

# The Effect of Corporate Takeover on the Function of Internal Incentive Plan in Target Firms

Peter Cheng

Lin Li\*

Wilson H.S. Tong

School of Accounting and Finance

Faculty of Business

Hong Kong Polytechnic University

Hung Hom, Kowloon

Hong Kong

Tel: (852) 2766-5616

Fax: (852) 2356-9550

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**Abstract** We examine the impact of takeover bids on the function of internal incentive plan with a sample of takeover targets that successfully avoid the takeover attempts. Before the bids, unsuccessful takeover targets perform poorly in the stock market. Their CEOs are paid less, get less job security, and could benefit less from the completion of the takeovers, relative to the counterparts in completed takeover targets documented by Hartzell, Ofek, and Yermack (2004. *Review of Financial Studies* 17, 37-61). Following the unsuccessful bids, target firms fire undoing managements, construct severance contracts and grant a substantial restricted stocks and options to the CEOs. Their pay-performance sensitivity becomes stronger following the bids, and stock performance is also much better than before. Our study provides support to the theoretical argument that the threat of corporate takeover has a positive effect on the function of internal control mechanism in incentive alignment.

**Keywords:** executive compensation, unsuccessful takeover, corporate governance

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\* Corresponding author. Email address: [aflearn@inet.polyu.edu.hk](mailto:aflearn@inet.polyu.edu.hk) .

The separation of ownership and control leads to many potential conflicts of interest between the principle and the agent. To alleviate this, theorists suggest that the principle can offer an incentive plan that induces the agent to act in the principle's welfare (e.g., Harris and Raviv, 1978; Holmstrom, 1979). On the other hand, corporate takeover acts as "the court of last resort" to incentivize the agent, if the internal governance mechanism is weak or ineffective (Jensen and Ruback, 1983; Jensen, 1984, 1993; Holmstrom and Kaplan, 2001). While existing literature has yielded numerous valuable insights on the function of the two control mechanisms in incentive alignment, an important issue remains yet unanswered: Does the internal incentive plan work more efficiently with the complement of external takeover bids?

Financial economists contend that the existence of external takeover pressure can be a good deterrent to self-serving agents. The principle can take advantage of the takeover threat to maintain a high management quality, and accordingly, construct an efficient contract to motivate the agent (e.g., Grossman and Hart, 1980; Jensen, 1993; Shleifer and Vishny, 1997). Nevertheless, empirical studies are scarce on this issue, since the internal and external control mechanism function simultaneously in the capital market, and it is challenging to disentangle explicitly the causal impact of corporate takeover on the function of internal control mechanism. Several related works examined the effect of anti-takeover laws enacted in 1980s on the efficiency of compensation contract, based on that these laws could reduce the takeover threat. Yet, the results are quite mixed. Bertrand and Mullainathan (1999, 2001) find that, in firms with large shareholders, CEO compensation does not change and pay-performance sensitivity increases following the enactment of anti-takeover laws, but in firms without large shareholders, CEO compensation increases significantly and pay-performance sensitivity does not change. In contrast, Cheng and Indjejikian (2009) document a significant CEO compensation increase and a weak pay-performance relation following the enactment of the anti-takeover laws. On the other hand, Barnhart et al. (2000) find no association between compensation contract and anti-takeover laws, indicating that takeover threat has no effect on internal performance-based incentives.

In light of the conflicting evidence, we approach the issue in an alternative way by examining the evolution of incentive plan in target firms that successfully avoid the takeover attempts. Since these firms still operate as independent entities following the unsuccessful bids, they provide an ideal setting to investigate the impact of takeover attempts on the function of internal governance mechanism. Specifically, we examine how the bids affect the target firms' compensation pay, the design of golden parachute in severance contract, and the sensitivity of pay to firm performance. We also examine the potential welfares that the target CEOs turned down in the bids, and compare them with those in completed transactions documented in prior literatures like Hartzell, Ofek, and Yermack (2004).

A takeover bid may be a "wake-up call" signaling that the target firm was managed inefficiently. Jensen (1988, 1993) takes the view that the ineffectiveness of internal governance mechanism is a key factor that causes the takeover attempts, and believes that corporate takeover can enhance the economic efficiency. Fama (1980) contends that the takeover bid provides the board an opportunity to reassess the performance of the manager and accordingly adjust its compensation policy following the bid. Scharfstein (1988) argues that an informed bidder can reduce incentive problems in target firms by

making managerial compensation more sensitive to information unavailable to shareholders. These theories all suggest that the target firm could construct a more efficient contract with the manager following the unsuccessful bid.

To conduct this study, we collect a sample of takeover targets that survive the bids and keep independent till five years after the unsuccessful takeover attempts. We find that, before the bids, CEOs in unsuccessful takeover targets get lower compensation payments relative to industry peers. They also get lower job security, and less of them are protected by the severance payment like golden parachute, relative to their counterparts in completed takeover targets documented in Hartzell, Ofek, and Yermack (2004). Even for those who can get such severance payment, the amount was also less. These evidences indicate that the compensation contracts in unsuccessful takeover targets are not efficient in motivating the agents. Not surprisingly, these firms perform poorly in the stock market before the bids, as documented in prior literatures (e.g., Ellert, 1976; Smiley, 1976; Asquith, 1983).

Literatures document that, in completed takeover transactions, target managers negotiate private benefits from the bidders at the expense of the shareholders (e.g., Wulf, 2004; Hartzell et al., 2004; Cai and Vihj, 2007). In comparison, we find that CEOs in unsuccessful takeover targets could not only get less last-minute cash payment in the transactions, but also realize less gain from the offer premium for their portfolios in the target firms, relative to their counterparts in completed takeover targets. Apparently, CEOs in unsuccessful takeover targets could benefit less from the completion of the takeovers, and conceivably, their resistance to the bids is also much higher than their counterparts.

Just as documented in prior literatures (Denis and Serrano, 1996; Franks and Mayer, 1996), we find that target firms fire undoing CEOs following the unsuccessful bids. But the turnover rate is lower than that in completed takeover targets. Especially, following the bids, an overwhelmingly majority of target firms construct severance contract including golden parachute for the CEOs, and the amount of cash payment also increases largely relative to that before the bids. Moreover, target firms also grant more stock options to the CEOs following the bids, the CEOs' annual compensation increases largely, and the pay-performance sensitivity becomes stronger than that before the bids. These evidences, taken together, demonstrate that the incentive plan becomes more efficient in target firms following the bids, which provide support to the theoretical argument that the threat of corporate takeover can improve the governance quality in modern firms (e.g., Grossman and Hart, 1980; Scharfstein, 1988). Indeed, correspondingly, the target firms perform much better following the bids.

Our study adds to the literatures examining the external governance role of corporate takeover. There is a large literature examining the disciplinary role of corporate takeover in the capital market (e.g., Denis and Serrano, 1996; Franks and Mayer, 1996; Mikkelsen and Partch, 1997; Huson, Parrino and Starks, 2001; Kini et al., 1995, 2004). Financial studies also find that target firms increase their debt level (Safieddine and Titman, 1999) and refocus their operation following unsuccessful takeover attempts (Chatterjee et al., 2003). Yet, how corporate takeover affects the function of internal compensation contract in incentive alignment remains unanswered. Our study directly examines this issue and shows that the internal incentive plan becomes more efficient with the threat of external

takeover. The finding adds people's knowledge about the function of corporate takeover in improving the quality of internal governance.

Our study also contributes to the existing works on the association of managerial incentives and corporate acquisitions. Extant literatures have investigated the managerial incentives in nearly each stage of the takeover activity.<sup>1</sup> Nonetheless, these studies all focus on successfully completed acquisitions, and because of this, some important questions related to takeover activity remain unresolved. For instance, as early in Jensen and Ruback (1983), the authors already give directions for future research and ask "What happened to the managers of targets who successfully avoid takeover?" (p.45). Similarly, Hartzell, Ofek, and Yermack (2004), which examine the CEO welfare in completed takeover transactions, also state, "Our results indicate that CEOs receive special benefits when their firms are sold, but we cannot conclusively evaluate whether these arrangements on balance come at the expense of target shareholders. Our sample includes only successfully completed transactions, so we do not know what packages of potential benefits other target CEOs turned down in attempted mergers that are not completed, to the detriment of those firms' shareholders." (p.59). This study investigates the welfare of target CEOs in unsuccessful takeover transactions, which provides directly comparable evidences for these literatures. Our findings are helpful to resolve their unanswered questions and to understand the process of takeover activity.

Finally, our study also complements to the literature on managerial bargaining incentives in corporate takeover. Literatures recently find that, during the process of takeover negotiation, target firms award unusual options to their managers to induce them to maximize shareholders' interest in the bargaining with the acquirers (e.g., Maremont, 2009; Fich, Cai, and Tran, 2011; Heitzman, 2011). Definitely, the options granting and especially the adoption of golden parachute following the bids can provide incentives to motivate the CEOs in the daily operation. On the other hand, they can also increase their bargaining power in the future takeover attempts.

The paper proceeds as follows. Section I describes the sample selection process. Section II presents the summary statistics about the data. Section III provides the main results. Section IV concludes the paper.

## I. Sample Selection

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<sup>1</sup> Mikkelsen and Partch (1989) and Hadlock et al. (1999) find that firms with lower managerial shareholding are more likely to be targeted by the acquirers. Walkling and Long (1984) find that target manager is more likely to resist a bid, if his personal wealth can increase less upon the completion of the takeover. Cotter and Zenner (1994) further document that takeover attempt is more likely to fail if target manager's wealth change is less upon the completion of the bid. Additionally, Agrawal and Walkling (1994) examine the compensation change of target managers who are retained in the merged firm. Hartzell et al. (2004) study the personal gains of target managers who are not retained by the acquirer. In the case of the acquirer, Datta et al. (2001) analyze the association of manager's pre-acquisition compensation structure and the acquisition decision. Bliss and Rosen (2001) and Harford and Li (2007) investigate the compensation change of bidder manager following the completion of the acquisition.

We begin the data selection from the SDC merger and acquisition database. SDC database reports the transaction status of the acquisitions, and classifies them into completed, partially completed, pending for completion, intended, seeking buyer, withdrawn and unknown. It also reports the withdraw date of the bid, if such a date is announced. We first select all of the transactions whose status is not “completed” as identified in the database. We require that the announcement date of the takeover lies between 1993 and 2004,<sup>2</sup> the acquisition is not a rumor deal, the target is listed on NYSE, AMEX or the NASDAQ, and the deal value is equal to or greater than \$ 1 million. To clearly delineate the effect of takeover on executive compensation, in cases where a sample firm receives or rejects multiple offers in one year, we take it as only one takeover. Our requirements lead to 581 unsuccessful takeover bids. We then require that target firms have available stock prices from the CRSP files and accounting information from Compustat. The data availability leads to 321 mergers over the sample period. A substantial number of acquisitions are deleted because missing data about accounting information.

Next we merge the sample with Standard and Poor’s ExecuComp dataset to get CEO compensation data. We require that the target firm have complete year-end compensation data in the four years around the takeover from one year before to two years after the bid announcement. For firms not covered in ExecuComp dataset, we collect the compensation data by hand from the proxy statements and 10-K forms on EDGAR. Consistent with ExecuComp database, we use the model of Black and Scholes (1973) in the estimation of the value of options granted. Since our aim is to examine the effect of takeover on corporate compensation policy, in cases where there is CEO turnover, we examine the compensation of the successor. In addition, if the successor does not commence from the fiscal year-beginning, we make a rough estimate of his compensation based on the one reported on annual report. We first divide the reported compensation by the actual months he worked in the fiscal year to get the monthly salary, and then multiply 12 to get the estimated annual compensation. The selection gets a sample of 141 unsuccessful bids.

Literatures show that a significant portion of targets receive other offers and consequently are acquired by other firms within five years following the initial unsuccessful bid (Bradley et al., 1983; Fabozzi et al., 1988). Hence, to ensure our examination not contaminated, we delete cases if the target is delisted within five years following the announcement. This yields a final sample of 105 unsuccessful bids received by 102 targets.

(Insert Table 1 here)

Table 1 shows the yearly distribution and industry distribution of the sample. As shown, the unsuccessful bids cluster in the late 1990s. This is consistent with existing literatures documenting a hot merger market in this period (e.g., Andrade et al., 2001; Moeller et al., 2005). Panel B gives the industry breakdown of unsuccessful bids.

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<sup>2</sup> The takeover sample starts from year 1993 because we require information on CEO compensation in the year before the bid, while both the Standard and Poor’s ExecuComp data and the proxy statements and 10-K forms on EDGAR start in 1992.

Business services, utilities, and drugs are the first three industries with the largest number of unsuccessful bids.

Panel C reports the distribution of reasons of takeover failure. The reason of takeover failure is coded from the SDC M&A database. Of the 105 takeover failures, 24 (22.9%) is terminated by the bidder and the remaining 81 (77.1%) fail for other reasons. This includes 17 (16.2%) attempts rejected for unknown reason, 17 (16.2%) mutually rejected, 14 (13.3%) failed for regulation, 13 (12.4%) rejected by the target, 7 (6.67%) failed for high difficulty to complete the takeover, 4 (3.81%) for rival offer or reverse takeover, and other miscellaneous reasons summed totally 9 (8.6%).

## II. Data Description

There are two important event years in our analysis, the year of takeover announcement and the year of takeover failure. Of the 105 unsuccessful bids, 65 are withdrawn in the same year as they are announced, 29 in the following year, 7 in the second year, and the remaining 4 with unknown withdrawn date. The median period from advancement to withdraw is 103 days.

For each target that receives a bid in year T, we examine the target CEO's compensation and wealth in the fiscal year immediately before the bid announcement (year T-1) so that we could make a comparison with prior literatures examining the CEO welfare in completed takeover targets like Hartzell, Ofek, and Yermack (2004). To check the target CEO's dynamic compensation change following the acquisition, we also examine the target CEO's compensation two years after the bid announcement (year T+2), considering that the overwhelming majority of our mergers are announced to fail in the same year or in the year immediately after the bid announcement (so that targets have at least one whole fiscal year following the bids to adjust their CEO's compensation).

(Insert Table 2 here)

Table 2 reports firm characteristics and CEO pay for the 105 unsuccessful takeover targets before and after the bid announcement. All dollar amounts are in inflation-adjusted 2004 dollars. We report the median as well as the minimum and maximum values. The unsuccessful takeover targets are large. In the year before the bids, the targets have a median market capitalization of \$ 672 million. This is larger than the median size of \$ 495 million for completed takeover targets documented by Hartzell, Ofek, and Yermack (2004).<sup>3</sup> The median market value of asset is \$ 995 million and book value of asset \$ 550 million. The median market-to-book ratio is 1.39. The median financial leverage is 0.55, indicating a healthy financial status for these targets.

As to accounting performance, the median return on assets (ROA) is 6% and sales growth 17% before the bids. As to stock performance, the median stock return of targets is -4.2%, and the median market-adjusted stock return is -15.1%. Apparently, unsuccessful takeover targets perform poorly in the stock market before the bids.

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<sup>3</sup> The sample period of Hartzell, Ofek, and Yermack (2004) is between 1995 and 1997, and we adjust their firm size, CEO pay and wealth to 2004 dollars with inflation rate from year 1996. See section III for a comparison of CEO welfare between our sample and theirs.

Similarly, literatures also find that target firms underperform industry peers before the takeover attempts (e.g., Ellert, 1976; Smiley, 1976; Asquith, 1983).<sup>4</sup>

The median return on assets (ROA) increases to 11%, while annual sales growth decreases to 12% in the second year following the bids. As to the stock performance, the median raw return increases to positive 8% and abnormal return 3.7% following the bids. These evidences show that target firms perform much better following the bids than before.

Then, look at CEO compensation. The median cash pay, the fixed part of compensation, is \$ 0.645 million before the bids. This figure is smaller than the median \$ 0.681 million, adjusted to 2004 dollars with inflation rate, for CEOs in completed takeover targets documented by Hartzell, Ofek, and Yermack (2004). Following the unsuccessful bids, the median cash payment increases to \$ 0.863 million. The median equity pay also increases from \$ 0.507 million before the bids to \$ 0.768 million after the bids. Consequently, the median total compensation increases from \$ 1.418 million before the bid to \$ 1.713 million following the bid. Strikingly, the median ratio of equity payment to total compensation increases from 0.30 before the bid to 0.42 after the bid. This provides the initial evidence for large granting of stocks and options following the takeovers.

As to CEO shareholding, the median share percentage including options is 3.91% before the bids, but decreases to 2.92% after the bids. We check this carefully and find that the decrease to a big extent is driven by CEOs' share selling in the years around the takeover bids. Notice that the median CEOs' shareholding without stock options decreases from 1.57% before the bids to 1.06% after the bids. Ofek and Yermack (2000) find that managers often sell stocks in their firms when they receive additional stock-based compensation like options and restricted stocks. Since the target firms grant a large number of new options to the CEOs following the bids, the CEOs sell their old shares in the firms to balance their portfolios.

Taken as a whole, before the bids, CEOs in unsuccessful takeover targets receive less payment relative to their counterparts in completed takeover targets. Accordingly, unsuccessful takeover targets also perform poorly in the stock market. Following the bids, CEOs in unsuccessful takeover targets are granted with a large number of new stock options, and their compensation increases largely. Accordingly, unsuccessful takeover targets also perform much better after the takeover attempts. These facts provide initial evidence that the compensation contracts in unsuccessful takeover targets are not efficient in motivating the managers before the bids, but work much better following the bids.

### **III. Main Results**

#### *3.1 CEO severance payment and potential portfolio gains*

Existing literatures find that target managers realize personal benefits from the bidders at the expense of low bid premiums in completed takeover transactions (e.g.,

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<sup>4</sup> Nonetheless, several other works also show that target firms do not underperform before the bids. See, Martin and McConnell (1991), Kini et al. (1995), Agrawal and Jaffe (2003), and so on.

Wulf, 2004; Hartzell et al., 2004; Cai and Vijh, 2007). Hence, we first examine target CEO's severance payment and potential portfolio gains if their firms were successfully acquired by the bidders. Especially, we make a comparison with that of successfully completed takeover targets documented by Hartzell, Ofek, and Yermack (2004). By doing so, we could understand what the CEOs in unsuccessful takeover targets turned down, and whether they could be better off from the completion of the transactions relative to their counterparts.

Following them, CEO's gain from the completion of the takeover is composed of the direct cash payment from the severance contract including golden parachute and the portfolio gains of shares and options from the bidding premium. In the calculation of the CEO's option gains, we also assume that all options are at- or in-the-money prior to the bid and that all options are "cashed out" via forced exercise at the time of the takeover transaction.

(Insert Table 3 here)

Table 3 reports target CEOs' potential gains. Panel A reports the severance payment for target CEO. Panel B reports the potential portfolio gains for the CEO. As shown, if got merged with the acquirer, 59% (62) of the CEOs in the 105 unsuccessful takeover targets can get direct cash payment with a median amount of \$ 0.54 million. Together with the option and share gains from the bidding premium, these CEOs can obtain a median total gain of \$ 3.145 million that equals a median 5.2 times of their pre-bid annual cash compensation.

In comparison, in the 311 completed takeover targets, Hartzell, Ofek, and Yermack (2004) show that 69% of CEOs get direct cash payment and the median amount is \$ 1.15 million, adjusted to 2004 dollars with inflation rate.<sup>5</sup> Together with the portfolio gains, CEOs in their sample obtain a median total gain of \$ 6.4 million from the takeover, which equals a median 8.8 times the CEO's pre-bid cash compensation.

Obviously, CEOs in unsuccessful takeover targets are protected less by the severance contract, and could also benefit less from the completion of the takeover, relative to their counterparts in completed takeover targets. A possible explanation is that CEOs in unsuccessful takeover targets receive lower compensation. Hartzell, Ofek, and Yermack (2004) document that the last-minute cash payment received is strongly positively related to CEO's pre-acquisition excess compensation. Yet, as we show before, the CEOs in unsuccessful takeover targets are paid less before the bids.

Not surprisingly, managerial resistance to the bids is higher in unsuccessful takeover targets. Unreported results show that, 30 bids out of the 105 ones, that is, 28.6% are unsolicited by the targets.<sup>6</sup> In comparison, only 2.6% of the bids are unsolicited in the sample of Hartzell, Ofek, and Yermack (2004). Baron (1983) argues that a manager may resist an offer because he wants to preserve his jobs, perquisites, or the share of any agency costs he is capturing. On the other hand, he may resist the offer because the bid price is too low. However, we do not find that acquirers pay lower bid premiums to

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<sup>5</sup> Heitzman (2011) also find that 75% of the target CEOs are covered by the severance agreement in a sample of 471 completed acquisitions between 1996 and 2006.

<sup>6</sup> This is also reflected in the reasons of bid failure reported in Panel C in Table 1. As shown, 12.4% of the bids are rejected by the targets and 16.2% of them fail for mutual rejection.



unsuccessful takeover targets. Unreported results show that the median bid premium is 31.9% for unsuccessful takeover targets relative to their stock price of 4-week before the bid, while that is 30.4% for completed takeover targets documented in Hartzell, Ofek, and Yermack (2004).<sup>7</sup> These evidences, taken together, lead us to conclude that the CEOs in unsuccessful takeover targets resist the bids for personal benefits.

Table 3 also reports the CEO severance payments following the unsuccessful takeover attempts. As shown in Panel A, after the bids, 76% (80) of the unsuccessful takeover targets in the 105 ones adopt severance payment including golden parachute for their CEOs in case of future acquisitions. This ratio is significantly higher than that in pre-bid stage ( $t$ -statistic=2.69, untabulated). Furthermore, the amount of payment also increases. The median post-bid severance payment equals three times of CEO's annual cash and bonus, which is significantly higher than the median two times before the bids (Wilcoxon  $Z$ =2.59, untabulated). Apparently, CEOs in unsuccessful takeover targets are more protected following the bids than before. On the other hand, the adoption of golden parachutes following the bids can also increase the CEO's bargaining power in the future takeover attempts.

In sum, the evidences in Table 3 suggest that target CEOs are protected less by the severance contract before the bids and could benefit less from the completion of the bids relative to their counterparts in completed takeover targets. On the other hand, a substantial number of targets construct severance contract including golden parachutes following the takeover attempts. Theorists contend that properly constructed golden parachutes should result in management possessing sufficient incentives to negotiate higher takeover premiums for shareholders (e.g., Knoeber, 1986; Jensen, 1988). Empirical studies also show that shareholders respond positively when companies announce the adoption of golden parachutes (e.g., Lambert and Larker, 1985; Harris, 1990; Machlin et al., 1993). Thus, the adoption of golden parachute in target firms, on the one hand, can increase the job security of the CEOs, and on the other can maximize the shareholders' interest by placing the CEOs in a stronger bargaining position in the future takeover negotiation.<sup>8</sup>

### *3.2 CEO post-bid forced turnover*

We then check the CEO forced turnover following the bids. There is a strand of studies examining the disciplinary role of corporate takeover (e.g., Mikkelsen and Partch, 1997; Huson, Parrino and Starks, 2001; Kini et al., 2004). Yet, they mainly focus on completed transactions. Theoretically, Hirshleifer and Thakor (1994) argue that even though a takeover attempt fails, it still can disclose information unavailable to shareholders about the operation in the target, which may cause the forced departure of the target manager following the bid. Empirically, Franks and Mayer (1996) find an

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<sup>7</sup> From SDC M&A dataset, we also collect a sample of 610 successfully completed takeover transactions with complete CEO compensation data and financial data. The median bid premium for the sample is 32.1%, which is not significantly different with that of unsuccessful takeover targets with a Wilcoxon  $Z$ -value of 0.85.

<sup>8</sup> For instance, in the construction of golden parachute, a sample target firm agrees to pay the CEO 3% of bid premium for the part above a certain level designated by the firm, except for a fixed amount of cash-payment 300,000 \$.

unusually high incidence of top management turnover following an unsuccessful control contests, using a sample of UK firms experiencing hostile takeover attempt in 1985 and 1986. Denis and Serrano (1996) also find that 34% of the targets of unsuccessful control contests from 1983 to 1989 experience a change in top management within two years following the contest.

Data about CEO turnover in our sample is collected by hand from firms' proxy statements. CEO departures are classified as forced if the following conditions are true: (1) the departing CEO is under the age of 59 when he leaves the firm; (2) the departing CEO leaves the firm not for death; (3) the departing CEO does not serve on the board of the firm after leaving the CEO position.

(Insert Table 4 here)

Table 4 reports the distribution of CEO forced turnover in the three years following the bid announcement. As shown, totally 30 CEOs out of the 105 ones are changed following the bids, with a total turnover rate 28.6% and annual rate 9.5%. The total turnover rate is close to that documented in Denis and Serrano (1996).

In comparison, in completed takeover targets, Agrawal and Walking (1994) and Hartzell, Ofek, and Yermack (2004) both document that the majority of target CEOs do not obtain future employment if they are not retained in the merged firm. Even though they remain with the merged firm, the post-bid turnover rate is also as high as 30% annually. Apparently, CEO turnover rate in unsuccessful takeover targets is far less than that in completed takeover targets.

Our unreported results show that firms with CEO forced departure perform poorly in the stock market. We also check the impact of the pre-bid severance contract on the post-bid CEO turnover, and find a significant negative association between them with a Pearson correlation coefficient of -0.15 and a p-value of 0.08 (untabulated). This evidence shows that the severance contract can provide a high job security for the CEOs.

Taken as a whole, the evidences show that corporate takeover plays a significant role in disciplining undoing managers, which is consistent with the theoretical arguments (e.g., Jensen, 1993; Shleifer and Vishny, 1997). On the other hand, the annual CEO turnover rate in unsuccessful takeover targets is far less than that in completed takeover targets, which show that CEOs in unsuccessful takeover targets are better off following the unsuccessful bids than their otherwise conditions if the targets were successfully acquired by the bidders.

### *3.3 CEO compensation change*

Next, we examine the impact of takeover bids on CEO compensation change. We show earlier that CEO compensation increases largely following the bid in unsuccessful takeover target. Yet, this may be only a reflection of time trend about compensation increase, since firms usually increase executive compensation annually. Considering this, we construct a one-to-one industry- and size-matched control sample for the target firms. We compare the CEO total compensation between unsuccessful takeover targets and control firms before and after the acquisitions. The comparisons enable us to get a clear picture about the target CEOs' compensation change following the bids.

The control sample of nontarget firms is obtained using the following procedure. For each unsuccessful takeover target that receives the takeover bid in year T, we identify all listed firms that have the same 2-digit SIC industry code in year T-1. The firm should not receive or advance any takeover offer from year T-1 to year T+2. Additionally, it should have complete compensation data from year T-1 to year T+2 in ExecuComp dataset, and its market value of total equity at the beginning of year T-1 should be between 90% and 110% of the takeover target. Matching is done without replacement. Our selection criteria eventually yield an industry- and size-matched sample of 86 nontarget firms. For the remaining 19 targets, we are unable to find a control nontarget firm. However, our result is generally robust if we exclude the 19 targets from the sample.

(Insert Table 5 here)

Table 5 reports the compensation comparison between unsuccessful takeover targets and control firms. As shown in Panel A, before the bids, the median total compensation in unsuccessful takeover targets is \$1.418 million while that in control firms is \$1.689 million. The difference between them is statistically significant with a Wilcoxon Z of -1.79. This result indicates that CEOs in unsuccessful takeover targets are paid less relative to their counterparts in control firms before the bids.

Following the bids, the median compensation in takeover targets increases to \$1.713 million with a median proportional change of 22.5%, and the increase is statistically significant with a Wilcoxon Z of -1.87. In comparison, the median compensation in control firms increases to \$1.927 million, with a median proportional change of 15.1%. But the increase is not significant as the Wilcoxon Z is -0.86. The proportional change of compensation in unsuccessful takeover targets is larger than that in control firms with a Wilcoxon Z of 1.83. As a result, though the CEO compensation in unsuccessful takeover targets is still less than that in control firms after the takeover, the difference between them becomes not significant with a Wilcoxon Z of -0.69.

The results in Panel A show that CEOs in unsuccessful takeover targets are paid less than their industry peers before the bids. There are several possible explanations for this lower payment. Firstly, we find that CEOs in unsuccessful takeover targets are relatively younger, considering that compensation generally increases with the age (the year). The median age is 52 for CEOs in unsuccessful takeover targets in the year before the bids, which is significantly less than the median age of 54 for CEOs in control firms. Secondly, CEOs in unsuccessful takeover targets may be less capable. As reported earlier, unsuccessful takeover targets perform poorly in the stock market before the bids.

Hence, to clearly understand whether CEOs in unsuccessful takeover targets are underpaid before the bids, we turn to examine their abnormal compensation as did in prior literatures like Agrawal and Walkling (1994) and Hartzell, Ofek, and Yermack (2004). Specifically, abnormal compensation is obtained as the residual from the following model estimated using the entire firms in Standard and Poor's ExecuComp dataset over the period 1993-2004:

$$\begin{aligned}
 COMP_i = & a_0 + a_1 * SIZE_i + a_2 * (R_i - R_m) + a_3 * AGE_i \\
 & + a_4 * INDUSTRY_i + a_5 * YEAR_i + \varepsilon_i
 \end{aligned}
 \tag{1}$$

where  $COMP_i$  is the natural log of annual Total Pay of firm  $i$ ,  $SIZE_i$  is the natural log of market value of total equity of firm  $i$ ,  $R_i$  and  $R_m$  are the annual holding period stock returns of firm  $i$  and the contemporaneous value-weighted market annual return,  $AGE_i$  is the CEO's age at year-end of firm  $i$ ,  $INDUSTRY_i$  is the 2-digit SIC industry code of firm  $i$ ,  $YEAR_i$  is the observation year of firm  $i$ .

Panel B in Table 5 reports CEOs' abnormal compensation. Before the bids, the median CEO abnormal compensation is -0.137 in unsuccessful takeover targets, indicating that these CEOs are indeed underpaid relative to their normal compensation level.<sup>9</sup> Comparatively, the median abnormal compensation is -0.013 in control firms before the bids. The difference between them is significant with a Wilcoxon Z of -1.69, confirming again that CEOs in unsuccessful takeover targets are paid less before the takeover attempts. Following the bids, the median abnormal compensation in target CEOs increases to 0.075, and the increase is highly significant with a Wilcoxon Z of -2.20. In comparison, the median abnormal compensation in control firms increases to 0.038 following the takeover, but the increase is not significant with a Wilcoxon Z of -0.24. Consequently, following the bids, the CEO abnormal compensation level is not significantly different between target firms and control firms with a Wilcoxon Z of 0.18.

Apparently, CEOs in unsuccessful takeover targets are paid less before the bids and their compensation increases largely following the bids. Fama (1980) contends that a completely efficient labor market would adjust managerial compensation to eliminate overpayment or underpayment problem. The takeover attempts and the following recontracting process provide opportunities for the boards to reassess managerial performance and adjust managerial compensation. Thus, the post-bid compensation increase may be a correction of the pre-bid underpayment. To explore this, we conduct a test of the association between the compensation increase and pre-bid abnormal compensation level with the following basic model:

$$CHANGE_i = b_0 + b_1 * ACOMP_i + \delta_i \quad (2)$$

where  $CHANGE_i$  is the proportional change in Total Pay of firm  $i$  from year T-1 to year T+2 adjusted for inflation with constant 2004 dollars.  $ACOMP_i$  is the abnormal compensation of firm  $i$  in year T-1 obtained from model (1).

A negative coefficient of  $ACOMP$  in model (2) would indicate the "ex post settling up" effect of takeover bids on the compensation adjustment in target firms following the bids. The regression results are reported in Panel C in Table 5. As shown in the first regression, compensation increase is significantly negatively related to CEO's pre-bid abnormal compensation level with an estimated coefficient of -0.80 and p-value less than 0.001, indicating the existence of "ex post settling up" effect of takeover bids.

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<sup>9</sup> With a sample of 105 tender offers in 1972-1977, Walkling and Long (1984) show that target managers of untested offers are underpaid while those in contested offers are overpaid. We also find that certain bid characteristics has an effect on CEO pre-bid abnormal compensation. The median pre-bid abnormal compensation is 0.121 and -0.207 respectively for the 30 bids with target managerial resistance (Defined as "Rejected by target" or "Mutually rejected" in Panel C, Table 1) and 75 ones without such resistance in our sample.

Then, to differentiate the effect of takeover bid on target firm's compensation change, we introduce a dummy variable *Control* in model (2), and interact it with the pre-bid abnormal compensation level. *Control* equals one for control firms and zero otherwise. As shown in the second regression, the coefficient of *Control* is significantly negative, indicating that control firms experience less compensation increase in the post-bid periods. Especially, the interaction of *Control* and the pre-bid abnormal compensation level is significantly positive with an estimated coefficient of 1.26 and p-value 0.002. This indicates that the post-bid payment adjustment to pre-bid abnormal compensation is not as sensitive in control firms as that in unsuccessful takeover targets. Indeed, these control firms are not threatened by the takeover attempts and thus have no motivation to adjust their CEOs' compensation.

Agrawal and Walkling (1994) and Hartzell, Ofek, and Yermack (2004) also document a negative association with CEOs of successfully completed takeover targets who are retained by the acquirers. Agrawal and Walkling (1994) interpret this as consistent with Fama's (1980) notion of "ex post settling up", that is, the labor market uses information produced by the takeover process to adjust the managerial compensation. Yet, in the sample of Hartzell, Ofek, and Yermack (2004), while the compensation of pre-bid underpaid CEOs increase significantly, the overpaid CEOs also experience a compensation increase following the acquisition. That is, the negative relationship documented by them is not driven by the pay cuts of overpaid executives, but by the large pay increases of underpaid executives following the acquisitions.

We check our results carefully by dividing the 105 unsuccessful takeover targets into underpaid and overpaid CEOs according to the pre-bid abnormal total pay. The median compensation increase is 42.8% for the 67 underpaid CEOs while -19.7% for the 38 overpaid CEOs. This indicates that overpaid executives experience pay cuts while underpaid executives experience pay increases following the acquisitions. However, the pay cuts for overpaid CEOs are trivial in the magnitude. Wilcoxon test shows that, for overpaid CEOs, there is no significant difference of their total compensation before and after the takeover bids (Wilcoxon  $Z = -1.51$ , untabulated). In addition, even though experiencing pay cuts, these overpaid CEOs are still overpaid following the acquisitions, and their abnormal compensation level is also not significantly different before and after the bids (Wilcoxon  $Z = -1.39$ , untabulated). By contrast, for underpaid CEOs, changes of total raw compensation and abnormal compensation are both significant at the 1% level. These evidences show that the negative association obtained in Panel C between compensation increase and pre-bid abnormal compensation level is to a large extent driven by the pay increases of underpaid executives following the acquisitions.

Overall, the evidences in Table 5 show that CEOs in unsuccessful takeover targets are paid less relative to industry peers before the bids. The takeover attempts provide opportunities for the target firms to adjust their managerial compensation. Following the bids, the target firms increase the compensation level for their CEOs, and accordingly the underpayment is largely eliminated, which is consistent with the "ex post settling up" effect as argued by Fama (1980).

### 3.4 Pay-performance sensitivity

A large literatures show that compensation contracts with higher pay-performance sensitivity are more efficient in motivating the managers (e.g., Lambert and Larcker, 1987; Jensen and Murphy; 1990; Hall and Liebman, 1998; Core and Guay, 1999). Theoretically, Grossman and Hart (1980) and Scharfstein (1988) argue that an informed bidder can reduce incentive problems in target firms by making managerial compensation more sensitive to information unavailable to shareholders. According to them, the threat of corporate takeover has a positive effect on the internal incentive plan, and thus, we would see higher pay-performance sensitivity in target firms following the unsuccessful bids. To check this, we estimate the following regression model, with year and industry fixed effects controlled.

$$\begin{aligned}
Pay_{it} = & c_0 + c_1 * Sales_{it} + c_2 * M / B_{it} + c_3 * Leverage_{it} + c_4 * SalesGrowth_{it} \\
& + c_5 * \sigma ROA_{it} + c_6 * \sigma Ret_{it} + c_7 * Shareholding_{it} + c_8 * Fired_{it} \\
& + c_9 * Parachute_{it} + c_{10} * Duality_{it} + c_{11} * BoardSize_{it} \\
& + a_{12} * LargeShareholder_{it} + a_{13} * Return_{it} + a_{14} * ROA_{it} \\
& + c_{15} * After_{it} + c_{16} * After_{it} * Return_{it} + c_{17} * After_{it} * ROA_{it} + \lambda_i \quad (3)
\end{aligned}$$

The dependent variable is the logarithm of CEO compensation in year  $t$ , adjusted to 2004 dollars with inflation rate.<sup>10</sup> The independent variables are performance measures, firm characteristics and governance characteristics. We employ two metrics for firm performance: ROA (computed as the ratio of EBIT to total assets) and stock return in fiscal year  $t$ . We include sales to proxy for firm size, sales growth to proxy for growth opportunity, and market-to-book ratio to proxy for firm investment growth opportunity. We also include firm leverage in the model. These variables are all measured in year  $t$ .

Core, Holthausen, and Larker (1999) find that firm's information environment and operating environment are important determinants of executive pay. Following them, we include in the model the volatility of ROA ( $\sigma_{ROA}$ ) and the volatility of stock return ( $\sigma_{Ret}$ ) to control firm risk.  $\sigma_{ROA}$  and  $\sigma_{Ret}$  are obtained as the standard deviations of ROA and stock return for the five years before the bids.

Existing literatures show that corporate governance characteristics in a firm have significant impact on CEO compensation level (e.g., Yermack, 1995, 1996; Mehran, 1995; Bertrand and Mullainathan, 2001; Hartzell and Starks, 2003). Thus, in the regression model, we also control the governance characteristics. *Shareholding* is CEO's share percentage (options included) in the firm. *Fired* equals to one if the CEO is fired in the observation year and zero otherwise. *Parachute* is the multiple of the lump-sum payment in severance contract. *Duality* equals one if the CEO holds the position of chairman of the board and zero otherwise. *Board size* is the number of directors in the board. *Large shareholder* is the number of large shareholders with at least 5% shareholding in the firm.

To examine the change of CEO pay-performance sensitivity after the bids, we include in the model a dummy variable *After* which equals one for unsuccessful targets in the years following the takeover announcement and zero otherwise. The coefficient of *After*

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<sup>10</sup> In the regression of Equity Pay, the dependant variable is the logarithm of the sum of Equity Pay and one, due to the non-trivial number of zero-valued observations for Equity Pay.

measures the pure level change of CEO payment after the takeover bid. Its interaction with firm performance measures the change of pay-performance sensitivity following the bids.

(Insert Table 6 here)

Table 6 reports the regression results. In the regression, we correct the potential problems of heteroscedasticity and autocorrelations. Columns (1) to (3) are estimated for the unsuccessful takeover targets in the four years around the takeover bids. As shown, CEO compensation is larger in firms with large board size and in firms whose CEO also holds the position of chairman. These results are consistent with prior literatures documenting that CEOs earn greater compensation when governance structures are less effective (e.g., Core et al., 1999; Cyert et al., 2002). On the other hand, CEO compensation is significantly positively related to the multiple of lump-sum payment in severance contract, indicating that the incentive plan in firms adopting golden parachute can provide better incentive to the CEOs.

Controlling for firm characteristics and governance characteristics, the dummy variable *After* is positively related to Cash Pay, but the relation is not significant. On the other hand, *After* is significantly positively related to Equity Pay with an estimated coefficient of 0.30 and a p-value of 0.083. It is also significantly positively related to Total Pay with an estimated coefficient of 0.40 and a p-value of 0.058. These results indicate that CEO compensation increases following the bids and the increase mainly comes from the large granting of equity-based compensation. Especially, in regression (3), the interaction of *After* with ROA is significantly positive with an estimated coefficient of 1.32 and a p-value of 0.003. This result indicates an increase of pay-performance sensitivity in target firms following the bids. The interaction of *After* with stock return is also positively related to total compensation, though the relationship is not statistically significant. Taken together, the evidences show that the compensation contract becomes more efficient in target firms following the bids.

We then run the regression with the total Standard and Poor's ExecuComp firms over the entire sample period 1993 to 2004. The estimation enables us to compare the pay-performance sensitivity between target firms and nontarget firms. Harford and Li (2007) conduct the same estimation in examining the efficiency of compensation contract for bidding firms following the takeover attempts. Specifically, in regression model (3), we include a dummy variable *Before* which equals one for unsuccessful targets in the year immediately before the takeover announcement and zero otherwise. The coefficient of *Before* measures whether the target firms are underpaid relative to nontarget firms before the bids. The interaction of *Before* with firm performance measures the difference of pay-performance sensitivity between target firms and nontarget firms before the takeover bids. Similarly, in the regression model, the coefficient of dummy variable *After*, which is defined as before, measures the payment level in the target firms relative to nontarget firms after the bids. And the interaction of *After* with firm performance measures the difference of pay-performance sensitivity between target firms and nontarget firms after the bids.

Column (4) in Table 6 reports the regression result. As shown, the estimated coefficient of dummy variable *Before* is -0.12 and highly significant with a p-value of 0.048. This result confirms that the target CEOs are paid less before the takeover bids relative to their counterparts in nontarget firms. The estimated coefficients are negative for the interactions of *Before* with ROA and stock return, though statistically not significant. These results indicate that the pay-performance sensitivity in target firms is weak relative to that in nontarget firms before the bids.

As to the post-bid payment, the estimated coefficient of dummy variable *After* is -0.01 with p-value 0.880. This result shows clearly that the post-bid payment in target firms is not significantly different with that in nontarget firms, due to the compensation increase in target firms following the bids. The interaction of *After* with ROA is significantly positive with an estimated coefficient of 0.88 and p-value 0.008, indicating an improvement of compensation contract in target firms to incentivize the CEOs following the bids. This result is consistent with our earlier finding that the compensation contracts become more efficient in target firms following the bids.

In contrast, however, the interaction of *After* with stock return is significantly negative with an estimated coefficient of -0.06 and a p-value of 0.014. This result indicates that the pay-performance sensitivity is still weak in target firms relative to nontarget firms following the bids.

Hence, the results in column (4) offer a mixed interpretation of the effect of takeover bid on the efficiency of target's compensation contract. To clearly understand this issue, we conduct a further test about the pay-stock return relationship. Garvey and Milbourn (2006) contend that the stock return-based compensation rewards managers for three distinct components: the manager's skill, the good luck portion for fortuitous circumstances, and the bad luck portion for unfortunate events. Higher pay-skill sensitivity indicates a more efficient contract while higher pay-good luck sensitivity indicates the contract becomes less efficient. On the other hand, if the pay-bad luck sensitivity decreases, it also indicates the contract is less efficient, since the contract provides more downside protection from unfavorable situations.

Based on their argument, we estimate the pay-performance sensitivity with the following expanded model for the total Standard and Poor's ExecuComp firms over the entire sample period 1993 to 2004:

$$\begin{aligned}
Pay_{it} = & d_0 + d_1 * Sales_{it} + d_2 * M / B_{it} + d_3 * Leverage_{it} + d_4 * SalesGrowth_{it} \\
& + d_5 * \sigma ROA_{it} + d_6 * \sigma Ret_{it} + d_7 * Shareholding_{it} + d_8 * ROA_{it} \\
& + d_9 * Skill_{it} + d_{10} * GoodLuck_{it} + d_{11} * BadLuck_{it} + d_{12} * Before_{it} \\
& + d_{13} * Before_{it} * ROA_{it} + d_{14} * Before_{it} * Skill_{it} + d_{15} * Before_{it} * GoodLuck_{it} \\
& + d_{16} * Before_{it} * BadLuck_{it} + d_{17} * After_{it} + d_{18} * After_{it} * ROA_{it} \\
& + d_{19} * After_{it} * Skill_{it} + d_{20} * After_{it} * GoodLuck_{it} + d_{21} * After_{it} * BadLuck_{it} + \varphi_i \quad (4)
\end{aligned}$$

Where the dependent variable is CEO total pay, independent variables are firm characteristics, ROA, and three components of stock performance identified in Garvey and Milbourn (2006). CEO total pay, ROA and variables of firm characteristics are defined as before. As to stock performance, specifically, we first regress the firm's raw stock return on the value-weighted market return, the 2-digit SIC code industry average



return, 2-digit SIC code industry indicators, and year indicators. Garvey and Milbourn refer to this regression's predicted and residual values as the "luck" and "skill" portion of the firm's return. To distinguish the effect of luck on payment, we follow Garvey and Milbourn by defining *GoodLuck* as the predicted value of raw return in a particular year when it is non-negative and zero otherwise, *BadLuck* as the predicted value of raw return in a particular year when it is negative and zero otherwise. *Skill* is the residual value of the regression that equals raw return deducting *GoodLuck* and *BadLuck*.

To address if the corporate takeover drives the compensation contract more efficient in target firms following the bid, we add in model (4) a dummy variable *After* (as defined before) and interact it with the three components of stock performance. We also add in the model a dummy variable *Before* (as defined before) to check pre-bid payment.

Column (5) in Table 6 reports the regression result. As shown, CEO compensation is positively related to ROA. It is also positively related to the *Skill* portion and *GoodLuck* portion of stock return, but negatively related to *BadLuck* portion of stock return. All of the relations are statistically significant.

The estimated coefficient of dummy variable *Before* is negative, confirming again that CEOs in unsuccessful takeover targets are paid less relative to their peers in nontarget firms before the bids. In contrast, the estimated coefficient of dummy variable *After* is positive, indicating that the payment in target firms catch up with that in nontarget firms following the bids. Especially, the interaction of *After* with *GoodLuck* portion of stock return is significantly negative with an estimated coefficient of -0.11 and a p-value of 0.013. This result shows that the post-bid compensation contract in target firms is less sensitive to good luck than that in nontarget firms. On the other hand, the interaction of *After* with *Skill* portion of stock return is negative, but statistically not significant. The interaction of *After* with *BadLuck* portion of stock return is also statistically not significant. These evidences, taken together, show that the target firms' lower pay-stock return sensitivity documented in column (4) is driven by the lower pay-good luck sensitivity following the bids. Actually, the compensation contract in target firms becomes more efficient in incentive alignment following the unsuccessful takeover attempts.

Additionally, the interaction of *After* with ROA is significantly positive with an estimated coefficient of 0.87 and a p-value of 0.002, indicating again that the compensation contract becomes more efficient in target firms following the bids.

In sum, the findings in Table 6 show that, before the takeover bids, CEOs in unsuccessful takeover targets are paid less relative to their counterparts in nontarget firms, and the compensation contracts in target firms are less efficient in motivating the managers. These evidences provide explanation for the earlier finding that unsuccessful takeover targets perform poorly in the stock market before the bids. Following the unsuccessful takeover attempts, CEOs in target firms are granted a large number of stock options. Accordingly, their equity-based compensation and total payment increase largely and catch up with those in nontarget firms. The pay-performance sensitivity in target firms also increases significantly following the bids. These evidences explain why target firms perform better following the bids than before. On the other hand, they also show that the threat of corporate takeover has a positive effect on the efficiency of internal

incentive plan in target firms, which is consistent with the argument of the theorists (e.g., Grossman and Hart, 1980; Scharfstein, 1988).

A number of prior works (e.g., Lambert and Larcker, 1987; Core and Guay, 1999) take change in the dollar value of CEO compensation as dependent variable in the estimation of pay-performance sensitivity. Adopting the same research design, we get similar result as that reported. Additionally, we find that the explanatory power of this research design is quite small. For instance, we get adjusted R-squares around 0.05 to 0.10 in column (1) to (3) with such research design, which are far less than the 0.378 to 0.658 gotten with compensation level as dependent variable as reported in Table 6. Similarly, Jensen and Murphy (1990) and Hall and Liebman (1998) also document an extremely low R-square (around 0.02 to 0.03) using the change in the dollar value of CEO compensation as dependent variable to test the CEO pay-performance sensitivity. The low R-square indicates that this research design may be not appropriate in the examination of pay-performance relationship.

## **V. Conclusion**

Financial economists believe that corporate takeover is an important external governance mechanism in aligning the interest of the principle and the agent in modern firms. Hence, an intriguing issue is how the threat of takeover bid affects the function of internal control mechanisms like incentive plan. In this study, we examine this issue with a sample of target firms that successfully avoid the takeover attempts.

We find that, relative to industry peers, CEOs in unsuccessful takeover targets are paid less before the bids. They also get less job security. The portion of CEOs in unsuccessful takeover targets is less that can get severance payment like golden parachute upon the completion of the takeover, relative to the counterparts in completed takeover targets documented by Hartzell, Ofek, and Yermack (2004). Both the amount of last-minute cash payment and the portfolio gains of shares and options resulting from the bidding premium are also significantly less than those of their counterparts. Our findings show that the incentive plan in unsuccessful takeover targets is not efficient in motivating the managers before the takeover attempts. Conceivably, these target firms perform poorly in the stock market before the bids.

Following the unsuccessful bids, target firms fire undoing CEOs. Especially, a majority of them construct severance contract including golden parachute for their CEOs, and the amount of cash payment also increases largely. Moreover, they grant a substantial new restricted stocks and options to the CEOs. The granting significantly increases the compensation level of the CEOs, and the pay-performance sensitivity in target firms also increases after the takeover attempts. Accordingly, target firms perform much better following the bids than before. These evidences show clearly that the threat of corporate takeover has a positive effect on the efficiency of internal incentive plan, which is consistent with the argument of financial economists.

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**Table 1**  
**Distribution of Unsuccessful Takeover Bids**

The sample consists of 105 unsuccessful takeover bids announced during the period January 1, 1993 to December 31, 2004. The industry classification follows Fama and French (1997).

Panel A: Distribution by year		
	Frequency	Percent
1993	3	2.86
1994	4	3.81
1995	5	4.76
1996	9	8.57
1997	6	5.71
1998	11	10.48
1999	14	13.33
2000	18	17.14
2001	16	15.24
2002	6	5.71
2003	5	4.76
2004	8	7.62
Total	105	100%
Panel B: Distribution by industry		
Agriculture	1	0.95
Aircraft	1	0.95
Automobiles and Trucks	1	0.95
Banking	6	5.71
Business Services	13	12.38
Business Supplies	1	0.95
Chemicals	1	0.95
Computers	3	2.86
Construction Materials	2	1.90
Drugs	7	6.67
Electric Equipment	4	3.81
Electronic Equipment	4	3.81
Entertainment	1	0.95
Food Products	1	0.95
Healthcare	3	2.86
Insurance	4	3.81
Machinery	6	5.71
Measuring and Control	2	1.90
Medical Equipment	4	3.81
Nonmetallic Mining	1	0.95
Petroleum and Natural Gas	2	1.90
Printing and Publishing	1	0.95
Real Estate	1	0.95
Recreational Products	1	0.95
Restaurants and Hotel, etc.	2	1.90
Retail	2	1.90
Shipbuilding, Railroad Equipment	2	1.90

Steel Works	3	2.86
Telecommunications	4	3.81
Trading	5	4.76
Transportation	3	2.86
Utilities	10	9.53
Wholesale	3	2.86
Total	105	100%

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Panel C: Distribution by reasons of bid failure

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Change to strategic commercial cooperation	1	0.95
Change to buy convertible bond	2	1.90
Bidder becomes the target of a hostile offer	2	1.90
Bidder merges with other firms	2	1.90
Target acquires other firms	2	1.90
Rival offer/Reverse takeover	4	3.81
High difficulty to complete the transaction	7	6.67
Rejected by target	13	12.4
Regulation	14	13.3
Mutually rejected	17	16.2
No reason given	17	16.2
Terminated by bidder	24	22.9
Total	105	100%

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**Table 2**  
**Descriptive Statistics of Unsuccessful Takeover Targets**

The sample consists of 105 unsuccessful takeover targets announced during the period January 1, 1993 to December 31, 2004. All variable values are obtained at the fiscal year-end either one year before the takeover announcement (year T-1) or two years after the takeover bid (year T+2). All dollar values are measured in constant 2004 dollars (millions). We report the median as well as the minimum and maximum values. MV Equity is the product of the number of shares outstanding and the stock price. MV Assets is book value of total assets minus book value of equity plus market value of equity. Book Assets is the book value of total asset. M/B is the market-to-book ratio, obtained as the ratio of MV Assets and Book Assets. Leverage is obtained as the book value of liability divided by the book value of total asset. Sales Growth is the percentage change of the sales comparing with last year. ROA is the accounting return on assets, obtained as the ratio of earnings before interest and taxes to total assets. Return is the annual stock return during the fiscal year. Abnormal Return is annual firm stock return during the fiscal year deducting the contemporaneous value-weighted annual return on the market portfolio. A large shareholder holds more than 5% of the firm's total shares. Cash Pay is the sum of salary and annual bonus. Equity Pay is the sum of value of restricted stock granted during the year, value of stock options granted during the year, and long-term incentive payouts. Total Pay is the sum of salary, bonus, other annual compensation, value of restricted stock granted, value of stock options granted during the year, long-term incentive payouts, and all other compensation. Equity Ratio is obtained as Equity Pay divided by Total Pay.

	T-1			T+2		
	Mini.	Median	Max.	Mini.	Median	Max.
<i>Firm Characteristics</i>						
MV Equity	16	672	14999	16	653	16741
MV Assets	31	995	32746	46	878	30288
Book Assets	29	550	15138	29	662	22190
Sales	13	304	8036	13	392	10514
Leverage	0.15	0.55	0.92	0.13	0.56	0.94
M/B	0.89	1.39	8.06	0.84	1.28	4.62
ROA	-0.26	0.06	0.25	-0.22	0.11	1.04
Sales Growth	-0.19	0.17	1.30	-0.25	0.12	0.78
Return	-0.80	-0.042	2.19	-0.67	0.08	2.38
Abnormal Return	-0.80	-0.151	2.10	-0.63	0.037	2.34
<i>CEO Characteristics</i>						
Cash Pay	163	645	2886	163	863	3453
Equity Pay	0	507	18167	0	768	24550
Total Pay	241	1418	19895	222	1713	29433
Equity Ratio	0	0.30	0.91	0	0.42	0.89
Shareholding-options included	0	3.91%	52.1%	0	2.92%	53.2%
Shareholding-options excluded	0	1.57%	50.6%	0	1.06%	50.7%



**Table 3**  
**CEO Severance Payment and Potential Portfolio Gains**

This table reports the CEO severance payment and potential portfolio gains for 105 unsuccessful takeover targets announced in 1993-2004. All dollar values are measured in constant 2004 dollars (\$000). Panel A presents the distribution of the severance payment before and after the takeover by the multiple of the lump-sum payment. Panel B presents the composition of the potential gains. Cash gain about the parachute and additional bonus are calculated based on information from the target firms' proxy statements in year T-1. Option gain is calculated by multiplying the number of total options held by the target CEO in the beginning of takeover announcement year, the stock price four-week prior to the announcement date, and the 4-week SDC percentage bidding premium, assuming that all options are at- or in-the-money prior to the transaction and that all options are "cashed out" via forced exercise at the time of the takeover transaction. Share gain is obtained by multiplying the number of total shares held by the target CEO in the beginning of takeover announcement year, the stock price four-week prior to the announcement date, and the 4-week SDC percentage bidding premium. Total potential gain is the sum of Cash gain, Option gain, and Share gain. Pre-bid cash pay is the sum of salary and annual bonus in year T-1.

Panel A: Severance payment				
	T-1		T+2	
	Frequency	Percentage	Frequency	Percentage
No parachute	43	41%	25	23.8%
With parachute	62	59%	80	76.2%
0.5 or 0.75 times	3	2.9%	1	1%
1 or 1.5 times	10	9.5%	18	17.1%
2 or 2.5 times	15	14.3%	17	16.2%
3 or above 3 times	26	24.8%	37	35.3%
Other forms <sup>a</sup>	8	7.6%	7	6.7%

  

Panel B: CEO potential gains			
	Minimum	Median	Maximum
+Cash gain (parachute and additional bonus)	0	540	25776
+Option gain (4-week SDC bidding premium)	-24616	754	168124
+Share gain (4-week SDC bidding premium)	-41459	1102	179551
=Total potential gain	-59223	3145	205133
Total potential gain/ Pre-bid cash pay	-125	5.20	126

<sup>a</sup>: Including firms that pay the CEO with a fixed amount, pay the CEO for the remainder term of the contract, and agree to pay the CEO but do not report the exact amount.

**Table 4**  
**CEO Post-bid Forced Turnover**

This table reports the CEO post-bid forced turnover for 105 unsuccessful takeover targets announced in 1993-2004.

	Frequency	Percentage
Year T+0	10	9.5%
Year T+1	7	6.7%
Year T+2	13	12.4%
TOTAL	30	28.6%

**Table 5**  
**CEO Compensation Change**

This table reports the median CEO compensation in the year prior to the bid (year T-1) and the second year following the bid (year T+2) for 105 unsuccessful takeover targets and 86 control firms matched on industry and firm size over the period 1993-2004. CEO compensation is measured in constant 2004 dollars (\$000). Panel A reports the raw compensation (Total Pay) comparison. Panel B reports the abnormal compensation comparison. Panel C reports the regression results of CEO compensation change on pre-bid abnormal compensation with the following basic model:

$$CHANGE_i = b_0 + b_1 * ACOMP_i + \delta_i$$

where  $CHANGE_i$  is the proportional change in Total Pay of firm  $i$  from year T-1 to year T+2 adjusted for inflation by using constant 2004 dollars.  $ACOMP_i$  is the abnormal compensation of firm  $i$  in year T-1. Abnormal compensation is obtained as the residual from the following model estimated using the entire firms in Standard and Poor's ExecuComp dataset over the period 1993-2004:

$$COMP_i = a_0 + a_1 * SIZE_i + a_2 * (R_i - R_m) + a_3 * AGE_i + a_4 * INDUSTRY_i + a_5 * YEAR_i + \varepsilon_i$$

where  $COMP_i$  is the natural log of annual Total Pay of firm  $i$ ,  $SIZE_i$  is the natural log of market value of total equity of firm  $i$ ,  $R_i$  and  $R_m$  are the annual holding period stock returns of firm  $i$  and the contemporaneous value-weighted market annual return,  $AGE_i$  is the CEO's age at year-end of firm  $i$ ,  $INDUSTRY_i$  is the 2-digit SIC industry code of firm  $i$ ,  $YEAR_i$  is the observation year of firm  $i$ .  $Control$  equals one for control sample and zero otherwise. \*, \*\*, \*\*\* indicates significance at the 10%, 5%, and 1% level.

Panel A: Comparison of CEO raw compensation				
	T-1	T+2	$CHANGE$	Wilcoxon Z
Unsuccessful targets	1418	1713	22.5%	-1.87*
Control firms	1689	1927	15.1%	-0.86
Wilcoxon Z	-1.79*	-0.69	1.83*	
Panel B: Comparison of CEO abnormal compensation				
	T-1	T+2		Wilcoxon Z
Unsuccessful targets	-0.137	0.075		-2.20**
Control firms	-0.013	0.038		-0.24
Wilcoxon Z	-1.69*	0.18		
Panel C: CEO compensation change on pre-bid abnormal compensation				
Intercept			0.69***	0.80***
			[<.001]	[0.002]
$ACOMP$			-0.80***	-1.52***
			[<.001]	[<.001]
Control				-0.54*
				[0.087]
Control* $ACOMP$				1.26***

Observations	105	[0.002]
Adjusted R <sup>2</sup>	0.164	0.272
F Value	17.6	12.3
(Prob.>F-statistic)	[<.001]	[<.001]

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**Table 6**  
**Changes in CEO Pay-Performance Sensitivity following the Unsuccessful Bid**

This table reports the regression results of CEO annual compensation on stock performance for 105 unsuccessful takeover targets over the period 1993-2004.  $\sigma_{ROA}$  and  $\sigma_{Ret}$  are the standard deviations of ROA and the stock return, computed over the prior five years for a year. *Shareholding* is CEO's share percentage (options included) in the firm. *Fired* equals to one if the CEO is fired in the observation year and zero otherwise. *Parachute* is the multiple of the lump-sum payment. *Duality* equals one if the CEO holds the position of chairman of the board and zero otherwise. *Board size* is the number of directors in the board. *Large shareholder* is the number of large shareholders with at least 5% shareholding in the firm. *Before* equals to one in the year prior to takeover announcements for unsuccessful targets and zero otherwise. *After* equals to one in the years following the takeover announcement for unsuccessful targets and zero otherwise. *GoodLuck* is the "good luck" component of *Return*, defined as the predicted value of *Return* when it is non-negative, and zero otherwise. *BadLuck* is the "bad luck" component of *Return*, defined as the predicted value of *Return* when it is negative, and zero otherwise. The predicted value of *Return* is obtained from the regression of *Return* on value-weighted market value, industry average return, and 2-digit SIC code industry and year indicators. *Skill* is the "skill" component of *Return*, defined as  $Return - GoodLuck - BadLuck$ . Other variable definitions are as defined in Table 2. P values are reported in bracket. Year and industry dummies are included in the regressions, but not reported in the table. \*, \*\*, \*\*\* indicates significance at the 10%, 5%, and 1% level (two-tailed), based on standard errors corrected for heteroscedasticity and autocorrelations.

	Cash Pay (1)	Equity Pay (2)	Total Pay (3)	Total Pay (4)	Total Pay (5)
Intercept	3.76*** [<.001]	1.66* [0.098]	3.89*** [<.001]	4.22*** [<.001]	4.26*** [<.001]
Log (Sales)	0.39*** [<.001]	0.67*** [<.001]	0.39*** [<.001]	0.44*** [<.001]	0.43*** [<.001]
M/B	0.01 [0.423]	0.22 [<.001]	0.24*** [0.009]	0.09*** [<.001]	0.08*** [<.001]
Leverage	-0.02 [0.941]	-2.07** [0.046]	-0.18 [0.723]	-0.07* [0.074]	-0.08* [0.038]
Sales Growth	0.33* [0.089]	-0.87 [0.299]	0.29 [0.487]	0.06* [0.085]	0.06 [0.102]
$\sigma_{ROA}$	0.78*** [0.002]	-0.87 [0.578]	0.07 [0.382]	1.30*** [<.001]	1.32*** [<.001]
$\sigma_{Ret}$	0.01 [0.860]	-0.19 [0.487]	0.03 [0.462]	0.09*** [<.001]	0.08*** [<.001]
Shareholding	0.01* [0.056]	-0.02 [0.261]	0.002 [0.719]	-0.01*** [<.001]	-0.01*** [<.001]
Fired	-0.25** [0.015]	0.04 [0.926]	-0.28 [0.362]		
Parachute	0.12*** [0.006]	0.30** [0.018]	0.23*** [<.001]		

Duality	0.15***	0.19	0.22*		
	[0.002]	[0.569]	[0.080]		
Board Size	0.02	0.15**	0.09***		
	[0.304]	[0.044]	[<.001]		
Large shareholder	-0.001	0.08	0.07*		
	[0.993]	[0.369]	[0.068]		
<i>Return</i>	0.001	0.27**	0.11*	0.19***	
	[0.962]	[0.014]	[0.086]	[<.001]	
<i>ROA</i>	0.24	0.83	0.06	0.82**	0.76**
	[0.539]	[0.197]	[0.232]	[0.014]	[0.036]
<i>Before</i>				<b>-0.12**</b>	-0.11
				<b>[0.048]</b>	[0.127]
<i>Before *ROA</i>				-0.42	-0.47
				[0.261]	[0.220]
<i>Before *Return</i>				-0.14	
				[0.157]	
<i>After</i>	0.05	<b>0.30*</b>	<b>0.40*</b>	-0.01	0.02
	[0.539]	<b>[0.083]</b>	<b>[0.058]</b>	[0.880]	[0.839]
<i>After *ROA</i>	0.55	0.99	<b>1.32***</b>	<b>0.88***</b>	<b>0.87***</b>
	[0.140]	[0.587]	<b>[0.003]</b>	<b>[0.008]</b>	<b>[0.002]</b>
<i>After *Return</i>	-0.01	0.32	0.031	<b>-0.06**</b>	
	[0.634]	[0.352]	[0.775]	<b>[0.014]</b>	
<i>Skill</i>					0.03**
					[0.018]
<i>GoodLuck</i>					0.13**
					[0.025]
<i>BadLuck</i>					-0.15**
					[0.013]
<i>Before * Skill</i>					-10.56
					[0.203]
<i>Before * GoodLuck</i>					-0.14
					[0.230]
<i>Before * BadLuck</i>					-0.001
					[0.999]
<i>After * Skill</i>					-0.25
					[0.378]
<i>After * GoodLuck</i>					<b>-0.11**</b>
					<b>[0.013]</b>
<i>After * BadLuck</i>					0.04
					[0.912]
Observations	413	409	409	15641	15654
Adjusted R <sup>2</sup>	0.591	0.378	0.658	0.329	0.341
F-statistic	11.3	5.2	14.3	151	550
(Prob.>F-statistic)	[<.001]	[<.001]	[<.001]	[<.001]	[<.001]