Incentive Compensation vs SOX: Evidence from Corporate Acquisition Decisions

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ABSTRACT

We empirically examine the impact of incentive compensation on the riskiness of acquisition decisions before and after the passage of Sarbanes-Oxley Act (SOX). Controlling for confounding events, firm characteristics and industry fixed effects, we find a substantial change in the relation between equity-related compensation and acquisition risk post-SOX stemming from a previously unidentified shift in the effectiveness of executive stock options to control managerial risk aversion. Not only has incentive compensation failed to offset the adverse impact of SOX on risk-taking activity but it has also significantly altered managerial incentives. The decrease in acquisition risk post-SOX cannot be solely attributed to changes in the structure of executive compensation but it additionally stems from the way managers perceive compensation-based incentives in the new regulatory environment. The results are robust to different measures of acquisition risk and alternative definitions of incentive compensation.

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1.   Introduction

In this paper we empirically examine the change in the riskiness of acquisitions made by US public firms before and after the passage of the Sarbanes-Oxley (SOX) Act and its relation to executives' incentive compensation. The Sarbanes-Oxley Act was enacted by the U.S. Congress in 30 July 2002 following the crash of the internet bubble and a number of serious corporate scandals such as those of Enron and Wordcom. Among the aims of the regulators were to enhance the quality of financial disclosures, to improve the effectiveness of directors' monitoring and to re-establish the confidence of investors.

The legal liabilities of executive directors have increased substantially after 2002 as SOX requires the accuracy of information included in the financial statements to be certified by the top directors (CEO and CFO) of the firm (Section 302). Should this provision be wilfully or knowingly violated, criminal liabilities can be imposed against these top managers. These higher penalties mandated by SOX for misreporting of financial information have increased the potential personal costs of directors, making high-risk projects less attractive to them in the period after 2002. Moreover, companies are required to provide sufficient evidence regarding the adequacy of their internal controls (Section 404). Risky, difficult to monitor projects raise the cost of compliance with Section 404, which is expected to lead to a decrease in directors' incentives to engage in risky investments.

As a results of the increased liabilities and the subsequent personal and litigation costs imposed to executives by the governance regulations, the way directors are motivated by compensation is expected to substantially chang post-SOX. Given that corporate acquisitions are already amongst the riskiest type of investment decisions managers can make, they are associated with an increased probability of the afore-mentioned costs. Consequently, in the post-SOX period, we expect that managerial incentives to engage in risk acquisition decisions are diminished.

We contribute to the literature by offering a new perspective regarding the perception of risk from a managerial perspective during the post-SOX period. Cohen et al. (2013) hypothesize that, all else equal, CEOs are expected to respond less to a unit of incentive compensation post-SOX in relation to the pre-SOX period. We complement and add to this evidence by identifying for first time a significant change in the direction of the relation between equity-related compensation and risk-taking activity in M&A decisions following the enactment of SOX. Yermack (2006) states that it is necessary to look beyond routine activity and examine one-time events in order to better understand top management incentives from executive compensation.

As the importance of managerial incentives is reflected in the significance of managerial decisions, we examine our hypotheses in the setting of mergers and acquisitions (M&As) as one of the most important corporate investment decisions and with an often large value impact. In addition, the uncertainty associated with acquisition decisions can increase the intensity of agency conflicts between managers and shareholders and so offers an ideal environment to investigate the effectiveness of executive compensation (Zhao, 2013). Harford and Li (2007) show that the post-acquisition stock performance can affect the sensitivity of CEO's wealth to stock price movements. In contrast, such a relation between stock price performance and CEO's wealth is not evident in the case of large capital expenditures which are indicative of the importance of M&As in the examination of managerial incentives.

We find a positive relation between managerial incentive compensation and post-acquisition changes in risk before 2002. This supports earlier work that executive stock options incentive managers in M&A decisions (Datta et al., 2001) and that options increase the convexity of managerial payoffs (Coles et al., 2006). However, we find a significant change in the association between incentive compensation and risk-taking activity post-SOX.

Managers whose compensation is more closely linked to stock price performance make less risky M&A decisions after the passage of SOX relative to their counterparts whose compensation is less closely tied to stock price performance.

The results remain robust for different specifications of risk and incentives. We measure managerial incentives using new stock and option grants, unexercised (vested and unvested) stock options, unexercised restricted stock, the sensitivity of managers' wealth to stock price performance and the sensitivity of managers' wealth to stock price volatility. We further control for a series of confounding events that could affect acquirer's risk and we address any potential concerns surrounding causality in the relation between executive compensation and firm risk.

Our findings show that although firms have changed the structure of their directors' compensation in such a way as to induce them to take less risk post-SOX (Cohen et al., 2013), directors have also changed the way they view risk-taking incentives provided by equity-related compensation.

The rest of the paper is organised as follows. Section 2 summarises the literature and develop the hypotheses. Section 3 presents the data sample and outlines the research design. Section 4 provides summary and descriptive statistics. Section 5 presents the empirical results. Section 6 concludes.

2.   Literature review and hypotheses development

2.1.   *Incentive compensation and risk-seeking incentives*

Incentive compensation has extensively been considered as an effective mechanism of mitigating agency costs. The period 1992-2002 showed a significant growth in managerial equity-based compensation especially in the form of executive stock options (Coles et al., 2006). If managers are not given the necessary incentives via their compensation structure,

they may forgo positive net-present-value projects that increase firm risk (Smith and Stulz, 1985). This problem can be more severe when the firm has valuable investment opportunities (Guay, 1999). In such a case, manager's wealth is expected to be more closely tied to firm performance (Smith and Watts, 1992).

Equity-related compensation appears to provide risk-increasing incentives for the vast majority of managers' investment decisions. In the area of M&As, Datta et al., (2001) find that managers with higher equity-based compensation make M&A decisions that increase the risk of their firm's stock by a greater amount relative to managers with weaker equity incentives. Agrawal and Mandelker (1987) also find a positive relation between managerial holdings of common stock and stock options and acquisition risk. Regarding other investment decisions, Rogers (2002) finds a strong negative relation between derivative holdings, which are used for hedging purposes and managerial risk-taking incentives provided by stock and options. Anantharaman and Lee (2014) show that the sensitivity of top management's wealth to stock price volatility is positively related to risky managerial behaviour in pension plans. Hirshleifer and Suh (1992) provide evidence of a positive link between option-based compensation and R&D expenditures.

Nevertheless, not all forms of equity-related compensation are equally effective in inducing investment in risky projects. The effectiveness of stock options in increasing risk-taking activity is much greater than that of common stock given the convex nature of option payoffs (Guay, 1999). Along the same line, Smith and Watts (1982) note that restricted stock plans cannot control the manager's risk aversion effectively. Nam et al. (2003) find that higher Vega leads to higher levels of investment in R&D and higher debt ratios. Opposite but less statistically significant relations were found for Delta. Ross (2004) notes that no compensation plan will necessarily make all agents less risk averse. The outcome will depend

on the executive's utility function and the movement can be into either more or less risk-averse portions.

2.2. *SOX and risk-seeking incentives from executive compensation*

After the passage of SOX, a significant reduction in risk-taking activity by public US companies has been documented (Bargeron et al., 2010), while their innovative potential has also been negatively affected (Shabad, 2008). These studies suggest that the increased liability on executive directors imposed by the passage of the governance regulation has had an adverse impact on managers' incentives to engage in risky projects.

However, firms may also change the structure of managerial incentive compensation based on the desired level of risk in the new regulatory environment. Cohen et al. (2013) find that the decline in risky investments after the passage of SOX can be attributed both to changes in executive compensation and to increased personal costs of directors. Carter et al. (2009) show that post-SOX firms place more weight on earnings in bonus contracts and Dicks (2012) suggests that the use of incentive compensation, as a substitute for governance in reducing agency costs, declines post-SOX.[1]

Taking everything together, it appears that SOX reduces the incentives for top management to engage in risky investment projects. We expect that this mitigates the role of incentive compensation previously documented by Datta et al., (2001). Examining the change in riskiness of acquisitions between the pre-SOX and post-SOX period in the US, we expect to find a decline in acquisition risk overall. However, we expect that the reduction in risk will be more intense for those acquirers who pay managers more in the form of equity based

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[1] Brown and Lee (2007) and Heron et al. (2007) argue that the decline in the use of stock-options is related to the passage of the revised Statement of Financial Accounting Standards No. 123 (SFAS No. 123R), which increases the cost of providing stock options by the firm. However, Cohen et al. (2013) show that the documented changes in the structure of incentive compensation cannot be attributed to SFAS No. 123R alone.

compensation. Thus, we propose that SOX mitigates the positive relation between incentive compensation and changes in firm risk post-M&A.

3. Data and research design

3.1. Sample selection criteria

We use the SDC Platinum database to identify all completed US mergers and acquisitions with an announcement and effective date between January 1, 1993 and December 31, 2010. Following Aktas et al. (2013), only those transactions that have been classified as mergers, acquisitions, acquisitions of majority interest, acquisitions of assets, acquisitions of certain assets, acquisitions of remaining interest, and exchange offers are included in our sample. Moreover, the transaction must have a disclosed deal value of at least $1 million[2]; both the bidder and target should be US firms; the acquirer should be a publicly listed company owning less than 50 percent of the target's shares six months prior to the acquisition announcement and must acquire at least 50 percent of the shares in the transaction in order that an explicit change of control can be ensured. These criteria result in a sample size of 28,751 transactions.

We match these transactions to the Standards and Poor's ExecuComp database for executive compensation data. ExecuComp provides compensation data on the top five highest compensated officers for firms in the S&P 1500 Index. We require the acquiring firm to have executive compensation data available for the year preceding the acquisition announcement. Since ExecuComp does not have data before 1992, the start date of our sample is dictated in 1993. After merging with Execucomp, the number of observations is reduced to 8,179. We also require that the bidder must have accounting data available in Compustat at the time of acquisition announcement and stock price data in CRSP for one calendar year surrounding

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[2] All dollar values in the analysis are adjusted for consumer price inflation and expressed in 2010 USD.

the acquisition effective date such that our risk measures can be calculated. The produces a final sample of 7,747 acquisitions made by 1,908 firms.

3.2.   Incentive compensation variables

As managers' incentives may stem from both newly and previously awarded stock and option grants (Guay, 1999) we consider the incentive effects of all stock-based awards when examining the effectiveness of incentive compensation in risk-taking activity. We use a variety of incentive compensation measures to assure that our analysis captures all different types of incentives that managers can be provided with. We define *New_Grants* as the fair value[3] of new option and restricted stock grants aggregated across the acquirer's top five highest paid executives as a percentage of their total compensation for the financial year. Based on the findings of previous studies according to which stock options can induce risk-taking activity more effectively than restricted stock (Smith and Watts, 1982; Guay, 1999) we further split this incentive measure to its components. *New_OptionG* measures the fair value of new executive stock options awarded to the top five directors as a percentage of their total compensation and *New_StockG* measures the fair value of restricted stock granted to the top five executives as a percentage of their total compensation. Both measures are calculated for the year preceding the acquisition announcement.

We also investigate the role of accumulated incentives in managers' willingness to take risk. *Accum_Incentives* are calculated as the sum of unexercised (vested and unvested) stock options and unvested restricted stock held by the top five executives as a percentage of the total number of shares outstanding. As with *New_Grants*, we decompose *Accum_Incentives* into the incentives stemming from option and stock grants respectively. *Unex_Options* is the number of unexercised (vested and unvested) stock options to the total

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[3] Using the Black-Scholes valuation model.

number of shares outstanding and *Unvest_Stock* is the number of restricted stock grants that have not been vested yet to total shares outstanding. This approach allows us to observe which component(s) of incentive compensation drive managerial risk-taking activity.

Furthermore, we test our results against the sensitivity of executives' wealth to stock price performance and volatility. The dollar change in top-5 executives' wealth for 1 percent change in the firm's stock price is measured by *Delta* and the dollar change in top-5 executives' wealth for 1 percent change in the standard deviation of the firm's stock returns is measured by *Vega* based on the data provided by Coles et al. (2006).[4] The calculation of *Delta* and *Vega* follows the approach of Guay (1999) and Core and Guay; (2002). *Vega* should be positively related to stock return volatility, and the incentive to invest in risk increasing projects (Coles et al., 2006). In contrast, the relation of *Delta* to risk-taking activity is expected to be less important or even negative (Nam et al., 2003). All compensation variables of accumulated incentives refer to the holdings of the top five executives.

3.3. *Acquisition risk measures*

We use two measures of the change in bidder's risk around acquisition decisions. The first measure, *D_St.Dev.Ef/ve_Date*, captures the change in stock return volatility around the acquisition completion date and is calculated as the difference between the standard deviation of acquirer's stock returns six months following the effective date (+1 to +126 days) minus the standard deviation of acquirer's stock returns six months preceding the effective date (-126 to -1 days). A positive value indicates an increase in firm risk after the acquisition while a negative value means that the volatility of stock returns has been decreased following the acquisition. Using the logarithm of the variance of daily stock returns instead of their

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[4] We are grateful to Core and Guay (2002) and Coles et al., (2006) for making available data on Delta and Vega.

standard deviation as a proxy for risk we find identical results.[5] Likewise, repeating the analysis using an extended estimation period of two years surrounding the acquisition effective date based on the standard deviation of monthly stock returns gives very similar findings. These robustness tests provide supportive evidence of the validity of our risk measure as a proxy for the change in acquisition risk.

Following Kravet (2014) and Agrawal and Mandelker (1987) we also construct a second risk variable, *D_St.Dev.Ab/mal_Ret*, which measures the change in standard deviation of acquirer's abnormal returns around the acquisition decision. The estimation period is identical to that used in Agrawal and Mandelker (1987) and Datta et al., (2001) and it ranges from 120 to 61 days before the acquisition announcement and from 11 to 70 days after the acquisition effective date. We calculate abnormal stock returns as the residual from the market model using the CRSP value-weighted index. The implementation of two risk measures based on different estimation periods assures that any observed change in acquisition risk is not due to risk variable misspecification.[6]

3.4. Confounding events

The years preceding and following the passage of Sarbanes-Oxley Act are characterised by a number of sub-periods with confounding events that can have a significant impact on the risk-taking activity of a firm. Among the most important of these events are the collapse in the value of technology stocks in 2001, the passage of SFAS No. 123R, and the recent global financial crisis.[7] A proper control of these confounding events is required in order to be able to safely attribute our results to the passage of SOX.

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[5] This methodology is followed by Coles et al., (2006).

[6] We use varying event windows for consistency with the original study, but our results here are robust to use identical estimations windows for measuring changes in firm risk surrounding the acquisition dates.

[7] We do not control for the terrorist attack of September 2001 as Bargeron et al. (2010) show that the decrease in risk-taking activity in the post-SOX period cannot be explained by any uncertainty about the US economy caused by this event.

We follow Cohen et al. (2013) to control for the tech stock collapse and the passage of SFAS No. 123R. A subsample of the acquiring firms is formed with an acquisition announcement date within the years 2000 and 2001. Cohen et al. (2013) shows that the strongest impact of the internet crash is documented between August 2000 and August 2001. For the latter period, we calculate cumulative stock returns for our bidders' subsample and we allocate the acquiring firms to deciles based on their stock price performance for this period. The highest decile corresponds to the most positive returns while decile 10 corresponds to the bidders most severely affected by the internet crisis. We adopt a similar approach to control for the period of financial crisis. We create subsamples of the acquirers with an acquisition announcement date in 2007, 2008 and 2009. Then, for each year acquirers are allocated to deciles according to their cumulative abnormal returns for that year. Unlike other studies, we do not use a dummy variable to control for the period of financial crisis in order to avoid any overlap with change in risk captured by our *SOX* variable.[8]

SFAS No. 123R was introduced by the Financial Accounting Standard Boards in 2006 and, among other issues, requires that costs associated with equity-based compensation should be expensed on the firm's financial statements. One of the consequences of this regulation was the decrease in option-based compensation by public firms (Brown and Lee, 2007). Since equity based compensation in the form of stock option grants is associated with higher managerial incentives for risk-increasing activity, we expect a decrease in acquisition risk after the passage of SFAS No. 123R. The original effective date of SFAS No. 123R was scheduled to be the first fiscal quarter after the 15th of June 2005. However, this was later modified by the SEC to the first fiscal quarter of the first fiscal year after the 15th of June 2005. Thus, we introduce a dummy variable, *SFAS_123R*, which takes the value of one if the acquisition announcement is made in 2006 and zero otherwise.

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[8] SOX is a dummy variable that takes the value of 1 if the acquisition announcement date is after the enactment of Sarbanes-Oxley Act (30/07/2002) and zero otherwise.

4. Descriptive statistics

Table 1 presents the distribution of our sample along with our main risk and compensation variables. While the data show no obvious clustering of observations, an increased M&A activity is observed in the late 90s prior to the collapse in valuations for tech stocks; a pattern consistent with previous research findings (Moeller et al, 2004; Masulis et al, 2007). Investment activity has been negatively affected by the market downturn that followed the internet crash in 2001 and the financial crisis in 2007 which is evident from the drop in acquisitions in subsequent years. This is supportive of our decision to control for these events in our analysis.

Managers also appear less risk averse in the period preceding the crash of the internet bubble and the passage of SOX. Under both our risk measures, the volatility of bidders' stock returns increase after the completion of acquisitions for the period 1995-2000. In contrast, completed acquisitions after the passage of SOX seem to lead to less volatility of stock returns with the exception of the first two years of financial crisis. However, the latter is more likely a result of the increased uncertainty caused by the global credit crunch rather than due to increased risk-taking activity on behalf of managers.

The change in the structure of incentive compensation over time is consistent with the documented decrease in the importance of stock options after the passage of the Act (Dicks, 2012). A considerable substitution of restricted stock for stock options is observed during the post-SOX. In 2001, before the passage of SOX, almost half of the average value (48.8 percent) of the top management team's compensation consists of option grants while the average value of restricted stock is only 4.9 percent of their total compensation. However, in 2010, the last year in our sample, the average value of bidders' top five executives' total compensation consists 20.4 percent of stock options and 26.2 percent of restricted stock

grants. This change in compensation structure is consistent with firms' incentives to avoid excessive risk post-SOX. As Flor et al., (2014) note, when managers can affect firm's variance, an increase in the number of stocks of a contract that consists of both stocks and options is necessary in order to avoid excessive risk-taking. The distribution of the sensitivity of executives' wealth to stock price performance (Delta), is affected by the volume of acquisition activity. It reaches its peak at the late 1990s, just before the dotcom crash, and it falls in the period of the recent financial crisis.

Table 2 presents summary statistics for all variables used in the analysis. Risk measures and incentive compensation variables are calculated as described in the previous section. Our control variables are consistent with those employed in prior studies in the areas of executive compensation and firm risk. The median value of both new stock grants and unvested stock is zero, as the majority of acquirers do not pay restricted stock to their executives until after the passage of Sarbanes-Oxley Act. Our mean and median values of *Delta* and *Vega* are higher than those of previous studies (Coles at al., 2006; Cohen et al., 2013) as we examine the sensitivity of all top five executives' wealth to stock price performance and volatility, and not only that of the CEO.[9] *Cash_Comp* is the sum of Salary and Bonus as a percentage of the total compensation of bidder's top five executives. *Cash_Comp* is used as a proxy for executives' risk aversion since managers with high proportions of cash compensation and longer tenures are more likely to be entrenched and to avoid risk (Berger et al., 1997). We also control for CEO tenure as CEOs with more years in the office are likely to be characterised by risk-aversion in their decisions. *Tenure* measures the number of months the CEO has served in this position at the time of the acquisition announcement.

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[9] Coles et al., (2006) also provide compensation characteristics for the management team but they exclude the CEO so the reported dollar values of Delta and Vega are significantly lower than ours. Moreover, as already noted, our dollar values are expressed in 2010 USD.

Regarding acquirer's characteristics, the logarithm of sales [*log(Sales)*] is used as a proxy for firm size. Based on the properties of managers' utility functions[10] (Core and Guay, 1999; Cohen et al., 2013) and given that managers of larger firms receive higher compensation (Smith and Watts, 1992) we expect a positive relation between firm size and incentive compensation. Bargeron et al. (2010) finds that the decrease in standard deviation of stock returns post-SOX is greater for small firms compared to large ones. *Sales_Growth* is the logarithm of the ratio of the bidder's sales in the acquisition announcement year to the sales in the year preceding the announcement. Since risk-taking incentives are positively related to firm's investment opportunities (Guay, 1999) we expect a positive relation between sales growth and firm risk. We further control for growth opportunities using the market-to-book ratio (*M/B*) calculated at the month-end prior to the acquisition announcement date as book value of total assets minus book value of equity plus market value of equity divided by book value of total assets. *Cash* is the cash and cash equivalent available to the acquirer divided by total assets. Yermack (1995) notes that liquidity-constrained firms are more likely to use stock options instead of cash in their executive compensation structure. A similar hypothesis is made by Dechow et al. (1996). *ROA* is the bidder's operating income before depreciation divided by total assets. Should incentive-based compensation align the interests of managers with those of shareholders mitigating agency costs, we expect better performing firms to award higher levels of incentive compensation to their managers.

Firm risk can also be driven by executives' capital structure and investment decisions. *D_Leverage* measures the change in the ratio of total debt to total assets from the year end preceding the acquisition announcement to the acquisition announcement year end.[11] Leverage is included in the analysis in order to ensure that any observed change in firm risk is not due to changes in the firm's capital structure. While entrenched, risk-averse managers

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[10] The underlying assumption is that manager's utility functions show a declining absolute risk aversion.
[11] We use the book value of leverage in order to avoid any changes in the market value of leverage that could be due to random changes in stock price and not due to intentional managerial actions (Welch, 2004).

try to avoid debt (Berger et al., 1997), we expect that managers of highly leveraged firm to be given less incentives for risk-increasing activity (John and John, 1993). *R&D* is the bidder's research and development expenditures to total assets.[12] We expect a positive relation between investment in R&D and firm risk. The R&D expense can also capture the investment opportunity set of a firm (Dechow et al., 1996). Bargeron et a. (2010) find that more specialized firms with higher investment in R&D before SOX reduced their risk-taking activity after the passage of the Act significantly more than firms with low R&D expenditures in the same period. *Net_PPE* is the acquirer's net expenditure in property, plant and equipment to total assets. Since this type of investment is characterised by low risk, a negative relation between Net PPE and incentive compensation is expected.

5. Results

5.1. *Change in incentive compensation*

Table 3 presents changes in incentive compensation characteristics from the period before SOX to the post-SOX period for our entire sample of acquirers. We document a significant (at 1 percent level) drop in the use of executive stock options both in terms of mean and median values after the passage of the Act. While stock options account in average for 37.43 percent of top five executives' compensation before 2002, their average value as a percentage of total compensation has fallen to 31.08 percent post-SOX. In contrast, we observe a substantial increase in restricted stock with its average (median) value to executives' total compensation rising from 4.29 percent (nil) before SOX to 16.07 percent (4.84 percent) post-SOX. As a result, the total value of incentive compensation (measured by the sum of new stock and option grants) has increased as a percentage of executives' total compensation but this upturn is due to the increased use of restricted stock. The structure of

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[12] In accordance with previous studies, this value is set equal to zero when missing from Compustat.

managerial compensation has changed significantly post-SOX and we expect this to have an important impact on managers' incentives to undertake risk. This stems from the fact that restricted stock is not such an effective mechanism as executive stock options in reducing managerial risk-aversion (Smith and Watts, 1982; Guay, 1999).

Looking at unexercised (vested and unvested) stock options, we observe a slight increase (significant at the 10 percent level) in their average number as a percentage of total shares outstanding. This does not contradict the findings of the previous paragraph though. Executive stock options take on average around seven years to vest. Thus, the number of stock options granted before SOX can affect the *Unex_Options* variable during our post-SOX period. As a confirmation of the way executive incentive compensation have moved towards less risky incentives post-SOX, unvested stock (*Unvest_Stock*) show a significant increase (at the 1 percent level) both in terms of mean and median resulting in a subsequent increase in the accumulated incentives (*Accum_Incentives*). The average sensitivity of managers' wealth to bidder's stock price performance has not changed post-SOX but the sensitivity of their wealth to stock price volatility has gone up significantly.

5.2. *Change in acquisition risk*

Table 4 examines the change in standard deviation of acquirer's stock returns around the effective day for our total sample as well as for different levels of incentive compensation. Panel A confirms the documented decrease in risk-taking activity post-SOX (Bargeron et al., 2010). Before SOX, the completion of an acquisition resulted in an average (median) increase in acquirer's stock return volatility by 12.1 percent (3.4 percent). However, post-SOX, the average increase in bidder's stock return volatility is only 4.9 percent while the median volatility drops by 2.8 percent.

Panels B and C examine the change in bidder's risk under different levels for incentive compensation. We partition our sample into *High* and *Low Executive Incentives* based on the sample median for each compensation variable. The findings are striking. While equity-based compensation aligns the interests of managers with those of shareholders before SOX by making acquiring managers less risk-averse (Datta et al., 2001), it appears to have the opposite impact post-SOX. As Panel B shows, the documented decrease in risk-taking activity post-SOX is driven by the high executive incentives group of managers. The results are both economically and statistically significant (at the 1 percent level) for all measures of incentive compensation. In contrast, the bidders who compensate their managers with more flat contracts do not experience a statistically significantly change in the average acquisition risk post-SOX. There is some decrease in the median acquisition risk for the latter type of bidders but the change is smaller in size and statistical importance than that experienced by highly incentivised acquirers.

We also implement the difference-in-difference approach[13] to compare the magnitude of change in acquisition risk of *High Executive Incentives* firms (*HEI* hereafter) to that of their *Low Executive Incentives* (*LEI* hereafter) counterparts. The results in Panel C indicate that the decrease in acquisition risk post-SOX is significantly higher when an acquisition is made by HEI managers compared to acquisition decisions made by LEI directors. The average decrease in firm risk following the acquisition is 15.7 percent higher for *HEI* firms when the level of incentives is measured by the value of new restricted stock and options grants and 12 percent higher for *HEI* bidders when *Accum_Incentives* is used as the compensation variable (both differences are significant at the 1 percent level). When we use

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[13] The reported t-statistics and p-values are those of the coefficient on the interaction between the *SOX* and the compensation variables in the difference-in-difference regressions. Both *SOX* and *Incentive_Compensation* are dummy variables in the difference-in-difference tests. *SOX* takes the value of one if the acquisition announcement has been made before 30 July 2002 and zero otherwise. *Incentive_Compensation* takes the value of one if the value of the compensation variable used in the regression is above the sample median and zero otherwise.

Delta and *Vega* to measure managerial incentives, the decrease in acquisition risk is again higher for *HEI* firms by 11.5 percent and 9.4 percent respectively (both significant at the 5 percent level).

Table 5 repeats the analysis of Table 4 using our second proxy for acquisition risk which measures the change in volatility of bidder's abnormal stock returns between the period preceding the acquisition announcement and the period following the completion of the transaction. Panel A confirms the substantial drop in firm risk following acquisition decisions post-SOX. Compared to the pre-SOX period, acquirers experience an average (median) 9.5 percent (6.8 percent) lower volatility of abnormal stock returns following an acquisition (significant at the 1 percent level).

Partitioning our sample into *HEI* and *LEI* in Panels B and C confirms our previous findings that the significant drop in acquisition risk post-SOX stems from the increased risk-aversion of highly incentivised managers. The decrease in firm risk following acquisitions made by *HEI* bidders is both economically and statistically significant (at the 1 percent level) across all four different variables of incentive compensation both in terms of means and medians. On the other hand, *LEI* firms do not experience a statistically significant drop in their average acquisition risk under any of the incentive compensation variables used in the analysis.

The difference-in-difference analysis also indicates that the drop in firm risk following the acquisition completion is significantly higher for *HEI* bidders compared to their *LEI* counterparts, with *Vega* being the only exception. Taking the results of tables 4 and 5 together, the difference in difference approach shows that in 7 out of 8 cases, highly incentivised managers make substantially less risky acquisitions post-SOX than lower incentivised directors irrespective of the variables used to measure incentive compensation and acquisition risk.

5.3.   Multivariate analysis of new incentive grants and acquisition risk

While Tables 4 and 5 show the magnitude and direction of change in acquirer's risk post-SOX, they do not control for the confounding effects and a number of other important factors mentioned earlier in the text. Using multivariate analysis, Table 6 examines the impact that new stock and options grants have on the riskiness of acquisitions.[14] At this stage of the analysis we control for the effect that events such as the collapse in the market value of tech stocks, the passage of SFAS No.123R, and the financial crisis can have on changes in firm risk, in addition to a number of firm characteristics that prior literature identifies as affecting firm risk. We also control for industry fixed effects[15] in all our multivariate models. The reported t-statistics hereafter are based on robust standard errors.

The dependent variable in Panel A is our first measure of acquisition risk, that is, the change in standard deviation of acquirer's stock returns over one year surrounding the completion of the acquisition. Model 1 provides supportive evidence that, in the pre-SOX period, incentive compensation induces managers to make riskier acquisition in line with previous research findings (Datta et al., 2001). However, the interaction coefficient of *SOX* and *New_Grants* is significantly negative, suggesting that high levels of incentive compensation make managers less likely to engage in risky acquisition decisions under the new regulatory environment. That is, the same agency cost mitigating mechanism implemented by firms to induce managers to undertake risky but value-increasing projects before 2002, has the opposite impact post-SOX. The results are significant at the 1 percent level. Moreover, the size of the interaction coefficient between *New_Grants* and *SOX* is more than twice the size of the *New_Grants* coefficient, indicating that new stock and options

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[14] The number of observations in our multivariate models is lower than the total sample size of 7,747 acquisitions due to missing data required for the calculation of some of our control variables.
[15] We use the Fama and French (1997) classification of industries.

grants have more than offset the positive impact they previously had on risk-taking activity before the passage of SOX.

We extend this analysis to differentiate between stock options and restricted stock grants. Our descriptive statistics highlight that compensation has switched from options to restricted stock grants in the post-SOX period. Theories of executive compensation highlight that a switch away from options would naturally lead to a decline in risk-seeking behaviour by firm management. Models 2 and 3 examine how the riskiness of acquisition is affected by new grants of executive stock options and restricted stock respectively. Consistent with the arguments of Guay (1999) and Parrino et al. (2005) the coefficient of *New_OptionG* is positively related to post-acquisition changes in firm risk prior to SOX and *New_StockG* are not related to changes in risk. This reflects the convex payoff function inherent in executive stock options, which is not present in restricted stock grants. However, the same instruments that reduce managerial risk aversion before 2002 have very different impacts post-SOX. After the passage of the Act, managers who are granted a higher value of stock options proportional to their total compensation make more conservative decisions relative to their counterparts who have more flat contracts. In Model 3, our compensation variable (*New_StockG*) is unable to capture any change in acquisition risk which is all left to be explained by the *SOX* dummy variable.

The results confirm the robustness of our univariate findings after controlling for a series of important confounding events in our sample period. Regarding the rest of the control variables, the increase in bidder's leverage leads to increase in volatility of firm's stock returns, as expected. Larger firms firm appear to increase their risk more than smaller firms following the completion of acquisitions is supportive to the findings of the Bargeron et al. (2010) that small firms are more likely to experience a decrease in standard deviation of their stock returns. Sales growth is also strongly positively related to acquisition risk, according to

our expectations, given the documented positive relation between risk-taking activity and growth opportunities (Guay, 1999). On the other hand, the time period the CEO has stayed in the office before an acquisition announcement is unrelated to the riskiness of the decision once we control for the above mentioned parameters.[16]

While we investigate the impact that incentive compensation has on the riskiness of acquisitions, there may be concerns that these two variables are simultaneously determined. That is, while managerial compensation may affect the riskiness of investment decisions, firms may in turn determine the structure of executive compensation based on the desired level of risk. We address this endogeneity concern in a number of ways. Apart from the inclusion of industry fixed effects in all models, our main variables is lagged relative to the acquisition announcement. The compensation variables measure the incentives given to bidder's managers at the year preceding the acquisition announcement. In contrast, our proxy for acquisition risk measures the change in firm risk surrounding the effective day which clearly follows the announcement date. Thus, our incentive compensation measures have been defined before any change in risk is observed. Furthermore, we implement the Hausman test to examine whether our compensation variables are endogenously determined in our regressions. The p-values of the residuals' coefficient are reported at the end of each model. The size of p-values indicates that endogeneity is not an issue here.[17]

Panel B replicates the preceding analysis using our second proxy for acquisition risk as the dependent variable. The results remain unchanged and the coefficients of the incentive compensation variables remain identical both in terms of size and statistical significance in all models. The economically and statistically strong (at the 1 percent level) relation between firm risk and incentive compensation before SOX has been reversed after the passage of the

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[16] We also control for managerial ownership but the results remain identical in all tables. Ownership is positively related to risk, as expected, but statistically insignificant. Since the inclusion of ownership as control variable results in an important drop in the number of observations to 6,630 due to missing data, we opt not to report these results. They are available upon request from the authors.

[17] The results of the Hausman tests are subject to the limitation that the instruments used are truly exogenous.

Act. It is also confirmed that the ability of incentive compensation to drive firm risk either upwards (pre-SOX) or downwards (post-SOX) stems from the properties of executive stock options.

Regarding the endogeneity issue, the p-value of the Hausman test in model 6 indicates that there might be a slight simultaneous determination (significant at the 10 percent level only) when examining restricted stock awarded to bidder's managers and the change in acquirer's standard deviation of abnormal returns. However, since the coefficients of *New_StockG* remain statistically insignificant in all models, this does not actually affect the results and implications of our analysis.

Our results support our core proposition that SOX changes the nature of the risk-seeking incentives provided by executive compensation. We find strong evidence that the previously documented positive relation between incentive compensation and firm risk no longer holds. Apart from the increased liability of executives post-SOX which has resulted in a significant decrease in risk-taking activity, there are a number of other requirements included in the Sarbanes-Oxley Act that could possibly explain our results.

One of these provisions requires that executives return any incentive-based compensation awarded to them, along with any profits realised from stock awards in cases of subsequent earnings restatements. Given that the higher the volatility of a firm, the higher may be the possibility of a future restatement; this could have considerably affected managers' perception of the incentives provided by the structure of their compensation. Managers with high proportions of incentive-based compensation have significantly more to lose in case of a restatement than managers with higher proportions of cash compensation. This can have a direct impact on their decisions to invest in risk-increasing projects.

5.4.   *Accumulated incentives and changes in post-acquisition risk*

Taking only new stock and option grants into consideration may not be representative of managerial incentives when an investment decision is made. Apart from the year preceding the acquisition announcement, directors have been granted stock options and restricted stock in previous years too. These accumulated incentives may have an equal or even higher impact on managerial decisions given that newly granted incentives cannot be exercised immediately. Table 7 examines the impact of all unexercised (vested and unvested) stock options and unvested restricted stock on the riskiness of acquisitions. We address any concerns of endogeneity following the same methodology as in Section 5.3.

Panel A uses our first proxy of post-acquisition changes in risk as the dependent variable. We control for confounding events and firm characteristics similarly to the previous section. The first model shows that the sum of unexercised option grants and unvested stock grants has a significant positive association with the riskiness of acquisition before SOX confirming our hypothesis that accumulated incentives have an equally strong impact on investment decisions as new incentive grants. However, similar to our findings regarding new incentive grants, the relation between accumulated incentives and acquisition risk has considerably changed after the passage of SOX. After 2002, stock and option grants that have not been exercised or vested at the time of acquisition announcement have an economically and statistically (at the one percent level) adverse impact on post-acquisition changes in risk.

Models 2 and 3 isolate the impact of unexercised options and unvested stock respectively on acquisition risk. Confirming the findings of earlier studies (Smith and Watts, 1982; Guay, 1999) as well as our results so far, the regression coefficients show stock option can reduce managerial risk-aversion more effectively than restricted stock before SOX. Yet, the picture is quite different after the passage of the governance regulation in 2002. Now, managers with high proportions of unexercised options appear far more risk averse in their investment decisions than managers with lower proportions of accumulated options in their

portfolio. Again, the impact of incentive compensation on acquisition risk stems exclusively from the properties of executive stock options. In contrast, the coefficients of unvested stock remain statistically insignificant and unable to capture any change in acquisition risk.

Panel B replicates the analysis using our second proxy for acquisition risk. The results remain identical in nature although statistically not as strong as before (the coefficients of *SOX*, *Financial_Crisis* and *Sales_Growth* remain significant at the one percent level). However, the direction of the relations remains the same and consistent with our analysis so far. Accumulated incentives have a positive impact on acquisition risk before SOX which is due to the convexity of payoffs stemming from executive stock options. Post-SOX though, managers with high holdings of unexercised options make less risky acquisitions than their lower-incentivised counterparts. Executive stock options seem to have a very different, and probably unexpected, impact on managerial risk taking in a governance environment associated with increased personal and legal costs. The economically and statistically strong negative coefficients of the *SOX* variable in all our six models confirm the findings of Cohen et al. (2007) that the passage of SOX is negatively related to the volatility of future stock returns.

5.5. *Delta, Vega, and post-acquisition changes in firm risk*

In this section we extend our earlier findings to consider whether changes in the sensitivity of managers' wealth to stock price volatility (Vega) and returns (Delta) are associated with changes in firm risk during the post-acquisition period. Given that companies may choose to reduce the sensitivity of their directors' wealth to stock price volatility if their target is to lower their risk exposure, it is unclear whether managerial compensation is structured by firms in such a way that Vega and Delta are aligned with the desired level of risk or if the observed riskiness of acquisition decisions is determined by the sensitivity of

managers' wealth to stock price volatility and performance. Coles et al. (2006) and Cohen et al. (2013) show that higher sensitivity of managers' wealth to stock price volatility (Vega) is associated with more risky investments and higher volatility of stock returns.

Following Rogers (2002), Coles at al. (2006) and Cohen et al. (2013) we run a system of three simultaneous regressions where we control for Delta when we examine the effect of Vega in acquisition risk and vice versa. We use a three-stage-least-squares (3SLS) model as it shows higher consistency and effectiveness than the 2SLS method in large samples (Cohen et al., 2013). Acquisition risk, Vega and Delta are the endogenous variables in our 3SLS regressions while the rest of the variables are assumed to be exogenously determined for our estimation time period.[18]

Table 8 presents these results. Panel A uses our first measure of acquisition risk while Panel B replicates the analysis using our second proxy for risk. All other model specifications between Panels A and B are the same. Both systems of simultaneous equations give identical results for our dependent variables, highlighting that the proxies used to measure the riskiness of acquisitions are robust. In addition, we control for industry fixed effects in all models. The results confirm the findings of the preceding sections. Higher sensitivity of managers' wealth to stock price volatility is positively associated with risk-taking activity before 2002 in line with previous research findings (Coles et al., 2006; Cohen et al., 2013). However, we document an important shift in this relation after the passage of SOX. Executives whose wealth is more closely linked to the volatility of their company's stock price have become more risk-averse post-SOX than those directors with less convexity in their payoffs. As documented in the literature, the relation between Delta and Vega remains strong and positive which justifies our choice to control for Delta when Vega is used as the dependent variable

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[18] Similar assumptions have been made elsewhere in the literature (Holthausen et al., 1995; Coles et al., 2006; Cohen et al., 2013).

and vice versa since changes in one of these incentive variables can have a considerable effect on the other.

In the second equation of the 3SLS simultaneous equation, Vega is used as the dependent variable and it is positively related to acquisition risk, firm size and investment in R&D (all coefficients are significant at the 1 percent level in both panels of Table 8). Previous studies (Guay, 1999; Coles et al., 2006) also document a positive relation between Vega and firm size as well as between Vega and R&D expenditures when Vega is used as the dependent variable, providing further support to our findings. Vega is negatively related to low-risk investment in property, plant and equipment (Coles et al., 2006) although the relation is not statistically significant for our sample. Since higher Vega increases the convexity of manager's payoffs while higher proportions of cash compensation make the structure of their payment more flat, a strong negative association between Vega and cash compensation should be documented. This is confirmed for our results at the 1 percent level.

On the other hand, the impact of Delta on firm risk is not so clear (Coles at al., 2006). While higher Delta can provide managers with incentives to engage in risky, positive NPV projects (John and John, 1993), it also increases the exposure of managers to risk which can make them more risk-averse (Guay, 1999). Delta appears to affect negatively the riskiness of acquisitions in both periods (pre and post-SOX) but its impact is not economically very strong. This is consistent with previous studies (Nam et al., 2003). When Delta is used as the dependent variable it appears to be negatively affected by acquisition risk pre-SOX but the interaction term between risk and SOX (*D_St.Dev.Ab/mal_Ret * SOX*) shows a reversal of this relation post-SOX. The latter is an additional evidence of the change in managerial incentives after 2002.

6.   Summary and Conclusion

Empirical evidence is provided of an important decrease in the riskiness of acquisition decisions post-SOX.   While the decrease in acquisition risk can be partly explained by changes in the structure of executive compensation, we identify for first time in the literature a striking change in the way incentive compensation affects managerial decisions post-SOX. Increasing the number and value of executive stock options in managers' portfolio and the subsequent sensitivity of their wealth to stock price volatility has been an effective mechanism in inducing investment in risky projects before 2002. However, incentive compensation not only has failed to offset the adverse impact of SOX on risk-taking activity but it leads to a considerably different impact on managerial decisions compared to the pre-SOX period. Highly-incentivised managers have become more risk averse than their low-incentivised counterparts which can have a number of explanations.

Among the many mandates of SOX, directors are required to return any incentive-based compensation and stock profits in case of earnings restatements. Since the higher the exposure of a firm to risk, the higher the probability of a future restatement, managers appear to have chosen to minimize firm risk. In addition, those managers with high proportions of stock and option grants in their portfolio are likely to incur disproportionally higher costs in case of a restatement than directors with more flat compensation contracts. Consequently, it will be in their interest to invest in less risky projects post-SOX.

Alternatively, we may witness an structural change in the way firm risk is perceived by managers and shareholders after SOX. Inducing the managers to invest in risky projects before SOX was considered to be in the best interests of shareholders as long as these projects were also value-increasing. However, this may not necessarily be the case post-SOX. After the corporate scandals and the passage of governance regulations in 2002, excessive risk-taking may not be in the best interests of shareholders. Since acquisitions are risky

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investments per se, keeping the associated risk as low as possible could be a closer to optimal managerial decision. As noted by Cohen et al. (2013), the increased probability of personal costs post-SOX lowers the payoffs from risky projects relative to less risky ones. It remains to be confirmed whether low-risk acquisitions can bring more value to shareholders than high-risk acquisitions post-SOX. Should this be the case, it would mean that incentive compensation can still align the interests of managers with those of shareholders in the post-SOX period. As this analysis is outside the scope of this paper, it is left for future research.

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Table 1: Distribution of M&As, Change in Acquisition Risk and Incentive Compensation

The table presents the distribution of 7,747 acquisitions completed during the period January 1, 1993, to December 31, 2010. Data on executive compensation are from ExecuComp and stock price data from CRSP. *D_St.Dev.Ef/ve_Date* is the change in the standard deviation of acquirer's stock return between 6 months following the effective date (+1 to +126 days) and 6 months preceding the effective date (-126 to -1 days). *D_St.Dev.Ab/mal_Ret* is the change in the standard deviation of acquirer's abnormal stock return between 60 days following the effective date (+11 to +70) and 60 days preceding the announcement date date (-120 to -61). *New_Grants* is the fair value of new stock and options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_OptionG* is the fair value of new stock options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_StockG* is the fair value of new restricted stock granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *Accum_Incentives* is the sum of unexercised stock options and unvested restricted stock held by the top five executives as a percentage of the total number of shares outstanding. *Delta* is the dollar change in top-5 executives' wealth for a 1 percent change in the firm's stock price. *Vega* is the dollar change in top-5 executives' wealth for 1 percent change in the standard deviation of the firm's stock return.

Year	Number of Acquisitions	% of Sample	Average D_St.Dev. Ef/ve_Date	Average D_St.Dev. Ab/mal_Ret	Average New_Grants	Average New_OptionG	Average New_StockG	Average Accum_Incentives	Average Delta ($000s)	Average Vega ($000s)
1993	319	4.1%	-0.09	-0.14	0.227	0.190	0.037	0.016	693	93
1994	347	4.5%	-0.10	-0.14	0.301	0.269	0.032	0.019	630	136
1995	342	4.4%	0.11	0.12	0.335	0.295	0.040	0.027	1,215	144
1996	459	5.9%	0.04	0.05	0.316	0.276	0.041	0.023	2,576	175
1997	528	6.8%	0.09	0.10	0.390	0.343	0.047	0.026	1,848	233
1998	569	7.3%	0.42	0.69	0.451	0.410	0.042	0.028	3,990	329
1999	582	7.5%	0.29	0.23	0.474	0.425	0.049	0.026	6,261	443
2000	525	6.8%	0.16	0.23	0.533	0.489	0.044	0.027	8,332	799
2001	426	5.5%	-0.33	-0.49	0.537	0.488	0.049	0.029	2,351	608
2002	446	5.8%	0.02	-0.04	0.520	0.476	0.044	0.034	3,005	546
2003	456	5.9%	-0.29	-0.37	0.480	0.406	0.074	0.031	3,976	684
2004	476	6.1%	-0.04	-0.05	0.475	0.386	0.089	0.034	3,215	740
2005	472	6.1%	-0.01	0.04	0.494	0.377	0.118	0.029	3,360	906
2006	436	5.6%	-0.04	-0.08	0.444	0.296	0.148	0.025	4,693	678
2007	463	6.0%	0.57	0.50	0.454	0.254	0.200	0.026	4,800	649
2008	356	4.6%	1.33	1.09	0.445	0.171	0.274	0.023	1,200	454
2009	261	3.4%	-0.85	-0.97	0.490	0.201	0.288	0.026	1,375	621
2010	284	3.7%	-0.17	0.00	0.466	0.204	0.262	0.020	1,865	573
Total	7,747	100.0%	0.09	0.08	0.441	0.347	0.094	0.027	3,376	497

Table 2: Summary Statistics

The table presents summary statistics for the sample of 7,747 acquisitions completed during the period January 1, 1993, to December 31, 2010. Data on executive compensation are from ExecuComp, stock price data from CRSP and accounting data from Compustat. *D_St.Dev.Ef/ve_Date* is the change in the standard deviation of acquirer's stock return between 6 months following the effective date (+1 to +126 days) and 6 months preceding the effective date (-126 to -1 days). *D_St.Dev.Ab/mal_Ret* is the change in the standard deviation of acquirer's abnormal stock return between 60 days following the effective date (+11 to +70) and 60 days preceding the announcement date date (-120 to -61). *Cash_Comp* is the sum of salary and bonus paid to top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_OptionG* is the fair value of new stock options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_StockG* is the fair value of new restricted stock granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_Grants* is the fair value of new stock and options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *Unex_Options* is the number of unexercised stock options held by the top five executives as a percentage of the total number of shares outstanding. *Unvest_Stock* is the number of unvested restricted stock grants to the top five executives as a percentage of the total number of shares outstanding. *Accum_Incentives* is the sum of unexercised stock options and unvested restricted stock held by the top five executives as a percentage of the total number of shares outstanding. *Delta* is the dollar change in top-5 executives' wealth for a 1 percent change in the firm's stock price. *Vega* is the dollar change in top-5 executives' wealth for 1 percent change in the standard deviation of the firm's stock returns. *D_Leverage* is the change in the ratio of total debt to total assets. *log(Sales)* is the logarithm of sales. *Sales_Growth* is the logarithm of the percentage change in sales. *ROA* is the acquirer's operating income before depreciation divided by total assets. *Tenure* is the number of months the CEO has been in the office at the time of the acquisition announcement. *Cash* is the cash and cash equivalent available to the acquirer divided by total assets. *R&D* is the acquirer's research and development expenditures to total assets. *Net_PPE* is the acquirer's net expenditure in property, plant and equipment to total assets. *M/B* is the market-to-book ratio of the acquirer at the month-end prior to the acquisition announcement.

Variable	Mean	Standard Deviation	25th Percentile	Median	75th Percentile	Number of Observations
Risk Measures						
D_St.Dev.Ef/ve_Date	0.089	0.988	-0.389	0.006	0.458	7,747
D_St.Dev.Ab/mal_Ret	0.077	1.106	-0.434	0.004	0.499	7,747
Compensation Variables						
Cash_Comp	0.463	0.258	0.254	0.428	0.648	7,747
New_OptionG	0.347	0.274	0.113	0.307	0.559	7,747
New_StockG	0.094	0.170	0.000	0.000	0.138	7,747
New_Grants	0.441	0.267	0.233	0.454	0.646	7,747
Unex_Options	0.025	0.030	0.007	0.017	0.034	7,740
Unvest_Stock	0.001	0.005	0.000	0.000	0.001	7,741
Accum_Incentives	0.027	0.031	0.008	0.018	0.036	7,740
Delta	3,376	27,499	263	680	1,947	7,406
Vega	497	1,046	63	163	479	7,406
Firm Characteristics						
D_Leverage	0.015	0.091	-0.021	0.000	0.039	7,701
log(Sales)	3.146	0.704	2.646	3.079	3.603	7,706
Sales_Growth	0.069	0.122	0.010	0.050	0.109	7,701
ROA	0.126	0.095	0.060	0.125	0.182	7,705
Tenure	100	126	32	68	126	7,148
Cash	0.138	0.163	0.023	0.065	0.202	7,672
R&D	0.035	0.063	0.000	0.000	0.050	7,747
Net_PPE	0.206	0.219	0.045	0.133	0.284	7,672
M/B	2.20	2.11	1.18	1.58	2.34	7,486

Table 3: Change in Incentive Compensation
The table presents changes in incentive compensation of the top five executives of the acquiring firms included in the sample of 7,747 acquisitions completed during the period January 1, 1993, to December 31, 2010. Data on executive compensation are from ExecuComp. Acquisitions with an announcement date after 30 July 2002 belong to the Post-SOX period, otherwise they belong to the pre-SOX period. *New_OptionG* is the fair value of new stock options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_StockG* is the fair value of new restricted stock granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_Grants* is the fair value of new stock and options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *Unex_Options* is the number of unexercised stock options held by the top five executives as a percentage of the total number of shares outstanding. *Unvest_Stock* is the number of unvested restricted stock grants to the top five executives as a percentage of the total number of shares outstanding. *Accum_Incentives* is the sum of unexercised stock options and unvested restricted stock held by the top five executives as a percentage of the total number of shares outstanding. *Delta* is the dollar change in top-5 executives' wealth for a 1 percent change in the firm's stock price. *Vega* is the dollar change in top-5 executives' wealth for 1 percent change in the standard deviation of the firm's stock returns. t-statistics are from the t-test of difference between means and *z*-statistics are from the Wilcoxon rank sum test for difference between the respective distributions.

Variable	Pre SOX	Post SOX	Difference Post vs Pre	*t/z* *Statistics*	*p-value*
New_OptionG					
mean	0.3743	0.3108	-0.0635	*-10.18*	*0.000*
median	0.3389	0.2721	-0.0668	*-9.62*	*0.000*
New_StockG					
mean	0.0429	0.1607	0.1178	*32.27*	*0.000*
median	0.0000	0.0484	0.0484	*30.75*	*0.000*
New_Grants					
mean	0.4172	0.4715	0.0542	*8.93*	*0.000*
median	0.4080	0.4974	0.0894	*9.16*	*0.000*
Unex_Options					
mean	0.0247	0.0260	0.0013	*1.82*	*0.068*
median	0.0153	0.0191	0.0038	*5.21*	*0.000*
Unvest_Stock					
mean	0.0008	0.0019	0.0011	*10.83*	*0.000*
median	0.0000	0.0002	0.0002	*21.67*	*0.000*
Accum_Incentives					
mean	0.0256	0.0279	0.0024	*3.39*	*0.001*
median	0.0163	0.0207	0.0044	*7.24*	*0.000*
Delta					
mean	3365	3390	25	*0.038*	*0.970*
median	603	800	197	*7.33*	*0.000*
Vega					
mean	362	676	314	*12.92*	*0.000*
median	121	251	131	*18.47*	*0.000*

Table 4: Change in Standard Deviation of Acquirer's Stock Returns around the Effective Date

The table presents changes in the standard deviation of stock returns of the acquiring firms included in the sample of 7,747 acquisitions completed during the period January 1, 1993, to December 31, 2010. Data on executive compensation are from ExecuComp and stock price data from CRSP. The standard deviation of acquirer's stock return is estimated between 6 months following the effective date (+1 to +126 days) and 6 months preceding the effective date (-126 to -1 days). Acquisitions with an announcement date after 30 July 2002 belong to the Post-SOX period, otherwise they belong to the pre-SOX period. The sample is partitioned into *High* and *Low Executive Incentives* based on the sample median for each compensation variable. *New_Grants* is the fair value of new stock and options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *Accum_Incentives* is the sum of unexercised stock options and unvested restricted stock held by the top five executives as a percentage of the total number of shares outstanding. *Delta* is the dollar change in top-5 executives' wealth for a 1 percent change in the firm's stock price. *Vega* is the dollar change in top-5 executives' wealth for 1 percent change in the standard deviation of the firm's stock returns. t-statistics are from the t-test of difference between means and *z*-statistics are from the Wilcoxon rank sum test for difference between the respective distributions. In the difference-in-difference regressions the reported t-statistics and p-values are those of the coefficient on the interaction between the *SOX* and the Compensation variables. *SOX* is a dummy variable that takes the value of 1 if the acquisition announcement is made after 30 July 2002 and 0 otherwise.

		Pre SOX	Post SOX	Difference Post vs Pre	*t/z Statistics*	*p-value*
Panel A: Total Sample						
	mean	0.121	0.049	-0.073	*-3.17*	*0.002*
	median	0.034	-0.028	-0.061	*-4.81*	*0.000*
	observations	4360	3387			

Compensation Variable		Pre SOX	Post SOX	Difference Post vs Pre	*t/z Statistics*	*p-value*
Panel B: High Executive Incentives						
New_Grants						
	mean	0.177	0.024	-0.153	*-4.30*	*0.000*
	median	0.046	-0.049	-0.095	*-4.88*	*0.000*
	observations	1948	1925			
Accum_ Incentives						
	mean	0.148	0.017	-0.131	*-3.96*	*0.000*
	median	0.034	-0.041	-0.074	*-3.81*	*0.000*
	observations	2010	1871			
Delta						
	mean	0.114	-0.012	-0.126	*-4.36*	*0.000*
	median	0.047	-0.044	-0.091	*-4.41*	*0.000*
	observations	1986	1717			
Vega		0.111	0.003	-0.108	*-3.58*	*0.000*
	mean	0.032	-0.049	-0.081	*-4.00*	*0.000*
	median	1770	1933			

(The table is continued on the next page.)

Table 4 (Continued)

Panel C: Low Executive Incentives					
Compensation Variable	Pre SOX	Post SOX	Difference Post vs Pre	*t/z Statistics*	*p-value*
New_Grants					
mean	0.076	0.080	0.004	*0.15*	*0.881*
median	0.030	-0.001	-0.031	*-1.39*	*0.166*
observations	2412	1462			
Difference In Difference (High VS Low Incentives)			*-0.157*	*-3.45*	*0.000*
Accum_Incentives					
mean	0.098	0.087	-0.011	*-0.32*	*0.751*
median	0.035	-0.006	-0.041	*-2.74*	*0.006*
observations	2350	1516			
Difference In Difference (High VS Low Incentives)			*-0.120*	*-2.65*	*0.008*
Delta					
mean	0.120	0.109	-0.011	*-0.29*	*0.775*
median	0.028	-0.003	-0.031	*-2.23*	*0.026*
observations	2247	1456			
Difference In Difference (High VS Low Incentives)			*-0.115*	*-2.50*	*0.012*
Vega					
mean	0.122	0.107	-0.014	*-0.36*	*0.718*
median	0.038	0.016	-0.022	*-1.81*	*0.070*
observations	2463	1240			
Difference In Difference (High VS Low Incentives)			*-0.094*	*-2.01*	*0.045*

Table 5: Change in Standard Deviation of Acquirer's Abnormal Stock Returns
The table presents changes in the standard deviation of abnormal stock returns of the acquiring firms included the sample of 7,747 acquisitions completed during the period January 1, 1993, to December 31, 2010. Data on executive compensation are from ExecuComp and stock price data from CRSP. The standard deviation of acquirer's abnormal stock return is estimated between 60 days following the effective date (+11 to +70) and 60 days preceding the announcement date date (-120 to -61). Acquisitions with an announcement date after 30 July 2002 belong to the Post-SOX period, otherwise they belong to the pre-SOX period. The sample is partitioned into *High* and *Low Executive Incentives* based on the sample median for each compensation variable. *New_Grants* is the fair value of new stock and options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *Accum_Incentives* is the sum of unexercised stock options and unvested restricted stock held by the top five executives as a percentage of the total number of shares outstanding. *Delta* is the dollar change in top-5 executives' wealth for a 1 percent change in the firm's stock price. *Vega* is the dollar change in top-5 executives' wealth for 1 percent change in the standard deviation of the firm's stock returns. t-statistics are from the t-test of difference between means and z-statistics are from the Wilcoxon rank sum test for difference between the respective distributions. In the difference-in-difference regressions the reported t-statistics and p-values are those of the coefficient on the interaction between the *SOX* and the Compensation variables. *SOX* is a dummy variable that takes the value of 1 if the acquisition announcement is made after 30 July 2002 and 0 otherwise.

	Pre SOX	Post SOX	Difference Post vs Pre	t/z Statistics	p-value
Panel A: Total Sample					
mean	0.118	0.024	-0.095	*-3.79*	*0.000*
median	0.042	-0.026	-0.068	*-4.39*	*0.000*
observations	4360	3387			

Compensation Variable	Pre SOX	Post SOX	Difference Post vs Pre	t/z Statistics	p-value
Panel B: High Executive Incentives					
New_Grants					
mean	0.163	-0.013	-0.176	*-4.50*	*0.000*
median	0.101	-0.044	-0.144	*-5.03*	*0.000*
observations	1948	1925			
Accum_Incentives					
mean	0.146	-0.014	-0.160	*-4.24*	*0.000*
median	0.058	-0.047	-0.104	*-3.76*	*0.000*
observations	2010	1871			
Delta					
mean	0.116	-0.020	-0.136	*-4.04*	*0.000*
median	0.080	-0.039	-0.119	*-4.51*	*0.000*
observations	1986	1717			
Vega	0.088	-0.022	-0.110	*-3.22*	*0.001*
mean	0.050	-0.047	-0.096	*-3.51*	*0.000*
median	1770	1933			

(The table is continued on the next page.)

Table 5 (Continued)

<table>
<tr><td colspan="6">Panel C: Low Executive Incentives</td></tr>
<tr><td>Compensation Variable</td><td>Pre SOX</td><td>Post SOX</td><td>Difference Post vs Pre</td><td>t/z Statistics</td><td>p-value</td></tr>
<tr><td colspan="6">New_Grants</td></tr>
<tr><td>mean</td><td>0.082</td><td>0.072</td><td>-0.010</td><td>-0.31</td><td>0.754</td></tr>
<tr><td>median</td><td>0.006</td><td>-0.005</td><td>-0.011</td><td>-0.80</td><td>0.425</td></tr>
<tr><td>observations</td><td>2412</td><td>1462</td><td></td><td></td><td></td></tr>
<tr><td>Difference In Difference (High VS Low Incentives)</td><td></td><td></td><td>-0.166</td><td>-3.25</td><td>0.001</td></tr>
<tr><td colspan="6">Accum_Incentives</td></tr>
<tr><td>mean</td><td>0.095</td><td>0.070</td><td>-0.025</td><td>-0.71</td><td>0.478</td></tr>
<tr><td>median</td><td>0.032</td><td>-0.011</td><td>-0.043</td><td>-2.26</td><td>0.024</td></tr>
<tr><td>observations</td><td>2350</td><td>1516</td><td></td><td></td><td></td></tr>
<tr><td>Difference In Difference (High VS Low Incentives)</td><td></td><td></td><td>-0.135</td><td>-2.66</td><td>0.008</td></tr>
<tr><td colspan="6">Delta</td></tr>
<tr><td>mean</td><td>0.114</td><td>0.068</td><td>-0.046</td><td>-1.17</td><td>0.241</td></tr>
<tr><td>median</td><td>0.006</td><td>-0.017</td><td>-0.023</td><td>-1.89</td><td>0.059</td></tr>
<tr><td>observations</td><td>2247</td><td>1456</td><td></td><td></td><td></td></tr>
<tr><td>Difference In Difference (High VS Low Incentives)</td><td></td><td></td><td>-0.090</td><td>-1.73</td><td>0.083</td></tr>
<tr><td colspan="6">Vega</td></tr>
<tr><td>mean</td><td>0.134</td><td>0.087</td><td>-0.047</td><td>-1.14</td><td>0.252</td></tr>
<tr><td>median</td><td>0.040</td><td>0.007</td><td>-0.033</td><td>-2.00</td><td>0.045</td></tr>
<tr><td>observations</td><td>2463</td><td>1240</td><td></td><td></td><td></td></tr>
<tr><td>Difference In Difference (High VS Low Incentives)</td><td></td><td></td><td>-0.063</td><td>-1.19</td><td>0.232</td></tr>
</table>

Table 6: Multivariate Analysis of Change in Acquisition Risk under New Incentive Grants

The table presents multivariate analysis of the change in risk of acquiring firms included the sample of 7,747 acquisitions completed during the period January 1, 1993, to December 31, 2010. Data on executive compensation are from ExecuComp, stock price data from CRSP and accounting data from Compustat. *D_St.Dev.Ef/ve_Date* is the change in the standard deviation of acquirer's stock return between 6 months following the effective date (+1 to +126 days) and 6 months preceding the effective date (-126 to -1 days). *D_St.Dev.Ab/mal_Ret* is the change in the standard deviation of acquirer's abnormal stock return between 60 days following the effective date (+11 to +70) and 60 days preceding the announcement date date (-120 to -61). *New_OptionG* is the fair value of new stock options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_StockG* is the fair value of new restricted stock granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *New_Grants* is the fair value of new stock and options granted to the top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *SOX* is a dummy variable that takes the value of 1 if the acquisition announcement is made after 30 July 2002 and 0 otherwise. *Internet_Crash* is the decile rankings of acquirers with an acquisition announcement date within the years 2000 and 2001 based on their cumulative stock returns. *SFAS_123R* is a dummy variable that takes the value of 1 if the acquisition announcement is made in 2006 and 0 otherwise. *Financial_Crisis* is the decile rankings of acquirers with an acquisition announcement date within the years 2007-2009 based on their cumulative stock returns. *log(Sales)* is the logarithm of sales. *D_Leverage* is the change in the ratio of total debt to total assets. *Sales_Growth* is the logarithm of the percentage change in sales. *Tenure* is the number of months the CEO has been in the office at the time of the acquisition announcement. t-statistics based on robust standard errors are in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

Variable	Panel A			Panel B		
	D_St.Dev. Ef/ve_Date Model 1	D_St.Dev. Ef/ve_Date Model 2	D_St.Dev. Ef/ve_Date Model 3	D_St.Dev. Ab/mal_Ret Model 4	D_St.Dev. Ab/mal_Ret Model 5	D_St.Dev. Ab/mal_Ret Model 6
Constant	-0.0040	0.0250	0.0993	0.0189	0.0393	0.1270
	(-0.02)	(0.14)	(0.57)	(0.13)	(0.26)	(0.86)
New_Grants	0.2014***			0.2171***		
	(3.04)			(2.73)		
New_Grants * SOX	-0.4495***			-0.4282***		
	(-4.77)			(-4.04)		
New_OptionG		0.1900***			0.2118***	
		(2.85)			(2.66)	
New_OptionG * SOX		-0.3836***			-0.4143***	
		(-4.36)			(-4.16)	
New_StockG			0.0838			0.0291
			(0.67)			(0.19)
New_StockG * SOX			-0.1367			-0.0121
			(-0.85)			(-0.07)
SOX	-0.0672	-0.1280***	-0.2548***	-0.0343	-0.0733*	-0.2214***
	(-1.43)	(-3.42)	(-8.99)	(-0.66)	(-1.73)	(-6.87)

Table 6 (Continued)

Variable	Panel A			Panel B		
	D_St.Dev. Ef/ve_Date Model 1	D_St.Dev. Ef/ve_Date Model 2	D_St.Dev. Ef/ve_Date Model 3	D_St.Dev. Ab/mal_Ret Model 4	D_St.Dev. Ab/mal_Ret Model 5	D_St.Dev. Ab/mal_Ret Model 6
Internet_Crash	-0.0168**	-0.0163*	-0.0110	-0.0214**	-0.0212**	-0.0153
	(-2.02)	(-1.96)	(-1.37)	(-2.18)	(-2.16)	(-1.62)
SFAS_123R	0.0853**	0.0837**	0.0971***	0.0093	0.0056	0.0183
	(2.43)	(2.37)	(2.76)	(0.24)	(0.15)	(0.48)
Financial_Crisis	0.1065***	0.1030***	0.1081***	0.0762***	0.0724***	0.0764***
	(10.90)	(10.40)	(11.01)	(8.40)	(7.89)	(8.34)
log(Sales)	0.0393**	0.0361*	0.0344*	0.0414*	0.0399*	0.0376*
	(2.14)	(1.96)	(1.87)	(1.92)	(1.84)	(1.73)
D_Leverage	0.3639**	0.3605**	0.3477**	0.1603	0.1590	0.1449
	(2.52)	(2.50)	(2.41)	(1.02)	(1.02)	(0.93)
Sales_Growth	0.6067***	0.6019***	0.6224***	0.6762***	0.6713***	0.6934***
	(4.72)	(4.68)	(4.84)	(4.84)	(4.81)	(4.97)
Tenure	-0.0036	-0.0034	-0.0056	0.0013	0.0015	-0.0009
	(-0.42)	(-0.39)	(-0.64)	(0.15)	(0.17)	(-0.10)
Number of Observations	7,142	7,142	7,142	7,142	7,142	7,142
F-Statistic	8.45	8.06	5.99	64.71	72.85	4.01
p-value	0.000	0.000	0.000	0.000	0.000	0.000
Hausman p-value	0.838	0.295	0.439	0.137	0.560	0.071
R-Squared	0.065	0.065	0.062	0.035	0.035	0.033
Industry Fixed Effects	YES	YES	YES	YES	YES	YES

Table 7: Multivariate Analysis of Change in Acquisition Risk under Accumulated Incentives

The table presents multivariate analysis of the change in risk of acquiring firms included the sample of 7,747 acquisitions completed during the period January 1, 1993, to December 31, 2010. Data on executive compensation are from ExecuComp, stock price data from CRSP and accounting data from Compustat. *D_St.Dev.Ef/ve_Date* is the change in the standard deviation of acquirer's stock return between 6 months following the effective date (+1 to +126 days) and 6 months preceding the effective date (-126 to -1 days). *D_St.Dev.Ab/mal_Ret* is the change in the standard deviation of acquirer's abnormal stock return between 60 days following the effective date (+11 to +70) and 60 days preceding the announcement date date (-120 to -61). *Unex_Options* is the number of unexercised stock options held by the top five executives as a percentage of the total number of shares outstanding. *Unvest_Stock* is the number of unvested restricted stock grants to the top five executives as a percentage of the total number of shares outstanding. *Accum_Incentives* is the sum of unexercised stock options and unvested restricted stock held by the top five executives as a percentage of the total number of shares outstanding. *SOX* is a dummy variable that takes the value of 1 if the acquisition announcement is made after 30 July 2002 and 0 otherwise. *Internet_Crash* is the decile rankings of acquirers with an acquisition announcement date within the years 2000 and 2001 based on their cumulative stock returns. *SFAS_123R* is a dummy variable that takes the value of 1 if the acquisition announcement is made in 2006 and 0 otherwise. *Financial_Crisis* is the decile rankings of acquirers with an acquisition announcement date within the years 2007-2009 based on their cumulative stock returns. *log(Sales)* is the logarithm of sales. *D_Leverage* is the change in the ratio of total debt to total assets. *Sales_Growth* is the logarithm of the percentage change in sales. *Tenure* is the number of months the CEO has been in the office at the time of the acquisition announcement. t-statistics based on robust standard errors are in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

Variable	Panel A			Panel B		
	D_St.Dev. Ef/ve_Date Model 1	D_St.Dev. Ef/ve_Date Model 2	D_St.Dev. Ef/ve_Date Model 3	D_St.Dev. Ab/mal_Ret Model 4	D_St.Dev. Ab/mal_Ret Model 5	D_St.Dev. Ab/mal_Ret Model 6
Constant	-0.0007	-0.0066	0.1174	0.0760	0.0687	0.1418
	(-0.00)	(-0.04)	(0.67)	(0.50)	(0.45)	(0.96)
Accum_Incentives	2.5650***			1.3580*		
	(3.80)			(1.78)		
Accum_Incentives * SOX	-3.1820***			-1.882**		
	(-3.83)			(-1.98)		
Unex_Options		2.6390***			1.4590*	
		(3.92)			(1.90)	
Unex_Options * SOX		-3.0260***			-1.8004*	
		(-3.58)			(-1.86)	
Unvest_Stock			0.2623			-4.067
			(0.04)			(-0.51)
Unvest_Stock * SOX			-6.5420			-0.7677
			(-0.91)			(-0.09)
SOX	-0.1815***	-0.1896***	-0.2535***	-0.1708***	-0.1758***	-0.2159***
	(-5.63)	(-5.96)	(-9.92)	(-4.69)	(-4.87)	(-7.28)

Table 7 (Continued)

Variable	Panel A			Panel B		
	D_St.Dev. Ef/ve_Date Model 1	D_St.Dev. Ef/ve_Date Model 2	D_St.Dev. Ef/ve_Date Model 3	D_St.Dev. Ab/mal_Ret Model 4	D_St.Dev. Ab/mal_Ret Model 5	D_St.Dev. Ab/mal_Ret Model 6
Internet_Crash	-0.0118	-0.0119	-0.0108	-0.0156*	-0.0157*	-0.0152
	(-1.47)	(-1.49)	(-1.35)	(-1.65)	(-1.67)	(-1.62)
SFAS_123R	0.0903**	0.0910***	0.0962***	0.0148	0.0153	0.0188
	(2.58)	(2.60)	(2.74)	(0.39)	(0.40)	(0.49)
Financial_Crisis	0.1061***	0.1061***	0.1079***	0.0760***	0.0760***	0.0773***
	(10.80)	(10.90)	(11.01)	(8.41)	(8.42)	(8.52)
log(Sales)	0.0451**	0.0474**	0.0310*	0.0422*	0.0442*	0.0352
	(2.30)	(2.41)	(1.68)	(1.80)	(1.89)	(1.61)
D_Leverage	0.3951***	0.3937***	0.3579**	0.1733	0.1732	0.1529
	(2.75)	(2.74)	(2.47)	(1.11)	(1.11)	(0.98)
Sales_Growth	0.5743***	0.5723***	0.6263***	0.6731***	0.6706***	0.7020***
	(4.54)	(4.53)	(4.88)	(4.84)	(4.82)	(5.04)
Tenure	-0.0058	-0.0060	-0.0058	-0.0008	-0.0010	-0.0012
	(-0.66)	(-0.69)	(-0.66)	(-0.10)	(-0.12)	(-0.14)
N	7,139	7,139	7,140	7,139	7,139	7,140
F-Statistic	5.68	5.70	5.62	3.65	3.66	3.67
p-value	0.000	0.000	0.000	0.000	0.000	0.000
Hausman p-value	0.927	0.891	0.246	0.140	0.156	0.038
R-Squared	0.066	0.66	0.063	0.034	0.034	0.033
Industry Fixed Effects	YES	YES	YES	YES	YES	YES

Table 8: 3SLS estimations for Change in Acquisition Risk, Vega and Delta

The table presents simultaneous regressions of Acquisition Risk, Vega and Delta. The sample consists of 7,747 acquisitions completed during the period January 1, 1993, to December 31, 2010. Data on executive compensation are from ExecuComp, stock price data from CRSP and accounting data from Compustat. *D_St.Dev.Ef/ve_Date* is the change in the standard deviation of acquirer's stock return between 6 months following the effective date (+1 to +126 days) and 6 months preceding the effective date (-126 to -1 days). *D_St.Dev.Ab/mal_Ret* is the change in the standard deviation of acquirer's abnormal stock return between 60 days following the effective date (+11 to +70) and 60 days preceding the announcement date date (-120 to -61). *Delta* is the dollar change in top-5 executives' wealth for a 1 percent change in the firm's stock price. *Vega* is the dollar change in top-5 executives' wealth for 1 percent change in the standard deviation of the firm's stock returns. *Cash_Comp* is the sum of salary and bonus paid to top five executives as a percentage of their total compensation in the year preceding the acquisition announcement. *SOX* is a dummy variable that takes the value of 1 if the acquisition announcement is made after 30 July 2002 and 0 otherwise. *Internet_Crash* is the decile rankings of acquirers with an acquisition announcement date within the years 2000 and 2001 based on their cumulative stock returns. *SFAS_123R* is a dummy variable that takes the value of 1 if the acquisition announcement is made in 2006 and 0 otherwise. *Financial_Crisis* is the decile rankings of acquirers with an acquisition announcement date within the years 2007-2009 based on their cumulative stock returns. *log(Sales)* is the logarithm of sales. *D_Leverage* is the change in the ratio of total debt to total assets. *Sales_Growth* is the logarithm of the percentage change in sales. *Tenure* is the number of months the CEO has been in the office at the time of the acquisition announcement. *M/B* is the market-to-book ratio of the acquirer at the month-end prior to the acquisition announcement. *ROA* is the acquirer's operating income before depreciation divided by total assets. *R&D* is the acquirer's research and development expenditures to total assets. *Net_PPE* is the acquirer's net expenditure in property, plant and equipment to total assets. *Cash* is the cash and cash equivalent available to the acquirer divided by total assets. t-statistics based on robust standard errors are in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

Variable	Panel A			Panel B		
	D_St.Dev. Ef/ve_Date	Vega	Delta	D_St.Dev. Ab/mal_Ret	Vega	Delta
D_St.Dev.Ef/ve_Date		0.3272***	-34.4999***			
		(2.98)	(-4.04)			
D_St.Dev.Ef/ve_Date * SOX		0.0159	21.1373**			
		(0.14)	(2.48)			
D_St.Dev.Ab/mal_Ret					0.5413***	-41.9691***
					(4.92)	(-3.92)
D_St.Dev.Ab/mal_Ret * SOX					-0.1401	19.7421*
					(-1.26)	(1.84)
Vega	0.7545***		19.9678***	0.7862***		25.6127***
	(7.69)		(34.82)	(7.59)		(37.00)
Vega * SOX	-0.2701***			-0.1674*		
	(-3.02)			(-1.78)		
Delta	-0.0063*	0.0227***		-0.0093**	0.0214***	
	(-1.67)	(32.44)		(-2.35)	(30.45)	
Delta * SOX	-0.0086**			-0.0093**		
	(-2.28)			(-2.37)		

Table 8 (Continued)

SOX	-0.3346***	0.4347***	-13.4213***	-0.3844***	0.4619***	-17.0482***
	(-9.16)	(13.38)	(-9.69)	(-9.53)	(13.82)	(-9.77)
Internet_Crash	-0.0741***	0.0625***	-2.1248***	-0.0810***	0.0718***	-2.9078***
	(-7.44)	(9.88)	(-6.76)	(-7.49)	(10.45)	(-6.42)
SFAS_123R	0.1699***	-0.1896***	4.2364**	0.1150*	-0.1641***	4.2417*
	(3.05)	(-3.69)	(2.29)	(1.84)	(-3.06)	(1.82)
Financial_Crisis	0.1231***	-0.0688***	1.7646***	0.0945***	-0.0625***	2.2492***
	(19.92)	(-11.53)	(8.27)	(13.66)	(-10.30)	(8.59)
log(Sales)	-0.2873***	0.5035***	-6.4957***	-0.3395***	0.5096***	-10.3584***
	(-9.57)	(27.1)	(-8.64)	(-10.41)	(26.50)	(-11.20)
D_Leverage	0.3398**	-0.0595	7.0971	0.1805	-0.0147	4.5873
	(2.50)	(-0.47)	(1.56)	(1.19)	(-0.11)	(0.80)
Sales_Growth	0.4712***			0.3299***		
	(4.66)			(3.07)		
Tenure	0.0014		0.7267**	0.0093		0.7450**
	(0.15)		(2.58)	(0.63)		(2.17)
M/B			2.1445***			1.9006***
			(4.73)			(3.50)
ROA		-0.1304			-0.0646	
		(-1.00)			(-0.51)	
R&D		0.8788***	-9.6128		0.6675***	0.8008
		(3.96)	(-0.99)		(2.84)	(0.06)
Net_PPE		-0.0899	-5.3046		-0.0777	-3.0965
		(-1.00)	(-1.40)		(-0.89)	(-0.81)
Cash			1.74120			-0.1332
			(0.41)			(-0.02)
Cash_Comp		-0.3621***			-0.3315***	
		(-7.60)			(-6.87)	
N	6,701	6,701	6,701	6,701	6,701	6,701
Industry Fixed Effects	YES	YES	YES	YES	YES	YES