DOES CEO MAKE A BETTER ACQUISITION DECISION AFTER SOX?

Minhua Yang*

Abstract

We examine whether the changes in corporate governance lead to a better acquisition decision. SOX greatly improve the corporate governance which should reduce the non-value-maximizing behavior of acquiring managers. We find a significant increase in acquirer returns after the passage of SOX. We also find that CEOs with strong managerial power are more likely to receive more restricted stock in their compensation package after the 2002 reforms. Finally, I find a significant positive relation between the restricted stock compensation of acquiring firm CEOs and abnormal stock returns after 2002. This provides empirical support on the effectiveness of the shift away from options towards restricted stock in executive compensation packages. Restricted stock is associated with better merger decisions.

Keywords: Ethics, Exposure to Unethical Behaviour, Personal Attitudes, Policy and Practice, Accounting Firms, Australia

** Assistant Professor of Finance, Department of Finance and Economics, E. Craig Wall Sr. College of Business Administration Coastal Carolina University, Conway, SC 29528, USA*
Tel.: (843) 349-6443
Fax. (843) 349-2455
Email: myang@coastal.edu

1. Introduction

Corporate acquisitions are one of the most important investment decisions made by managers and reflect the effectiveness of corporate governance. CEOs may use this investment opportunity to exacerbate the conflicts of interests between managers and shareholders. Corporate governance is viewed as effective means to align managerial interests with those of shareholders. Congress passed the Sarbanes-Oxley Act of 2002 (SOX) with the intention of improving corporate governance (Romano, 2005; Brown, 2006; Murray, 2006; Taylor, 2006). After the passage of SOX, Prior studies examining the relation between CEO compensation structure and corporate acquisition decisions (Jensen and Ruback, 1983; Shleifer and Vishny, 1988; Datta et.al, 2001) find that CEO equity-based compensation is positively related to acquirer returns.

However, a string of corporate scandals in 2000 and 2001 raised questions on the effectiveness of option grants and corporate governance in general. In response, Efendi et al. (2007) argue that the passage of SOX is driven by the positive relation between CEO in-the-money options and financial statement manipulation. Banerjee, Gatchev and Noe (2008) document a significant decline in CEO option-based compensation after the corporate scandals.

Moreover, in December 2002, the Financial Accounting Standards Board (FASB) issued Financial Accounting Standards 148 (SFAS 148) to require public firms to expense stock options by the fair value method instead of intrinsic value. A switch to the fair value method increases the estimated option value and leads to a decrease in reported earnings. Researchers in accounting (Aboody, Barth and Kasznik (2004), Schrand, Carter and Lynch (2003, 2005), Core and Guay (2003) and Carter, Lynch and Tuna (2007)) find that this new expensing rule has removed the accounting advantage of option-based compensation and made restricted stock more attractive to CEOs. Consistent with this, in July 2003, Microsoft CEO, Steve Ballmer, announced that Microsoft would stop paying option-based compensation and instead grant restricted stock compensation.

In gernal, the above new reforms in 2002 have led firms to reconsider the optimal CEO compensation structure or specifically the merits of option-based compensation. In this paper, I examine how firms change their equity incentive contracts after 2002 and whether this change affects acquisition decisions. To address this, I first examine the recent changes in CEO equity incentive contracts. I find that the proportion of restricted stock in CEO compensation significantly increases after the corporate reforms while the proportion of option

compensation significantly decreases at the same time. The dramatic drop in CEO option compensation results in a significant decrease in total CEO equity compensation. Thus, the reforms do appear to lead to firms altering their compensation packages.

In addition, I consider the role that CEO power plays in the shift in CEO compensation. Given that CEOs have influence over their own compensation (Bebchuk et al. (2002) and Bebchuk and Fried (2003)) I explore whether firms with strong managerial power are more likely to shift their compensation toward restricted stock after the new expensing rules. Graham, Harvey, and Rajgopal (2005) find executives believe that the market pays more attention to the cost of CEO option-based compensation since the expensing rule requires firms to moves the cost of stock options from footnotes to the income statement. Botosan and Plumlee (2001) find that option expensing significantly reduces firm reported earnings. Powerful CEOs are more likely to shift toward restricted stock to avoid the negative impact from expensing option-based compensation. I use the governance index identified by Gompers, Ishii and Metrick (2003) to proxy for the balance between the strength of shareholder rights and the power of managers. I find that the CEOs at firms with stronger managerial power are awarded more restricted stock after the new expensing rule.

Finally, I examine how the change in equity incentives affects the decision making of CEOs by looking at acquisition decisions. CEO restricted stock compensation is positively related to bidder returns after the recent changes in CEO equity compensation structure, while CEO stock options have no significant impact on the abnormal returns of the acquiring firm. This result is robust to controlling for deal-specific characteristics, firm-specific characteristics, CEO ownership, CEO power, governance index and board characteristics.

This study makes three valuable contributes to the literature. First, my paper extends the literature by examining the relation between executive compensation and acquirer returns. The traditional view is that there is a strong positive relation between manager's equity-based compensation and bidder returns. However, since the corporate scandals around 2000 and 2001, CEO equity-based compensation structures have changed significantly. My results suggest that after recent corporate scandals restricted stock compensation is associated with better acquisitions, not option compensation or total equity-based compensation.

Second, I shed light on the discussion of the optimal structure of CEO compensation. Financial researchers and regulators have not reached a consensus on what the optimal structure of CEO compensation should be. The use of equity-based compensation seeks to minimize the agency costs that exist between management and shareholders. However, empirical evidence indicates that the CEO may increase non-value-maximizing behavior because he receives option-based compensation in excess of the level that would be optimal for shareholders. My paper provides evidence from the market for corporate control that supports increasing the use of restricted stock in CEO compensation packages.

Third, my paper contributes to the literature by examining the use of restricted stock in CEO compensation contracts. Many studies focus on option-based compensation (Core and Guay (2001), Ryan and Wiggins (2001), Yermack (1995), Smith and Watts (1992)). The recent option expensing rule provides a natural setting to explore the shift toward restricted stock and examine the effect of this change on CEO decisions.

The remainder of the paper is organized as follows. Section 2 develops the hypotheses for the study. Section 3 presents the empirical tests and results for changes in CEO equity compensation. Section 4 describes the sample and data selection for firm acquisition decisions. Section 5 presents research methods for acquisitions. Section 6 reports the empirical acquisition findings. Section 7 concludes the main findings and offers implications for future study.

2. Hypotheses

Recently a series of important corporate reforms were enacted in response to the flurry of ensuing corporate scandals. For example, Congress passed SOX to restore investors' confidence in corporate governance in 2002. Pursuant to SOX, the NYSE and the NASDAQ required all the members on the compensation, nominating and auditing committee of listed firms to be independent directors. These new listing requirements decrease the executive option-based compensation (Chhaochharia and Grinstein (2009)). The new expensing rules by FASB in 2002 also reduce the use of option-based compensation and increase the use of restricted stock in CEO equity compensation (Carter, Lynch and Tuna (2007)). The above findings lead to my first hypothesis:

Hypothesis 1: The level of different sources of CEO equity compensation shifts overall after SOX and the 2002 expensing rule.

Hypothesis 1a: The proportion of restricted stock in CEO compensation should increase after SOX and the 2002 expensing rule.

Hypothesis 1b: The proportion of option-based compensation in CEO compensation should decrease after SOX and the 2002 expensing rule.

By not expensing in the 1990s, firms artificially lowered their personnel costs and thereby boosted profits. Core and Guay (1999), Matsunaga (1995) and Hall and Murphy (2002) find that the favorable accounting treatment of option-based compensation is attributed to the excessive use of options in CEO compensation. Recording option expenses in the income statement increases CEOs' concerns about the

greater visibility of their compensation (Core, Guay, and Larcker (2003)). Because options are believed to haved contributed to the 2002 corporate scandals (Efendi, Srivastava and Swanson (2007)), CEOs are concerned that expensing options increases the market's perception about the cost of option-based compensation (Oyer and Schaefer (2005)). More importantly, option expensing removes the advantage of the favorable accounting treatment of option-based compensation and significantly reduces reported earnings (Botosan and Plumlee (2001)). A CEO's current and future private gains (such as bonuses) are often contingent upon reaching certain levels of earnings, making them less likely to support the rule change.

Bebchuk et al. (2002) and Bebchuk and Fried (2003) find that a CEO can use his or her power to influence the compensation package in favor of his or her interests. If a CEO has strong power to bargain his or her compensation, I expect that he or she is more likely to demand restricted stock since he or she perceives a greater personal loss from option-based compensation after the expensing rule.

Hypothesis 2: CEOs at firms with strong managerial power are more likely use more restricted stock after the new expensing rule.

In addition to looking at compensation shifts, I consider their effects on managerial decision-making. Mergers and acquisitions are important corporate investments that affect firm value. Managers' acquisition decisions may be biased by their self-interests at the expense of shareholders (Berle and Means (1933) and Jensen and Meckling (1976)). Previous studies have documented conflicts of interests between managers and shareholders during acquisitions. Jensen (1986) and Lang, Stulz, and Walkling (1991) find that managers in firms with higher free cash flows are more likely to indulge in empire-building acquisitions to extract their personal benefits than to maximize shareholder wealth. Morch, Shleifer, and Vishny (1990) also find supportive evidence that managers gain personal benefits from value-reducing acquisitions.

Fortunately, earlier studies also show that executive compensation contracts can mitigate the conflicts of interest between managers and shareholders in firm investment decisions. Clinch (1991), Smith and Watts (1992), Smith and Watts (1992), Baber, Janakiraman, and Kang (1996) and Murphy (1999) find that equity-based compensation can encourage executives to take more risky but value-enhancing investments. Jensen and Murphy (1990) and Mehran, Nogler, and Schwartz (1998) find that shareholder value increases with equity-based CEO pay. Bliss and Rosen (2001) find that CEO equity-based compensation can prevent banks from empire building. Datta, Iskandar-Datta, and Raman (2001) document strong evidence suggesting that equity-based compensation in executive pay increases shareholder value in acquisitions during the 1990s.

Such support for the merits of equity-based compensation may have contributed to the growth in the use of option-based compensation. Hall and Murphy (2003) and Jensen (2005) document a rapid increase in option grants in CEO compensation in the 1990s. However, SOX and the expensing rule ended the golden age of stock options. Although restricted stock and options both provide incentives to increase firm value, prior research related to restricted stock incentives alone is limited, perhaps because of the low proportion of restricted stock in equity compensation before the expensing rule. Compared to the dramatic explosion of stock options, CEO restricted stock awards on average account for less than 10% of equity incentives before 2001 (Feng and Tian (2007)). Therefore, it is interesting to examine whether the recent change in CEO equity compensation structure has an impact on the acquiring CEO's decision.

In order to explore the impact of the changing trends in CEO equity compensation on firm acquisitions, I examine the relation between different sources of CEO equity compensation and bidder returns. Datta et al. (2001) only examine the relation between option grants and bidder returns. Whether adding restricted stock grants can provide incentives for better acquisitions becomes an interesting question. Cai and Vijh (2007) argue that the larger the size of CEO equity holdings, the stronger the incentives provided by those holdings. Restricted stock may be viewed by executives as being closer to owning shares. Hodge, Rajgopal, and Shevlin (2008) even suggest that executives value stock options with a lottery ticket mentality rather than methods consistent with standard economic theory. Thus, I argue that the incentive effects of restricted stock paid to acquirer CEOs become stronger after 2002 if firms significantly pay more restricted stocks after the expensing rule. If firms being to rely more on restricted stock to provide incentives after the new expensing rule, I expect to find supportive evidence from the market for corporate control.

Hypothesis 3: Restricted stock provides acquiring CEO with stronger incentives to make better (i.e, higher CAR) acquisitions after 2002 expensing rule.

3. Analysis of the Change in CEO Equity Compensation

3.1 Time trend of CEO equity compensation

Extending the research of Datta et.al (2001), I examine trends in the different components of CEO equity-based compensation after the 1990s. Table 1 presents the means and medians of the different sources of CEO compensation[14].

[14] Table 1 reports the inflation-adjusted compensation figures. All dollar values are adjusted to constant 2004 dollars using the CPI index.

Total CEO compensation includes cash compensation (bonus and salary), equity compensation (options and restricted stock) and other compensation. The average restricted stock-based CEO compensation increases from $0.46 million in 2000 to $1.09 million in 2004, while average CEO option holdings steadily decrease from 5.052 million in 2000 to 2.55 million in 2004. The average value of equity compensation also declines from $5.32 million in 2000 to $2.92 million in 2004, similar with the trend of option-based compensation. This result suggests much of the drop in CEO equity compensation is attributed to the decline in CEO option compensation.

Figure 1 shows the recent trends in the structure of CEO equity compensation. Figure 1 reports the average percentage of restricted stock versus option grants in CEO equity compensation. From figure 1, I note that the average percentage of restricted stock compensation in equity compensation dramatically increases after 2002. In contrast, the percentage of option compensation in equity compensation dramatically decreases after 2002. This result is consistent with the findings of Chhaochharia and Grinstein (2009). They find that SOX and its implementation rules affected CEO compensation decisions.

I also use the regression to explore the changes in CEO equity contract after SOX.

Proportion of restricted stock (options, EBC) = f (SOX, other control variables)

SOX is a dummy variable which equals one if the data is after year 2002, otherwise zero. The dependent variables are the natural logarithm of 1+ the percentage of CEO restricted stock compensation to total compensation, the natural logarithm of 1+ the percentage of CEO option-based compensation to total compensation and the natural logarithm of 1+ the percentage of equity-based compensation in CEO compensation, respectively.

Larger firms are more difficult to monitor and may need more equity-based incentives to align the CEO's interest with shareholders'. Jensen (1986) and Stulz (1990) suggest that high leverage may prevent managers from taking poor projects, which makes EBC less necessary. However, since equity compensation does not require cash outlay, firms would prefer to pay more restricted stock or option compensation other than cash compensation when the leverage is high (Yermack (1995)). Market-to-book ratio is use to control for the effects of growth opportunities. A firm with more growth opportunities is more likely to incur information asymmetry, which increases the need for the use of EBC. The percentage of independent directors is included to capture the board independence. Ryan and Wiggins (2004) find that board independence is positively related to the use of equity compensation. Linck et al. (2006) and Boone et al. (2007) find that CEO ownership reduces board independence.

Table 2 reports the results[15]. I find that the proportion of restricted stock in CEO compensation is significantly higher after the passage of SOX as the Sox dummy variable is significantly positive. CEOs have significantly less option-based compensation after SOX. The Sox dummy is also significantly negative for CEO EBC level. This result suggests that overall CEO equity contracts shift from option-based compensation to restricted stock after 2002. This implies the restricted stock plays a more important role in providing CEO with incentives to maximize shareholder value after 2002.

3.2 Analysis of the change in restricted stock

To explore whether more powerful CEOs are more likely to use greater levels of restricted stock after the expensing rule, I analyze the determinants of the proportion of restricted stock in CEO compensation and the ratio of restricted stock to option-based compensation controlling firm- and governance-specific variables used in hypothesis 1 to explain the use of CEO equity incentives[16]. Table 3 reports the results.

The proportion of restricted stock in CEO compensation at firms with strong managerial power is significantly higher after the passage of SOX as the interaction variable (index* SOX) is significantly positive. This result suggests that more powerful CEOs are more likely to receive more restricted stock in their compensation package after 2002. Firms with strong managerial power also pay more restricted stock relative to option-based compensation to their CEOs after 2002. These results are consistent with my expectation that powerful CEOs who are likely to be able to influence their compensation package, prefer restricted stock in their equity incentive contracts after the 2002 expensing rule. Since option-based compensation must be expensed, using restricted stock instead results in higher reported earnings, which may lead to higher future bonuses.

Other control variables are also consistent with prior studies. For example, firm size is statistically significant and positive in explaining the percentage of restricted stock. This suggests larger firms are more

[15] Using the same model, I also examine the changes in the percentage of restricted stock and option grants in CEO compensation over the passage of SOX. In the changes models, dependent and independent variables are yearly changes. However, the results are insignificant, which may be due to the changes in the percentage of restricted stock or options are noisy measurement including other information.

[16] In the literature, firm size, leverage, growth opportunities are often used to control agency conflicts between shareholders and managers. For more details, please refer to Smith and Watts (1992), Gaver and Gaver (1993), Jensen (1986) and Stulz (1990), John and John (1993). Index is defined as governance index from Gompers et.al (2003). CEO compensation data come from ExecuComp database and firm-and governance-specific data are available in Compustat and IRRC database.

difficult to monitor and may need more equity-based incentives to align the CEO's interest with shareholders'. Leverage is significantly positively associated with the proportion of restricted stock in CEO compensation, which is consistent with literature that firms would prefer more restricted stock as a substitute for cash compensation when facing difficulties in borrowing (Hall and Murphy, 2002).

4. Sample and Summary Statistics for Acquisitions

I collect acquisition data from the Securities Data Corporation's (SDC) U.S. Mergers and Acquisitions database. I identify 1,268 acquisitions between January 1, 2000 to December 31, 2005. Following Datta, et.al (2001), I include transactions that meet the following criteria: (1) The acquisition is listed as completed. (2) The bidder has less than 50% of the target's shares prior to the announcement and controls 100% of the target's shares after the transaction. (3) The deal value is more than $1 million. (4) The acquirer has available financial statement information from Compustat and stock price and return data from the University of Chicago's Center for Research in Security Prices (CRSP). (5) The acquiring CEO compensation data is disclosed in Standard and Poor's ExecuComp database for the year prior to the acquisition date. (6) Corporate governance data are available in the Investor Responsibility Research Center's (IRRC) database.

Table 4 shows the summary statistics of the sample acquisitions by announcement year. The number of acquisitions drops off in 2002 and rebounds in 2004. I also report mean and median acquirer market value of equity, deal value and relative deal size. The acquirer market value of equity is measured 11 trading days before the announcement. The relative deal size is calculated as a ratio of deal value to bidder market value of equity. The deal value, the bidder market value of equity and the deal relative size drop in 2002 and peak around 2004.

5. Research Methods for Acquisitions

5.1 Variable construction

I use acquirer returns as the dependent variable, three incentive compensation measures as explanatory variables, and firm-, deal- and governance-specific characteristics as control variables. These are explained below.

5.1.1 Acquirer Returns

I measure acquirer returns using market model adjusted stock returns around the initial acquisition announcement. I obtain announcement dates from SDC's U.S. Mergers and Acquisitions database. Following Fuller, Netter, and Stegemoller (2002), I calculate 5-day cumulative abnormal returns (CARs) from the event window (-2, +2), where event day 0 is the acquisition announcement date. The CRSP equal-weighted return is used as the market return where the market model parameters is estimated over the 200-day period from event day -210 to event day -11 (Masulis, Wang and Xie (2007)).

5.1.2 Incentive Compensation

Total CEO compensation is calculated as the sum of salary, bonus, other annual compensation, the value of restricted stock grants, the value of stock options granted, long-term incentive payouts, and all other compensation paid to CEO. Compensaton is measured prior to the acquisition and follows the approach of Datta et al. (2001). I measure total CEO equity compensation by the sum of the value of stock options granted and the value of restricted stock. The percentage of equity-based compensation (EBC) is defined as total CEO equity compensation divided by total CEO compensation. ExecuComp reports data on cash and total CEO compensation including the value of stock options (using modified Black-Scholes method) and restricted stock grants. In order to fully capture the effects of CEO equity-based compensation and SOX, I interact the three equity incentives with SOX indicators to create the following three key explanatory variables: Restricted Stock*SOX, Option*SOX and EBC*SOX. SOX is a binary variable that equals one if an acquisition deal is completed after 2002. Restricted Stock is defined as the natural logarithm of 1+ the percentage of restricted stock in a CEO's compensation. Option is the natural logarithm of 1+ the percentage of stock option grants in a CEO's compensation. EBC is the natural logarithm of 1+ the percentage of a CEO's equity compensation in total compensation package.

5.1.3 Other Determinants of Bidder Returns

Firm Characteristics:

Moeller, Schlingemann, and Stulz (2004) find that the acquirer's firm size has a negative relation with the cumulative abnormal returns (CARs). Their findings are consistent with Roll's (1986) managerial hubris hypothesis. They document that larger acquiring firms pay higher premiums which lead to higher acquisition costs and lower returns. The CEO of a larger firm is more likely to make unprofitable acquisitions since he or she is less subject to the market for corporate control. I use the log transformation of the acquirer's total assets to measure firm size.

The relation between an acquirer's Tobin's q and CAR is not clear in the literature. Moeller, Chlingemann, and Stulz (2004) find that the acquirer's Tobin's q has a negative effect on the abnormal returns while Lang, Stulz, and Walking (1991) and Servaes (1991) find the opposite. Following Masulis et.al (2007), I measure Tobin's q by the ratio of the acquirer's market value of assets to its book value of assets, where the market value of

assets is defined as the book value of assets minus the book value of common equity plus the market value of common equity.

Prior research finds free cash flows (FCFs) and leverage of the acquiring firm have an effect on CAR. Leverage helps reduce managers' non-value-maximizing investment since managers lose control to creditors when their firms fall into financial distress (Gilson and Vetsuypens (1994) and Baird and Rasmussen (2001)). I expect leverage to be positively related to the CAR. FCF has an ambiguous effect on the CAR. According to Jensen's (1986) free cash flow hypothesis, higher FCF encourages CEOs to engage in empire building. On the other hand, higher FCF also indicates better firm performance, implying higher quality managers who are more likely to make better acquisitions. Leverage is computed as a ratio of a firm's book value of long-term debt and short-term debt to its total assets. FCF is defined as a firm's operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets.

Deal characteristics:

Following the existing literature, I include, relative deal size, the method of payment, and target ownership status as control variables.

Asquith, Bruner, and Mullins (1983) and Moeller, Schlingemann, and Stulz (2004) find that the relative deal size is an important determinant of bidder returns. I compute the relative deal size as the ratio of the deal value to the bidder's market value of equity. Consistent with the literature, I expect a positive relation between the relative deal size and bidder returns.

Previous studies have shown that the means of payment (cash or stock) is related to the market response to acquisitions. Travlos (1987), Amihud, Lev, and Travlos (1990), Servases (1991), and Brown and Ryngaert (1991) find a positive wealth effect of cash-financed acquisitions and a negative wealth effect of stock-financed acquisitions. I use anindicator variable to define the method of payment. The indicator is set to one for fully or partially stock-financed deal and zero otherwise.

Fuller, Netter, and Stegemoller (2002) find that bidder announcement returns significantly increase (decrease) when the acquisition targets are public (private/subsidiary) firms, since private firms and subsidiaries are not as liquidity as public firms in acquisitions and thus bidders receive a better price when buying them. I use three indicator variables to define the target ownership status: public target, private target and subsidiary target. Public target is a dummy variable that equals one if the targets are public firms, zero otherwise. Private target is also a dummy variable that equals one if the targets are private firms, zero otherwise. Subsidiary variable equals one when firms acquire subsidiary targets, zero otherwise. I also only include public and private indicators in my regression for the same multicollinearity reason.

Governance Characteristics:

CEOs at firms with better governance systems are generally shown to be less likely to make the non-value-maximizing investment decisions[17]. I include the governance index, director and CEO ownership, and CEO power proxies to control the difference in the effect of corporate governance on bidder returns. I obtain data on the governance index, CEO and board of director ownership and other governance characteristics from IRRC.

Masulis, Wang and Xie (2007) find that firms with a higher governance index experience significantly lower abnormal returns around acquisition announcements while firms with a lower governance index experience significantly higher abnormal returns. Their interpretation is that managers protected by more antitakeover provisions are less vulnerable to the market for corporate control. I expect the governance index to be negatively related to bidder returns.

Prior work shows the importance of monitoring by the board of directors in reducing agency costs. Byrd and Hickman (1992) find that board independence is positively correlated with acquisition announcement returns. Hermalin and Wesbach (1998) argue that independent boards are negatively associated with CEO power. Ryan and Wiggins (2004) use CEO duality as proxy for CEO power. They find that a CEO who also chairs the board exerts more influence on the board of directors and thus exacerbates the conflicts of interest between managers and shareholders. IRRC defines a director as independent if a director has no any affiliation with firms that he or she serves. This affiliation includes any family, financial, employment and business relationships with the firm. I create a dummy variable, CEO duality, that equals one if a CEO also chairs the board, zero otherwise. I expected the percentage of independent directors in the board to be positively related to bidder returns and CEO duality to be negatively related to bidder returns.

Lewellen, Loderer, and Rosenfeld (1985) find that acquisition abnormal returns are positively related to acquiring managers' ownership. Boone at el. (2007) also use outside directors' stock ownership to measure the constraints on the CEO's influence. They find that board independence is positively correlated to constraints on the CEO's influence. Therefore, I add CEO equity ownership and director equity ownership to my control variables.

Table 5 presents the summary statistics of the above control variables. The average firm size is $8.4 billion as the firms available in IRRC database are

[17] Bhagat and Black (1999) and Hermalin and Weisbach (2003) find the evidence that the board independence can improve the corporate decision in favor of shareholders' interests. Lehn and Zhao (2006) find a positive relation between the monitoring role of the directors and the profitability of firm acquisition.

relatively large firms. The average leverage and Tobin's q of my sample are a bit lower than those in Moeller, Schlingemann, and Stulz (2004) but quite similar to their large acquirer subsample.

6. Empirical Findings for Acquisitions

6.1 Effects of incentive compensations on CARs

In Panel A of Table 6, I compare the differences in CEO incentive compensation and 5-day CARs before and after SOX. On average, the proportion of restricted stock after SOX is significantly higher than that before SOX. The average percentage of options after SOX is significantly lower than that before SOX. The average EBC experiences the same significant drop after SOX as options. The average announcement abnormal returns after SOX are significantly higher than that before SOX.

The Panel B of Table 6 reports the difference in CARs between high and low levels of difference sources of CEO equity compensation. The high level portfolio is composed of bidders with CEO compensation above the sample median and the high level portfolio is composed of bidders with CEO compensation below or equal to sample median. On average, the high restricted stock firms experience significantly higher abnormal returns than the low level firms. The average bidder returns of high option compensation firms are not significantly different from that of low level option firms. The high and low EBC firms also show the same result as option portfolios. The above results support my previous hypothesis about the effects of different sources of CEO equity compensation on bidder returns. However, control variables may be important.

I employ cross-sectional regressions to examine whether the components of CEO equity-based compensation have different affects on bidder returns around acquisition announcements. The dependent variable is the 5-day CAR. I separately examine the effects of restricted stock, options and total equity-based compensation on the CARs and report regression results in Table 7[18]. The first column includes restricted stock and restricted Stock*SOX. The second column includes options and options*SOX. The third column uses EBC and EBC*SOX.

In the first column of Table 7, the coefficient estimate of Restricted Stock*SOX is 0.129 with a t-statistic of 2.22, indicating a significant positive relation between the acquiring CEO restricted stock compensation and the CARs after 2002. This result suggests that a CEO who receives more restricted stock is more likely to make better acquisitions after 2002. However, the coefficient estimates for Option*SOX and EBC*SOX are insignificant, suggesting they do not provide value-creating incentives to the acquiring CEOs to take value-enhancing deals after SOX. This result is consistent with my expectation that firms generally shift toward restricted stock to provide incentives to CEOs after the expensing rule by FASB. Most firms had relied primarily on options to provide equity incentives before (Lambert and Larcker (2004)). This finding sheds light on the evidence of a structural shift away from option incentives to restricted stock incentives after 2002[19].

The coefficient estimates of CEO restricted stock, stock options and total equity-based compensations are not significant over the sample period. The results may imply that the significant increase in CEO restricted stock after SOX has had a positive impact on bidder returns and the significant decrease in CEO option and total equity compensation at least do not hurt shareholders of acquiring firms in corporate acquisitions.

The control variables generally have the expected signs. I find public target is significantly negatively related to the acquirer's announcement-period CAR. This result suggests firms experience significantly lower abnormal returns when buying public firms, echoing the findings of Moeller, Schlingemann, and Stulz (2004). In the third column of Table 7, relative deal size is negative and marginally significant, which suggest that the acquirer's announcement returns decrease in relative deal size.

6.2 Robustness of Results

For a robustness check to my models, I use the variables in the regression without their natural logarithmic transformations[20]. I also regress tobit models on the same data[21]. The results are qualitatively similar to those reported. To further verify the effect on bidder returns, I compute the acquirer announcement returns over different event windows, like (0,+2), (-1,+1), (-1,0) and (0,+1), where event day 0 is the acquisition announcement date. The results remain qualitatively similar when I use the different CARs.

[18] For robustness, I also try limited model specifications. First, I use a baseline model where the only controls are size and acquisition payment method. Second, I use the baseline model plus add controls for the firm- and deal-specific characteristics introduced earlier. The results are qualitatively similar to those reported using the complete model.

[19] I also use the yearly changes in the percentage of restricted stock and options as the key independent variables. However, the test results are not significant.

[20] Using the proportion of CEO salary in total compensation as key explanatory variable, I find there is no significant relation between CEO salary level and bidder returns. I also run the regression with both restricted stock and options as control variables, the results are also qualitatively similar.

[21] I use tobit models to control for the nontrivial fraction of the firms that did not pay the restricted stock or options to their CEOs.

7. Conclusions

This paper examines trends in CEO equity compensation structure and the relation between compensation and acquirer returns around the passage of SOX. Following the 2002 corporate scandals, the excessive use of option compensation has been at the center of a heated debate among corporate reformers. Un-expensed options were believed to contribute to corporate accounting misreporting. SOX, its implementation rule adopted by NYSE and NASDQ, and the FASB expensing rule drove firms to reconsider optimal CEO compensation. The expensing rule especially increases the cost associated with option-based compensation. Therefore, I investigate whether CEO equity incentive contracts change after the above reforms and how important the recent shifts in CEO equity-based compensation structures are in influencing bidder returns.

I find that CEO equity-based compensation structure has shifted towards restricted stock after 2002. Firms, on average, significantly increase the use of restricted stock and decrease the use of option-based compensation after 2002. Firms with strong managerial power pay their CEOs more restricted stock and less option-based compensation than firms with weak managerial power. Larger firms are more likely to use restricted stock. Firms with more leverage also significantly increase the use of restricted stock.

I also find acquirers using more restricted stock-based compensation for CEOs after 2002 experience significantly higher bidder announcement stock returns. This result suggests that providing additional restricted stock incentives in CEO contracts might be advantageous in motivating CEOs to make better acquisitions after the expensing rule.

My study has important implications for understanding the recent changes in CEO equity contracts and the role of different incentives in acquiring CEOs' decisions. Dittmann and Maug (2007) argue that CEOs should have an optimal equity compensation package of no options and more restricted stock. This paper provides strong support for this view from the market for corporate control and sheds new light on the notion that the optimal CEO equity incentive contract has changed.

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APPENDIX A

Table A.1 Structure of CEO Compensation by Year

Year	2000	2001	2002	2003	2004
Observations	1,792	1,654	1,614	1,691	1,695
Restricted Stock					
Mean	458.92	468.7157	666.45	1005.28	1093.81
Median	0	0	0	0	0
Options					
Mean	5052.44	4076.59	3635.79	2417.40	2547.29
Median	1026.27	1001.06	1698.25	1223.14	1196.19
Total Equity Compensation					
Mean	5319.43	4848.16	4164.26	2579.21	2918.90
Median	1050.75	1248.04	1937.65	1026.35	1236.28
Total Compensation					
Mean	7332.81	6787.85	6132.39	4690.21	5204.09
Median	2680.48	2718.02	3563.26	2591.79	3016.70
Total Cash Compensation					
Mean	1470.21	1391.93	1530.69	1615.78	1767.23
Median	987.28	940.87	1112.83	1083.35	1228.38

NOTE: This table reports descriptive statistics on CEO compensation by year. All data are from ExecuComp. All dollar values are reported in thousands of constant 2004 dollars using the CPI index. Total equity compensation is the sum of value of the stock options granted and stock shares granted. Total compensation is the sum of total cash compensation and total equity compensation.

Figure A. 1 Trends in restricted stock and options for all firms

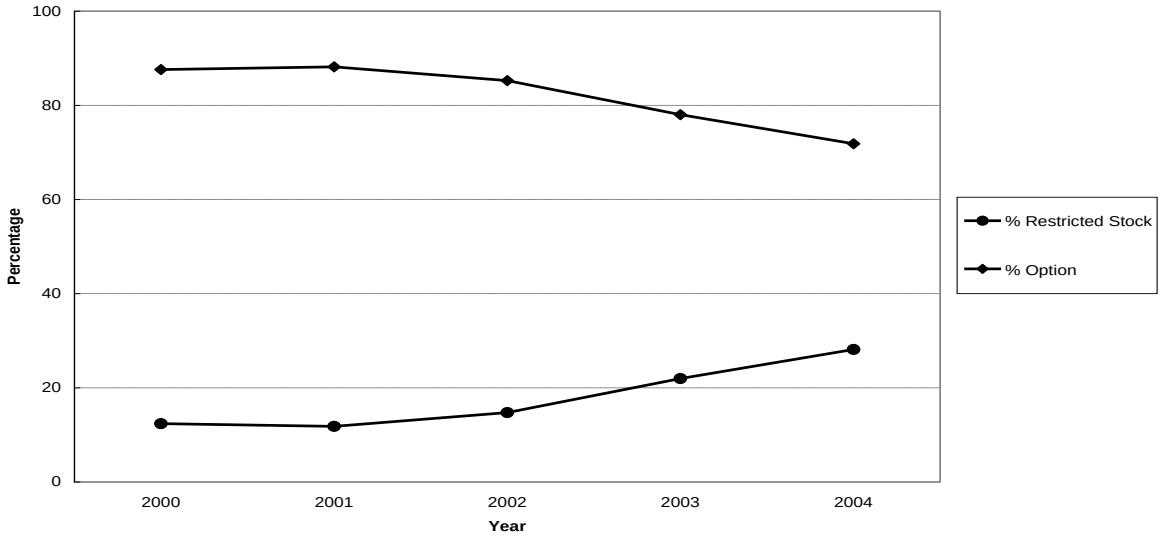

Table A.2 Changes in CEO Equity Structure

	%Restricted Stock	%Option	%EBC
SOX	0.037***	-0.055***	-0.484***
	(8.21)	(-6.40)	(-6.05)
Size	0.032***	0.034***	0.452***
	(10.50)	(5.77)	(8.81)
Leverage	0.065***	-0.236***	-0.862***
	(5.02)	(-9.47)	(-10.41)
Market- to- book	0.000	0.000	-0.000
	(-0.46)	(0.38)	(-0.13)
Index	0.002**	-0.008***	-0.191***
	(2.03)	(-4.60)	(-8.50)
% of Independent Directors	0.042***	0.104***	0.174
	(3.17)	(4.12)	(1.41)
Wald χ^2	310.79***	164.25***	250.98***
Observations	4780	4780	4780

NOTE. - This table reports results from random effects models. The dependent variable is the percentage of restricted stock, options and total equity compensation to CEO compensation. The market-to-book is the ratio of the firm's market value to its book value. Leverage is defined as total debt divided by total assets. Size is the natural log of total assets. SOX dummy equals one for post-Sox years (2002-2004). T-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Table A.3 Determinants of CEO restricted stock

	%Restricted Stock	(Restricted Stock)/Option
Size	0.029***	0.123
	(8.21)	(1.64)
Market-to-book	-0.000	-0.000
	(-0.54)	(-0.06)
Leverage	0.064***	0.075
	(4.78)	(0.24)
% of Independent Directors	0.024*	-0.350
	(1.72)	(-1.06)
CEO ownership	-0.001*	-0.004
	(-1.94)	(0.36)
Index	0.001	-0.011
	(-0.59)	(-0.52)
SOX	-0.004	-0.039
	(-0.22)	(-0.79)
Index*SOX	0.003**	0.014***
	(2.10)	(2.79)
Wald χ^2	310.79***	164.25***
Observations	4780	4780

NOTE. - This table reports results from random effects models. The dependent variables are the percentage of restricted stock and the ratio of restricted stock to options. The market-to-book is the ratio of the firm's market value to its book value. Leverage is defined as total debt divided by total assets. Size is the natural log of total assets. SOX dummy equals one for post-Sox years (2002-2004). T-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Table A.4 Sample Distribution

Year	Number of Acquisitions	Percentage of Sample	Mean Deal Value ($mil) (Median)	Mean Acquirer Market Value of Equity ($mil) (Median)	Mean Relative Size (Median)
2000	199	15.7	505 (122)	14,733 (2,016)	0.18 (0.05)
2001	184	14.5	425 (118)	15,360 (2,236)	0.17 (0.05)
2002	203	16.0	547 (65)	12,976 (1,727)	0.09 (0.03)
2003	162	12.8	378 (88)	11,936 (2,695)	0.08 (0.03)
2004	232	18.3	376 (100)	14,081 (2,111)	0.12 (0.04)
2005	288	22.7	752 (90)	14,136 (2,630)	0.12 (0.03)
Total	1,268	100	519 (89)	13,783 (2,275)	0.12 (0.04)

NOTE: The sample consists of 1,268 completed U.S. mergers and acquisitions (listed in SDC) between 2000 and 2005 made by firms covered by the ExecuComp&IRRC database.

Table A.5 Summary Statistics

	Mean	Median	St. Dev
Firm-Deal Characteristics			
Total assets ($mil)	8,467	1,280	28,599
Stock (dummy)	0.18	0.00	0.39
Tobin's q	2.53	1.78	2.49
Free Cash Flow	0.05	0.05	0.08
Leverage	0.22	0.21	0.17
Market-to-book	3.78	2.63	2.40
Relative deal size	0.12	0.04	0.36
Public target(dummy)	0.20	0.00	0.40
Private target(dummy)	0.40	0.00	0.48
Governance Characteristics			
Index	9.43	8.00	2.65
%of Independent directors	0.67	0.70	0.17
Director ownership	0.10	0.03	0.19
CEO Duality(dummy)	0.81	1.00	0.39
CEO ownership	0.02	0.01	0.06

NOTE: The sample consists of 1, 268 completed US mergers and acquisitions from SDC between 2000 and 2005 made by firms disclosed by the IRRC and Compustat database. Variable definitions are in section 4.

Table A.6 Panal Data

Panel A. Differences in CEO incentives and CARs before and after SOX					
		Before SOX	After SOX	After-Before	t- Statistic
%Restricted Stock	Mean	6.329	12.646	6.318***	3.60
	Num. of Obs.	420	503		
%Options	Mean	53.811	47.670	-6.111**	-2.11
	Num. of Obs.	420	503		
%EBC	Mean	51.635	45.529	-6.107***	-2.88
	Num. of Obs.	420	503		
CARs	Mean	-0.264	0.626	0.009**	2.04
	Num. of Obs.	420	503		
Panel B. Differences in CARs between high and low portfolios					
		High	Low	High - Low	t- Statistic
%Restricted Stock	Mean	0.034	--0.029	0.063***	17.11
	Num. of Obs.	461	462		
%Options	Mean	0.004	0.001	0.003	0.63
	Num. of Obs.	461	462		
%EBC	Mean	0.001	0.005	-0.004	-0.908
	Num. of Obs.	461	462		

NOTE. – CARs are the bidder cumulative abnormal returns over 5 days around announcement date. Low portfolios are defined as firms with the percentage of restricted stock, options and EBC is at or below the median, otherwise the firms are referred to high portfolios. T-statistic reports difference between means.

Table A.7 Effects of CEO Incentives on Bidder Returns

	1	2	3
Restricted Stock	-0.068	-	-
	(-1.29)	-	-
Restricted Stock*SOX	0.129**	-	-
	(2.22)	-	-
Option	-	-0.003	-
	-	(-0.09)	-
Option*SOX	-	-0.030	-
	-	(-0.74)	-
EBC	-	-	-0.035
	-	-	(-0.94)
EBC*SOX	-	-	-0.028
	-	-	(-0.)
SOX	-0.002	0.010	0.008
	(-0.35)	(1.04)	(0.83)
Size	-0.003	-0.002	-0.003
	(-1.05)	(-0.86)	(-0.91)
Stock	-0.010	-0.008	-0.008
	(-1.24)	(-0.96)	(-0.90)
Tobin's q	-0.003	-0.003	-0.003
	(-1.10)	(-1.13)	(-1.10)
FCF	0.053	0.054	0.053
	(1.39)	(1.32)	(1.31)
Leverage	-0.009	-0.009	-0.007
	(-0.58)	(-0.61)	(-0.50)
Relative deal size	-0.005	-0.005	-0.005*
	(-1.50)	(-1.39)	(-1.70)
Public target	-0.017**	-0.018**	-0.016**
	(-2.53)	(-2.51)	(-2.41)
Private target	-0.002	-0.002	-0.002
	(-0.47)	(-0.44)	(-0.47)
Index	-0.001	-0.001	-0.001
	(-1.12)	(-0.93)	(-0.90)
% of Independent Directors	-0.007	-0.004	-0.005
	(-0.57)	(-0.29)	(-0.40)
CEO Duality	0.000	0.000	0.000
	(0.08)	(0.00)	(0.04)
CEO Ownership	0.000	0.000	0.000
	(1.08)	(0.97)	(1.00)
Intercept	0.036**	0.034**	0.033*
	(2.31)	(1.99)	(1.94)
Adjusted- R^2	4.87%	4.36%	4.37%
Observations	923	923	923

NOTE. - This table reports results from cross-section models. The dependent variable is the bidder cumulative abnormal returns over 5 days around announcement date. Variable definitions are in section 3. T-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels