5), (6), and (7) test if *Chg CEO comp* is different for high versus low values of the variable of interest. *P-values* for the F-tests are listed in italics. Each model also includes the control variables used in Table 2 and industry-year fixed effects, but, for ease of presentation, these are untabulated. Standard errors are clustered at the firm level. *t-statistics* are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 9: Change in the components of CEO compensation within deal categories by method of payment

Panel A: CEO compensation variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Excess CEO compensation			CEO delta			CEO vega		
	Chg salary	Chg bonus	Chg equity	Chg salary	Chg bonus	Chg equity	Chg salary	Chg bonus	Chg equity
All-stock deal	0.010 (1.025)	0.046* (1.648)	0.318* (1.746)	0.016 (1.378)	0.037* (1.782)	0.162 (1.050)	0.025** (2.014)	0.034 (1.245)	0.098 (0.567)
All-cash deal	0.003 (0.452)	0.032 (1.406)	0.009 (0.061)	-0.001 (-0.147)	0.048*** (2.639)	-0.162 (-1.374)	0.007 (0.651)	0.029 (1.204)	-0.227 (-1.565)
Mixed deal	-0.002 (-0.222)	0.033 (1.464)	0.009 (0.066)	-0.001 (-0.120)	0.047*** (2.692)	-0.091 (-0.800)	0.009 (0.832)	0.024 (1.074)	-0.143 (-1.017)
Variable of interest indicator	-0.019** (-2.561)	-0.012 (-0.500)	-0.376** (-2.259)	-0.005 (-0.475)	0.052** (2.237)	-0.182 (-1.185)	0.000 (0.001)	0.007 (0.256)	-0.490*** (-2.817)
Variable of interest indicator * All-stock deal	-0.016 (-1.479)	-0.034 (-1.075)	-0.260 (-1.155)	-0.017 (-1.349)	-0.039 (-1.400)	0.151 (0.729)	-0.031** (-2.346)	-0.032 (-0.975)	0.240 (1.100)
Variable of interest indicator * All-cash deal	-0.001 (-0.096)	-0.023 (-0.858)	-0.071 (-0.394)	0.005 (0.488)	-0.057** (-2.299)	0.298* (1.803)	-0.008 (-0.649)	-0.024 (-0.855)	0.414** (2.310)
Variable of interest indicator * Mixed deal	0.003 (0.367)	-0.031 (-1.186)	-0.027 (-0.158)	0.000 (0.024)	-0.065*** (-2.704)	0.226 (1.419)	-0.015 (-1.348)	-0.025 (-0.940)	0.323* (1.796)
Observations	3,639	3,639	3,629	4,286	4,286	4,271	4,259	4,259	4,244
Fixed Effects	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0658	0.105	0.0733	0.0485	0.0919	0.0301	0.0566	0.0922	0.0360
F-tests with p-values									
<i>Is stock different than cash (mixed) for VOI = 0 firms?</i>									
1. All-stock deal - All-cash deal	0.007	0.014	0.309	0.017	-0.011	0.324	0.018	0.005	0.325
<i>p-value</i>	0.384	0.519	0.21**	0.021**	0.540	0.006***	0.017**	0.812	0.007***
2. All-stock deal - Mixed deal	0.012	0.013	0.309	0.017	-0.01	0.253	0.016	0.01	0.241
<i>p-value</i>	0.103	0.526	0.020**	0.020**	0.551	0.029**	0.020**	0.583	0.035**
<i>Is stock different than cash (mixed) for VOI = 1 firms?</i>									
3. (All-stock + VOI * All-stock) - (All-cash + VOI * All-cash)	-0.008	0.003	0.12	-0.005	0.007	0.177	-0.005	-0.003	0.151
<i>p-value</i>	0.059*	0.833	0.216	0.340	0.604	0.094*	0.221	0.833	0.141
4. (All-stock + VOI * All-stock) - (Mixed + VOI * Mixed)	-0.007	0.01	0.076	0.000	0.016	0.178	0.000	0.003	0.158
<i>p-value</i>	0.086*	0.420	0.428	0.974	0.189	0.086*	0.864	0.808	0.105
<i>Are VOI = 1 firms different than VOI = 0 firms within each MOP?</i>									
5. VOI + (VOI * All-stock)	-0.035	-0.046	-0.636	-0.022	0.013	-0.031	-0.031	-0.025	-0.250
<i>p-value</i>	0.000***	0.025**	0.000***	0.006***	0.450	0.828	0.000***	0.165	0.066*
6. VOI + (VOI * All-cash)	-0.02	-0.035	-0.447	0	-0.005	0.116	-0.008	-0.017	-0.076
<i>p-value</i>	0.000***	0.001***	0.000***	0.896	0.634	0.057*	0.080*	0.108	0.212
7. VOI + (VOI * Mixed)	-0.016	-0.043	-0.403	-0.005	-0.013	0.044	-0.015	-0.018	-0.167
<i>p-value</i>	0.000***	0.000***	0.000***	0.216	0.097*	0.376	0.000***	0.049**	0.001***

Panel B: Acquirer board of director variables

	(1)	(2)	(3)	(4)	(5)	(6)
	Fraction directors after CEO			Classified board		
	Chg salary	Chg bonus	Chg equity	Chg salary	Chg bonus	Chg equity
All-stock deal	0.017* (1.725)	0.063* (1.833)	0.414* (1.866)	-0.011 (-1.514)	0.027 (0.924)	0.046 (0.254)
All-cash deal	0.012** (2.002)	0.049* (1.917)	-0.012 (-0.068)	-0.002 (-0.274)	-0.008 (-0.334)	-0.115 (-0.771)
Mixed deal	0.007 (1.244)	0.024 (1.017)	0.008 (0.052)	-0.003 (-0.608)	-0.010 (-0.446)	-0.040 (-0.270)
Variable of interest indicator	0.022** (2.142)	0.036 (1.082)	-0.125 (-0.629)	0.001 (0.073)	-0.072*** (-2.612)	-0.148 (-0.862)
Variable of interest indicator * All-stock deal	-0.024* (-1.673)	-0.051 (-1.193)	-0.066 (-0.232)	0.007 (0.590)	0.033 (0.894)	0.105 (0.478)
Variable of interest indicator * All-cash deal	-0.020* (-1.790)	-0.036 (-1.012)	0.193 (0.899)	0.002 (0.220)	0.079** (2.566)	0.155 (0.838)
Variable of interest indicator * Mixed deal	-0.020* (-1.874)	-0.007 (-0.186)	0.205 (0.967)	-0.002 (-0.206)	0.074** (2.506)	0.129 (0.735)
Observations	2,184	2,184	2,176	2,950	2,950	2,940
Fixed Effects	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year
Clustering	Firm	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0294	0.113	0.0449	0.0145	0.0918	0.0427
F-tests with p-values						
<i>Is stock different than cash (mixed) for VOI = 0 firms?</i>						
1. All-stock deal - All-cash deal	0.005	0.014	0.426	-0.009	0.035	0.161
<i>p-value</i>	0.598	0.604	0.011**	0.175	0.108	0.228
2. All-stock deal - Mixed deal	0.01	0.039	0.406	-0.008	0.037	0.086
<i>p-value</i>	0.270	0.153	0.017**	0.247	0.078*	0.518
<i>Is stock different than cash (mixed) for VOI = 1 firms?</i>						
3. (All-stock + VOI * All-stock) - (All-cash + VOI * All-cash)	0.001	-0.001	0.167	-0.004	-0.011	0.111
<i>p-value</i>	0.818	0.985	0.247	0.417	0.599	0.343
4. (All-stock + VOI * All-stock) - (Mixed + VOI * Mixed)	0.006	-0.005	0.135	0.001	-0.004	0.062
<i>p-value</i>	0.236	0.739	0.306	0.917	0.840	0.590
<i>Are VOI = 1 firms different than VOI = 0 firms within each MOP?</i>						
5. VOI + (VOI * All-stock)	-0.002	-0.015	-0.191	0.008	-0.039	-0.043
<i>p-value</i>	0.822	0.573	0.314	0.328	0.101	0.781
6. VOI + (VOI * All-cash)	0.002	0.000	0.068	0.003	0.007	0.007
<i>p-value</i>	0.779	0.969	0.479	0.523	0.610	0.931
7. VOI + (VOI * Mixed)	0.002	0.029	0.08	-0.001	0.002	-0.019
<i>p-value</i>	0.766	0.023**	0.282	0.716	0.901	0.727

Panel C: Acquirer risk variables

	(1)	(2)	(3)	(4)	(5)	(6)
	Investment grade			Stdev mkt-adj return		
	Chg salary	Chg bonus	Chg equity	Chg salary	Chg bonus	Chg equity
All-stock deal	0.010 (1.207)	0.021 (1.040)	0.357*** (2.686)	-0.005 (-0.801)	0.025 (1.299)	0.162 (1.342)
All-cash deal	0.001 (0.173)	0.010 (0.585)	-0.026 (-0.240)	-0.006 (-1.063)	0.022 (1.466)	0.015 (0.151)
Mixed deal	-0.000 (-0.071)	0.007 (0.415)	0.051 (0.482)	-0.009* (-1.713)	0.017 (1.155)	0.051 (0.540)
Variable of interest indicator	0.002 (0.286)	-0.012 (-0.480)	0.094 (0.575)	-0.018* (-1.743)	0.022 (0.794)	0.125 (0.731)
Variable of interest indicator * All-stock deal	-0.017* (-1.698)	0.001 (0.039)	-0.311 (-1.611)	0.028*** (2.123)	-0.010 (-0.293)	0.253 (1.065)
Variable of interest indicator * All-cash deal	-0.001 (-0.113)	0.018 (0.683)	0.058 (0.345)	0.021* (1.855)	-0.018 (-0.624)	-0.050 (-0.268)
Variable of interest indicator * Mixed deal	-0.004 (-0.433)	0.008 (0.317)	-0.062 (-0.366)	0.023*** (2.032)	-0.022 (-0.794)	-0.050 (-0.285)
Observations	4,393	4,393	4,377	4,402	4,402	4,386
Fixed Effects	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year
Clustering	Firm	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0371	0.0819	0.0420	0.0372	0.0822	0.0428
F-tests with p-values						
<i>Is stock different than cash (mixed) for VOI = 0 firms?</i>						
1. All-stock deal - All-cash deal	0.009	0.011	0.383	0.001	0.003	0.147
<i>p-value</i>	0.124	0.454	0.000***	0.897	0.856	0.090*
2. All-stock deal - Mixed deal	0.01	0.014	0.306	0.004	0.008	0.111
<i>p-value</i>	0.056*	0.289	0.002***	0.399	0.571	0.180
<i>Is stock different than cash (mixed) for VOI = 1 firms?</i>						
3. (All-stock + VOI * All-stock) - (All-cash + VOI * All-cash)	-0.007	-0.006	0.014	0.008	0.011	0.450
<i>p-value</i>	0.152	0.740	0.898	0.366	0.600	0.005***
4. (All-stock + VOI * All-stock) - (Mixed + VOI * Mixed)	-0.003	0.007	0.057	0.009	0.020	0.414
<i>p-value</i>	0.465	0.689	0.557	0.226	0.298	0.010***
<i>Are VOI = 1 firms different than VOI = 0 firms within each MOP?</i>						
5. VOI + (VOI * All-stock)	-0.015	-0.011	-0.217	0.010	0.012	0.378
<i>p-value</i>	0.019**	0.548	0.063*	0.238	0.597	0.027**
6. VOI + (VOI * All-cash)	0.001	0.006	0.152	0.003	0.004	0.075
<i>p-value</i>	0.760	0.623	0.030**	0.530	0.765	0.302
7. VOI + (VOI * Mixed)	-0.002	-0.004	0.032	0.005	0	0.075
<i>p-value</i>	0.717	0.692	0.592	0.267	0.948	0.201

Panel D: Deal risk variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Abs(DGTW abret)			Excess chg imp vol			Change stdev		
	Chg salary	Chg bonus	Chg equity	Chg salary	Chg bonus	Chg equity	Chg salary	Chg bonus	Chg equity
All-stock deal	-0.001	0.013	0.162	-0.006	0.042	0.164	-0.005	0.018	0.232
	(-0.115)	(0.634)	(1.363)	(-0.549)	(1.471)	(0.819)	(-0.610)	(0.766)	(1.596)
All-cash deal	-0.004	0.011	0.129	-0.004	0.022	-0.054	-0.008	0.002	-0.008
	(-0.647)	(0.670)	(1.457)	(-0.474)	(1.040)	(-0.325)	(-1.146)	(0.126)	(-0.072)
Mixed deal	-0.006	-0.001	0.137	-0.004	0.013	0.007	-0.009	0.001	-0.003
	(-0.957)	(-0.068)	(1.553)	(-0.517)	(0.659)	(0.042)	(-1.321)	(0.035)	(-0.026)
Variable of interest indicator	-0.011	-0.019	0.184	-0.016*	-0.004	-0.182	-0.015*	-0.034	-0.029
	(-1.278)	(-0.743)	(1.126)	(-1.659)	(-0.163)	(-0.980)	(-1.706)	(-1.405)	(-0.166)
Variable of interest indicator * All-stock deal	0.010	0.017	0.252	0.019	-0.015	0.321	0.019*	0.011	0.075
	(0.903)	(0.549)	(1.119)	(1.468)	(-0.429)	(1.193)	(1.646)	(0.365)	(0.331)
Variable of interest indicator * All-cash deal	0.010	0.019	-0.211	0.012	-0.004	0.110	0.017*	0.026	0.011
	(1.047)	(0.712)	(-1.215)	(1.205)	(-0.159)	(0.554)	(1.727)	(0.984)	(0.059)
Variable of interest indicator * Mixed deal	0.008	0.025	-0.156	0.011	-0.009	0.143	0.014	0.017	0.061
	(0.831)	(0.940)	(-0.905)	(1.116)	(-0.368)	(0.717)	(1.458)	(0.658)	(0.331)
Observations	4,084	4,084	4,069	3,053	3,053	3,046	4,300	4,300	4,284
Fixed Effects	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year	Ind*Year
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Adjusted R ²	0.0402	0.0847	0.0422	-0.00129	0.0744	0.0479	0.0343	0.0841	0.0424
F-tests with p-values									
<i>Is stock different than cash (mixed) for VOI = 0 firms?</i>									
1. All-stock deal - All-cash deal	0.003	0.002	0.033	-0.002	0.02	0.218	0.003	0.016	0.240
<i>p-value</i>	0.512	0.904	0.734	0.825	0.359	0.114	0.639	0.380	0.046**
2. All-stock deal - Mixed deal	0.005	0.014	0.025	-0.002	0.029	0.157	0.004	0.017	0.235
<i>p-value</i>	0.298	0.306	0.785	0.839	0.183	0.275	0.505	0.282	0.047**
<i>Is stock different than cash (mixed) for VOI = 1 firms?</i>									
3. (All-stock + VOI * All-stock) - (All-cash + VOI * All-cash)	0.003	0.000	0.496	0.005	0.009	0.429	0.005	0.001	0.304
<i>p-value</i>	0.645	0.987	0.000***	0.473	0.618	0.005***	0.419	0.957	0.005***
4. (All-stock + VOI * All-stock) - (Mixed + VOI * Mixed)	0.007	0.006	0.433	0.006	0.023	0.335	0.009	0.011	0.249
<i>p-value</i>	0.267	0.734	0.001***	0.346	0.197	0.021**	0.141	0.412	0.017**
<i>Are VOI = 1 firms different than VOI = 0 firms within each MOP?</i>									
5. VOI + (VOI * All-stock)	-0.001	-0.002	0.436	0.003	-0.019	0.139	0.004	-0.023	0.046
<i>p-value</i>	0.829	0.928	0.003***	0.705	0.431	0.466	0.641	0.233	0.753
6. VOI + (VOI * All-cash)	-0.001	0.000	-0.027	-0.004	-0.008	-0.072	0.002	-0.008	-0.018
<i>p-value</i>	0.722	0.961	0.667	0.371	0.437	0.229	0.740	0.487	0.784
7. VOI + (VOI * Mixed)	-0.003	0.006	0.028	-0.005	-0.013	-0.039	-0.001	-0.017	0.032
<i>p-value</i>	0.288	0.440	0.596	0.199	0.138	0.511	0.724	0.056*	0.523

Table 9: continued

This table presents analysis of the components of the change in CEO compensation within various deal categories for different methods of payment. The sample includes only firm-years with a 5% acquisition announcement. For each variable of interest, the dependent variable in the first column is the change in CEO salary divided by the total CEO compensation in the prior year; the dependent variable in the second column is the change in the CEO bonus divided by the total CEO compensation in the prior year; the dependent variable in the third column is the change in equity compensation divided by the total CEO compensation in the prior year. Each dependent variable is winsorized at the 1st and 99th percentile. We include indicator variables for each deal type: All-stock, All-cash, and Mixed. We also include a term interacting each deal type with the high risk indicator variable of interest for the model. In Panel A, the high risk indicator variable is *Excess CEO Compensation* in the first three models, *CEO delta* in the next three models, and *CEO vega* in the last three models. In Panel B, the high risk indicator variable is *Fraction directors after CEO* in the first three models and *Classified Board* in the last three models. In Panel C, the high risk indicator variable is *Investment Grade* in the first three models and *Stdev mkt-adj return* in the last three models. In Panel D, the high risk indicator variable is *Abs(DGTW abret)* in the first three models, *Excess chg imp vol* in the next three models, and *Change stdev* in the last three models. These indicator variables are defined in the previous tables. For each method of payment, F-tests (1) and (2) test the hypothesis that when the variable of interest equals zero *Chg CEO comp* in All-stock deal years is no different than *Chg CEO comp* in All-cash deal years and Mixed deal years, respectively. F-tests (3) and (4) repeat these tests for deals in which the variable of interest equals one. Within each method of payment, F-tests (5), (6), and (7) test if the change in the component of compensation is different for high risk versus low risk deals. *P-values* for the F-tests are listed in italics. Each model also includes the control variables used in Table 2 and industry-year fixed effects. For ease of presentation, these are untabulated. Standard errors are clustered at the firm level. *t-statistics* are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 10: Are both dimensions of adverse selection necessary?

Group of interest:	(1) Both dimensions of adverse selection		(4) Only one dimension of adverse selection	
	High std acq. return & High Abs(DGTW abret)	Not investment grade & High Abs(DGTW abret)	High std acq. return OR High Abs(DGTW abret)	Not investment grade OR High Abs(DGTW abret)
All-stock deal	0.140 (1.011)	0.148 (1.056)	0.178 (1.129)	0.145 (0.843)
All-cash deal	0.011 (0.096)	0.040 (0.380)	0.047 (0.405)	0.316** (2.139)
Mixed deal	0.044 (0.391)	0.064 (0.604)	0.073 (0.637)	0.184 (1.300)
Group of interest indicator	0.092 (0.382)	0.080 (0.349)	0.171 (0.781)	0.258 (1.429)
Group of interest indicator * All-stock deal	0.733** (2.123)	0.478 (1.547)	-0.230 (-0.849)	-0.083 (-0.378)
Group of interest indicator * All-cash deal	0.031 (0.120)	-0.067 (-0.278)	-0.110 (-0.471)	-0.409** (-1.970)
Group of interest indicator * Mixed deal	-0.069 (-0.274)	-0.094 (-0.395)	-0.090 (-0.381)	-0.196 (-0.964)
Observations	4,067	4,056	3,068	2,462
Fixed Effects	Industry*Year	Industry*Year	Industry*Year	Industry*Year
Clustering	Firm	Firm	Firm	Firm
Adjusted R ²	0.0286	0.0252	0.0145	-0.0075
F-tests				
<i>Is stock different than cash (mixed) for non-group of interest deals?</i>				
1. All-stock deal - All-cash deal	0.129	0.108	0.131	-0.171
<i>p-value</i>	<i>0.207</i>	<i>0.348</i>	<i>0.311</i>	<i>0.265</i>
2. All-stock deal - Mixed deal	0.096	0.084	0.105	-0.039
<i>p-value</i>	<i>0.309</i>	<i>0.433</i>	<i>0.369</i>	<i>0.755</i>
<i>Is stock different than cash (mixed) for group of interest deals?</i>				
3. All-stock deal + All-stock interaction - (All-cash deal + All-cash)	0.831	0.653	0.011	0.155
<i>p-value</i>	<i>0.001***</i>	<i>0.001***</i>	<i>0.938</i>	<i>0.243</i>
4. All-stock deal + All-stock interaction - (Mixed deal + Mixed interaction)	0.898	0.656	-0.035	0.074
<i>p-value</i>	<i>0.000***</i>	<i>0.001***</i>	<i>0.784</i>	<i>0.566</i>

Table 10: continued

This table investigates whether both dimensions of adverse selection are necessary to find greater increases in CEO compensation in all-stock deals, or if greater increases in CEO compensation in all-stock deals is also observed when only one dimension of adverse selection is present. The dependent variable in each regression is *Chg CEO comp*. The first two models test for CEO compensation increases when both dimensions of adverse selection present. The last two models test for CEO compensation increases when only one dimension, not both, are present. In Models (1) and (3), the measure for adverse selection in the acquirer type is based on *Stdev mkt-adj* return and the measure for adverse selection in the deal is based on *Abs(DGTW abret)*. In Models (2) and (4), the measure for adverse selection in the acquirer type is based on *Investment grade* return and the measure for adverse selection in the deal is based on *Abs(DGTW abret)*. In Models (1) and (2), the indicator variable *Group of interest* is equal to one if both measures indicate adverse selection. In Models (3) and (4), the indicator variable *Group of interest* is equal to one if only one of the measures indicate adverse selection and the other measure does not. The observations for which both measures indicate adverse selection are excluded from the analysis in Models (3) and (4). F-tests (1) and (2) examine the non-group of interest deals and test the hypothesis that *Chg CEO comp* in All-stock deal years is no different than *Chg CEO comp* in All-cash deal years and Mixed deal years, respectively. F-tests (3) and (4) examine the group of interest deals and test the hypothesis that *Chg CEO comp* in All-stock deal years is no different than *Chg CEO comp* in All-cash deal years and Mixed deal years, respectively. *P-values* for the F-tests are listed in italics. Each model also includes the control variables used in Table 2 and industry-year fixed effects. For ease of presentation, these are untabulated. Standard errors are clustered at the firm level. *t-statistics* are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Table 11: Market response to a signal of CEO bonding

	(1)	(2)	(3)	(4)
	CAR (-1,+1)	CAR (-1,+1)	CAR (-1,+1)	CAR (-1,+1)
Increased equity compensation	0.013*	0.014**	0.014**	0.013*
	(1.899)	(2.057)	(2.019)	(1.651)
Increased salary compensation	-0.000	0.004	0.002	-0.001
	(-0.055)	(0.424)	(0.175)	(-0.165)
Increased bonus compensation	0.006	0.003	0.005	0.007
	(0.825)	(0.495)	(0.689)	(0.862)
Log assets		-0.003	-0.006**	-0.007**
		(-1.424)	(-2.014)	(-2.075)
Firm age		0.000	0.000	-0.000
		(0.892)	(0.295)	(-0.013)
Mkt to book		-0.000	0.000	-0.000
		(-0.412)	(0.274)	(-0.023)
Prior year return		-0.004	-0.003	-0.005
		(-0.995)	(-0.748)	(-1.006)
ROA		-0.053**	-0.064	-0.060
		(-2.017)	(-1.127)	(-1.025)
Change in CEO		0.015	0.013	0.010
		(1.259)	(0.955)	(0.742)
Relative size		-0.030***	-0.033***	-0.037***
		(-3.914)	(-3.257)	(-3.493)
Constant	-0.031***	-0.004		
	(-3.708)	(-0.215)		
Observations	642	642	610	610
Fixed Effects	No	No	Industry	Industry & Year
Clustering	No	No	Firm	Firm
Adjusted R ²	0.00219	0.0267	0.0555	0.0602

This table examines if the market response to all-stock acquisition announcements is more favorable when the equity component of the acquiring firm CEO's compensation increases. The dependent variable in each regression is *CAR* (-1,+1) the acquiring firms cumulative abnormal return in the 3-day announcement period window (day -1 to +1). The variables of interest are three indicator variables: *Increased equity compensation* indicates the equity component of the CEO's compensation increased in the year of the announcement. *Increased salary compensation* and *Increased bonus compensation* are similarly defined for salary and bonus, respectively. Models (2) and (3) include the control variables used in Table 2 and *Relative size*, the deal value divided by the MVE of the acquiring firm. Model (3) includes industry and year fixed effects and clusters standard errors at the firm level. *t*-statistics are presented in parentheses, and *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.