

# CEO Compensation and Incentives - Evidence from M&A Bonuses ☆

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## Abstract

We investigate CEO compensation for completing M&A deals. 39% of the acquiring firms in our sample state that they compensate their CEOs for completing the deal, and that the compensation comes mainly in the form of a cash bonus. We find that CEOs who have more power to influence board decisions receive significantly larger bonuses. We also find a positive relation between bonus compensation and measures of effort, but not between bonus compensation and deal performance. CEOs with more power also tend to engage in larger deals relative to the size of their own firms, and the market responds more negatively to their acquisition announcements. Our evidence is consistent with the argument that managerial power is the primary driver of M&A bonuses.

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*Key Words:* CEO Compensation, Mergers and Acquisitions

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## **1. Introduction**

Anecdotal evidence suggests that some CEOs receive lucrative compensation packages for acquiring other firms. For example, in large recent merger and acquisition (M&A) deals, Exxon, HealthSouth, Bankers' Trust, and Travelers Group paid their CEOs cash bonuses of between \$5 and \$14 million dollars for the successful completion of M&A deals.

In spite of these large compensation packages, prior research shows that shareholders of the acquiring firms do not typically profit from these deals. For example, Jensen and Ruback (1983) cite studies that find no positive announcement returns to acquiring firms in merger deals. More recently, Moeller, Schlingemann and Stulz (2003), document substantial negative announcement returns and substantial losses to large acquiring firms, especially for acquisitions occurring after 1997. Several studies show a negative drift in the price of the acquirer several years after the acquisition (e.g., Jensen and Ruback, 1983; Agrawal, Jaffe and Mandelker, 1992; Loughran and Vijh, 1997; Kohers and Kohers 2001).

The apparent misalignment between compensation and outcomes warrants a closer look at the practice of paying compensation for M&A deals. In this paper, we provide additional insights on the determinants of M&A compensation by addressing the following questions. First, how common is the practice of providing M&A compensation? Second, to what extent is M&A compensation paid to align CEO incentives with value maximization? Third, to what extent does managerial power affect CEO compensation related to M&A deals? To the extent that CEOs earn M&A bonuses from self-serving behavior, the costs associated with these bonuses can be substantial, as CEOs who acquire other firms because of the rents they can extract in the deals will not necessarily choose value-maximizing deals.

We address these questions by examining compensation related to 327 large M&A deals in the U.S. between 1993 and 1999. We examine the determinants of the compensation level, and explore how measures of effort, skills, performance and managerial power explain the cross-sectional variation in the bonus.

We find that 39% of the acquiring firms in our sample cite the completion of the deal as a reason for the compensation. In almost all of these cases, the reward is given in the form of cash bonus. Our cross-sectional analysis suggests that measures of CEO effort and skills in forming the deal explain part of the variation in the level of the M&A bonus, since bonuses are larger when the deals are larger, when the deals take longer to complete, and when there are more board meetings during the acquisition year.

Measures of performance, such as the market reaction to the announcement of the deal or the premium paid for the target, do not explain the cross-sectional variation in the compensation, and in certain cases they are negatively related to the amount of the bonus awarded. In contrast, measures of managerial power add significantly to the explanatory power of the variation in the bonus. For example, within the sample of firms who state that they give M&A bonuses, CEOs who are on the nominating committee receive, on average, an additional \$1.41 million for completing the deal, and CEOs who are also heads of their boards, receive an additional \$1.45 million. We also find that the two-day announcement period return of firms whose CEOs have the highest power is -3.8%, approximately three times lower than the abnormal return of the rest of the acquiring firms, suggesting that the deals undertaken by CEOs with significant power are received more negatively by the market.

Finally, we find that compensation committee reports typically do not provide much information for the reasons behind M&A bonuses. Although required to do so by the SEC, almost 50% of the acquiring firms in our sample do not provide a real reason for the M&A bonus. For the remaining firms, we find that the most frequent justification for the M&A bonus is increasing firm size and revenues (56% of the remaining firms), followed by effort and skills (42%). Only 34% of the remaining firms argue that value enhancement is a reason for the bonus.

The results of our tests indicate that measures of effort and skills explain only a small part of the variation in the bonus. Although deal size explains a large part of the compensation, it is unclear whether this metric captures only effort and skills. For example, when comparing deal size across CEOs with different managerial power, we find that CEOs with the highest managerial power have the highest target to acquirer size ratio. This evidence is consistent with previous arguments (e.g. Jensen 1986) that the propensity to increase size is itself a function of agency. Compensation does not appear to increase with deal performance, and compensation committees rarely consider this dimension in awarding the bonuses. Finally, managerial power explains a large part of the variation in the compensation.

We interpret our results as consistent with the argument that M&A bonuses are associated with managerial power. Managers who have more board power are likely to get substantially higher bonuses, are likely to engage in larger deals, and are also likely to have substantially smaller announcement returns.

This study contributes to the empirical literature examining the relation between compensation and M&A deals. Denis, Denis, and Sarin (1997), and Datta, Iskandar Datta, and Raman (2001) look at CEO compensation and ownership structures before M&A deals, and show that increased insider ownership and equity-based compensation improve long-run post-

acquisition performance. Bliss and Rosen (2001) show that CEO compensation typically increases after bank mergers even if the acquirer's stock price declines. Rose and Shepard (1997) show that diversified firms tend to have higher CEO compensation, although the difference appears to be due to managerial ability. Unlike our study, these studies do not examine the compensation that the CEO is awarded for completing the deal. In contrast, Hartzel, Ofek, and Yermack (2001) do examine compensation specifically related to acquisitions, however they examine the compensation of the CEO of the target firm, not the compensation of the acquiring CEO.

Our paper also contributes to the literature examining the relation between CEO compensation and CEO board power. Hallock (1997) looks at compensation to CEOs of large corporations in 1992, and finds that when there is an interlocking board relation, the CEO receives greater compensation. Core, Holthausen and Larcker (1999) look at compensation contracts to CEOs of large firms between 1982 and 1984 and find that CEOs who are also heads of their boards receive larger compensation. They also find that compensations are larger when CEOs have more influence over the selection of the board members. Cyert, Kang and Kumar (2002) find that CEOs who are also heads of their boards receive higher compensation, but that compensation committees with higher equity stakes tends to reduce the non-salary compensation awarded to the CEO. None of these papers considers incentive compensation related to M&A deals.

The paper proceeds as follows. In Section 2 we provide the hypotheses. In Section 3 we discuss our sample selection and variable measurement. In Section 4 we present the empirical results, including a cross-sectional analysis and a detailed analysis of the compensation committee reports. Section 5 concludes.

## **2. Hypotheses**

In large public corporations, the board of directors is in charge of compensating the CEO. The traditional view is that the board offers the CEO a compensation contract that maximizes shareholder value. The level of compensation depends on supply and demand in the labor market for CEOs and on the effort level that CEOs exert in managing the firm. Therefore, a CEO whose skills are in short supply, or is required to exert higher effort, is paid more for his or her services.

Early work by Mirrlees (1974, 1976), Holmstrom (1979), Grossman and Hart (1983), and others shows how to account for the moral hazard problem when designing the compensation contract. In Holmstrom's "hidden action" model, the agent (CEO) is required to perform a series of tasks to maximize the utility of the investors. However, the CEO's tasks are unobservable to the investors and the CEO prefers tasks that do not maximize investors' wealth. In this case, the CEO should still receive higher compensation if the tasks require more skills and if the CEO has to work harder, but since the board does not fully observe the effort or the tasks, it should also align managerial incentives by tying the compensation to observable outcome variables that are correlated with CEOs tasks. Compensation can therefore be based on observable measures of tasks that maximize value, such as market returns or profitability ratios.

In contrast to the traditional view, a second view, referred to as the managerial power approach, argues that boards do not operate at arm's length when deciding on CEO compensation. Rather, CEOs have the power to influence board decisions including

compensation decisions, which can result in sub-optimal compensation contracts.<sup>1</sup>

There are several reasons to believe that CEOs influence board decisions. Hermalin and Weisbach (1998) provide evidence that CEOs have the power to affect the selection of directors. Jensen (1993), Bebchuk, Fried, and Walker (2002) and Bebchuk and Fried (2003) argue that CEOs control the information that the board has about the company because they determine the board meeting agenda and the information given to the board, especially if they are the chairmen of their own boards. They also argue that CEOs discourage board members who disagree with them from serving on the board, and that board members often hold a small amount of stock in the company and therefore have little incentives to monitor.

Bebchuk, Fried, and Walker (2002) and Bebchuk and Fried (2003) formally tie managerial power to CEO compensation. They argue that CEOs who have more power will extract more rents in the form of compensation. They also argue that the likelihood of adopting a compensation arrangement that is favorable to executives but suboptimal for shareholders will depend not only on the power that the CEO has but also on how the arrangement is perceived by shareholders. If the shareholders perceive the arrangement as a blunt expropriation, they are likely to act against it. This argument implies that CEOs who want to maximize rent extraction might try to find justifiable reasons for their compensation. A merger or acquisition could provide such a justification, whereby a manager who acquires another company spends extra time and effort in constructing the deal, and therefore can use the task as a justification for additional compensation.

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<sup>1</sup> Several authors find evidence of suboptimal compensation contracts to CEOs. For example, Blanchard, Lopez-de-Silanes and Shleifer (1994) find that when companies receive cash windfall, (i.e., cash that has nothing to do with firm performance), they increase the compensation to their CEOs, Yermack (1995) finds that stock options are not awarded optimally, and Yermack (1997) provides evidence consistent with the interpretation that CEOs time their stock option awards just before favorable corporate news.

Given these two differing views of managerial compensation, our objective is to examine the extent to which the compensation related to M&A deals is consistent with either the traditional view or with managerial power. Although we recognize that these are not mutually exclusive alternatives, our goal is to learn the extent to which each of these theories appears consistent with cross-sectional variation in M&A compensation.

According to the traditional view, there should be a positive correlation across acquiring firms between the measures of the complexity of the deal or measures of CEO effort in constructing the deal and the level of deal compensation. Moreover, given the moral hazard problem, we should observe a positive correlation between observable measures of the success of the deal and the level of compensation. Under the managerial power approach, there should be a positive correlation between the level of compensation and the level of managerial power in the firm. Managerial skills and performance should play a secondary role in explaining the variability in compensation.

### **3. Data Description and Variables**

#### **3.1 Data Description**

We identify mergers or acquisitions in the U.S. between 1993 and 1999 from the SDC database. We choose deals in which the value of the transaction is \$1 billion or larger, and the entities involved are public U.S. companies. Our sample is limited to large transactions because they represent economically significant events and are more likely to directly affect managerial compensation. We examine only public companies because of data availability. Financial statement information is obtained from the Compustat database, and returns data are obtained from the CRSP database.



We extract CEO compensation data for every acquiring CEO from the Execucomp database. Execucomp lists CEO compensation since 1993 for every S&P 500, S&P MidCap 400, and S&P SmallCap 600, and for other firms that are not currently included in the indices, but once were. We eliminate any sample firms for which we are unable to obtain compensation information. This results in a sample of 327 M&A deals.

Table 1 presents the summary statistics of our sample. Acquiring firms in our sample are large, averaging \$29.5 billion in market capitalization. The median size is around \$10 billion and the standard deviation is around \$54 billion, implying that the distribution of firm size in our sample has high variance and is skewed. Acquiring firms in our sample are profitable, with a book return on assets of 11.7%. The average market return to the shareholders of the acquiring firm in the year prior to the deal is 25.8%. The average market return on the S&P 500 during that period is 25.3%. This evidence suggests that, on average, the acquiring firms do not perform significantly better than the market in the year prior to the acquisition.

Panel B of Table 1 shows deal characteristics in our sample. The average deal value in our sample is \$4.747 billion. The median deal value is \$2.212 billion. The large difference between the two suggests that the data is skewed by several particularly large deals.<sup>2</sup> From the day the deal is announced, it takes an average of about five months (155 days) to complete it. More than 75% of the firms complete the deal within six months.

The market tends to react negatively to the announcement. The two-day market-adjusted return surrounding the announcement of the deal is -1.5%, with 50% of the firms experiencing a negative announcement effect of more than 1%. The low announcement effect is consistent with earlier research (Jensen and Ruback, 1983, Moeller, Schlingemann and Stulz 2003). However,

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<sup>2</sup> For example, the Exxon-Mobil merger has a deal value of \$78.9 billion. Although we explicitly control for size and heteroscedasticity in the regression tests, all findings are robust to excluding the five largest deals from the analysis, each of which are greater than \$40 billion.

the large standard deviation suggests that the announcement effect of some of the deals is quite large. Most of the acquiring firms buy firms from the same line of business, (i.e., firms with the same two-digit SIC code). Only 34% of the acquiring firms in our sample buy firms from other industries.

Panel C of Table 1 describes corporate governance characteristics of the acquiring firms. The average number of board members is 13 members. 30% of the members are insiders, where we define insiders as either employees or former employees of the company, or directors who declare in the proxy statement that they have a work affiliation with the company (also known as “gray outsiders”). In 73% of the acquiring firms, the CEO is also the chair. In 25% of the acquiring firms, the CEO is a member of the nominating committee, which proposes new board members. The governance characteristics in our sample are therefore relatively similar to those of the S&P 500 as reported in previous studies. For example, Shivdasani and Yermack (1999) report an average of 11.4 directors are on the board, 32.5% of CEOs are on the nominating committees, and 83.6% of CEOs head their boards for the year 1994, while Klein reports that 59% of directors are independent during the years 1992 and 1993.

### **3.2 CEO compensation related to mergers and acquisitions**

For each of the acquiring firms in our sample, we read the proxy statements before and after the deal.<sup>3</sup> This allows us to identify what component of the CEO compensation is directly associated with the deal and to identify governance variables in the acquiring firms. In 129 cases (39%), the compensation committee cites the completion of the deal as a reason for providing

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<sup>3</sup> SEC regulation S-K (item 402 executive compensation section K), states that firms must disclose their compensation policies with respect to the manager at the end of every fiscal year, and to provide a specific discussion describing each measure of the firm performance, whether qualitative or quantitative, on which managerial compensation is based.

compensation. In almost all of these cases, the form of compensation is a cash bonus.<sup>4</sup> Therefore, we focus our analysis on the bonus component of the compensation.

Table 2 presents summary statistics for the bonuses that CEOs receive after the deal. Out of the 327 acquiring firms, 287 (88%) give an annual bonus after the deal, but only 125 (38%) cite the deal as a reason for the bonus. In seven cases, the compensation committee cites the deal completion as the only reason for the bonus. In 118 cases, the compensation committee cites the deal completion as one of several reasons for the bonus.

When the merger or acquisition is the only cited reason for the bonus, the average deal value is \$32.27 billion, and when the deal completion is cited as one of several reasons for the bonus, the average deal size is \$5.41 billion. The average bonus is \$5.5 million when the deal completion is cited as the only reason for the bonus, compared to \$2.2 million when the deal completion is cited as one of several reasons for the bonus. In the 162 cases in which the deal completion is not cited as a reason for the bonus, both the deals and the bonuses are smaller, averaging \$3.589 billion and \$1.2 million, respectively. The evidence in Table 2 suggests that the likelihood of the compensation committee stating that they give a bonus for the deal is associated with the size of the deal, and that the level of the bonus is related to the size of the deal.

Although compensation committees have to declare the purpose of the bonus, there is a possibility that they engage in ex-post labeling, whereby the M&A deal is simply used as a reason for giving a bonus that would have been given regardless of the deal. Since we are interested in bonuses paid explicitly for the mergers or acquisitions, our first set of analyses

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<sup>4</sup> In 125 (97%) cases the committee gave the compensation in the form of cash bonus, and in more than 90% of these cases no other form of compensation was associated with the deal. Results are unaffected by including the value of restricted stock grants related to the merger or acquisition.

examines whether M&A bonuses actually represent additional compensation to CEOs. We begin by estimating the following regression model using the entire Execucomp sample:

$$\begin{aligned}
 Bonus_{it} = & a_0 + a_1 Size_{it} + a_2 ROA_{it} + a_3 ROA\ Growth_{it} + a_4 Return_{it} + a_5 SalesGrowth_{it} \\
 & + a_6 Margin_{it} + a_7 MarginGrowth_{it} + a_8 AcquisitionDummy_{it} + v_i + \omega_t + \varepsilon_{it}
 \end{aligned} \tag{1}$$

The dependent variable in Equation (1) is the bonus that the CEO of firm  $i$  receives at the end of year  $t$ . The right hand side consists of performance and control variables. *Size* is the firm size as measured by the book value of assets. *ROA* is earning before interest depreciation and amortization divided by total book assets. *ROA Growth* is the percentage growth in *ROA* from previous year. *Return* is the raw return in the year of the acquisition, *Margin* is the earnings before interest depreciation and amortization divided by sales, *Margin Growth* is the percentage growth in *Margin* from previous year and *Acquisition Dummy* is an indicator variable that equals 1 if the firm acquired another firm during the year and the deal is worth \$1 billion or more. We also include firm-specific and time-specific fixed effects to control for differences in the average bonus across firms and over time. If firms pay bonuses to their CEOs for acquiring other firms, then the coefficient of *Acquisition Dummy* should be positive and significant. Otherwise, we might suspect that the declarations of compensation committees do not truly reflect compensation that is related to the acquisition.

The results in Table 3 column 1 show that the coefficient of *Acquisition Dummy* is positive and significant. This result suggests that firms pay higher bonuses for acquisitions even after controlling for measures of performance and fixed effects. Consistent with prior literature we also find significant effect for size, *ROA* and contemporaneous return.

We also check whether the bonuses that the CEOs get in the acquisition years substitute for other forms of compensation such as salary and options. To make sure that we do not capture a substitution effect between bonuses and other forms of compensation we rerun our regression,

but this time the dependent variable is bonuses plus salary. If there is a substitution then we should not find a positive relation between bonuses plus salary and the acquisition year dummy. The results in Table 3 column 2 show that the coefficient of the *Acquisition Dummy* variable is significant and positive, suggesting no substitution.<sup>5</sup>

To illustrate the effect of the acquisition on the bonus that the CEO receives, we plot the bonus-to-base-salary ratio in acquisition and nonacquisition years for the group of our acquiring firms. For each CEO in our sample we compute the average base salary between 1993 and 1999. Based on that value, we compute the bonus-to-base-salary ratio between two years before and after the acquisition. We then average the bonus-to-base salary across firms, and plot the results in Figure 1.

Panel A of Figure 1 displays the results for all firms in our sample. The average bonus two years before the deal is 130% of the base salary, increases to 184% of the base salary in the year of the deal, and then falls slightly to 174% of the base salary two years after the deal. Panel B plots the average bonus ratio for only those firms that declared that they compensated their managers specifically for the deal. The bonus ratio two years before the deal is 156% of the base salary, and it increases to 272% of the base salary in the year of the deal. It then falls to 186% in the second year after the deal. The bonus during the year of the deal is significantly higher than the bonus two years before the deal or two years after the deal, at the 5% level.

To get a sense of how acquisition bonuses change through time, we display in Figure 2 the average bonus paid to the CEOs during the acquisition years in each of the years 1993-1999. We also plot the average bonus paid to the firms in our sample in the non-acquisition years.

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<sup>5</sup> We also estimate the regression in (1) using only salary, and only other forms of compensation (not shown). In both cases the coefficient of the *Acquisition Dummy* variable is not significantly different from zero. This result reaffirms the assertion of the compensation committees that they give compensation for the acquisition mainly in the form of bonuses.

Panel A shows that the average bonus in the acquisition years increases from \$1 million in 1993 to \$1.8 million in 1999. The average bonus for the nonacquisition years is \$0.6 million in 1993 and it reaches \$1.4 million in 1999. Panel B plots the same statistics, but includes only those firms whose compensation committees state that their CEOs receive bonuses for the deals. The average bonus in the acquisition years for these firms increases from \$1.2 million in 1993 to \$4 million in 1999. In the nonacquisition years, the average bonus for these firms increases from \$1 million in 1993 to \$1.8 million in 1999. Both Panels A and B show a trend towards larger bonuses in later years. They also show that when firms acquire, the average bonus is greater than when firms do not acquire. However, the difference is much more pronounced when the compensation committees state that their CEOs receive bonuses for the deals. In summary, the results from Figures 1 and 2, and Table 3 provide us with some assurance that managers receive extra bonus compensation for the M&A deal, and that boards are not simply engaging in ex-post re-labeling.

### **3.3. Measuring effort, skills, performance, and managerial power**

In order to examine the determinants of the M&A bonuses, we need to obtain measures of effort, skills, performance, and managerial power. We begin by defining several indirect measures of effort and skills. According to the traditional contracting view, CEOs will get higher M&A bonuses if they are required to exert more effort and if their tasks require more skills. To the extent that the effort in devising and completing the deal is not fully observable, the compensation should rely on indirect measures of effort.

The first measure we use is the size of the deal (*Deal Size*). We define deal size as the value of the deal, as obtained from the SDC database. We expect larger deals to be more complex and to require more effort and skills on the part of the CEO. We note, however, that

larger deal size could also indicate managerial tendency to overinvest (Jensen 1986) and therefore might also imply that the board does not monitor managerial investment activity properly, and that the CEO has higher board power. The second measure for effort is the time it takes to complete the deal (*Time to Complete*). We define this measure as the log of the difference between the completion date and the announcement date, as provided by SDC. The third measure is a dummy that equals one if the firm acquires a target from a different industry (*Diversify*). We define same-industry acquisition if the two-digit SIC codes of the acquirer and the target are the same. All else equal, we expect an acquisition of a firm from a different industry to require less effort, since there are fewer synergies and integration problems between the target and the acquirer.

We also include a measure of performance, because to the extent that direct measures of effort are unobservable, contracting on performance can help mitigate the moral hazard problem. Our measure of performance is the two-day abnormal return surrounding the announcement of the merger or acquisition (*Adj. Return 2day*). We use market-adjusted returns, where the S&P500 is used as the relevant market index. This variable is intended to capture the market's assessment of whether the CEO has made a value enhancing acquisition decision.

Our third set of variables captures the amount of managerial power that the CEO possesses. Consistent with Bebchuk Fried and Walker (2002) and Bebchuk and Fried (2003), managerial power is defined as the ability of the CEO to influence directors, and thereby affect the compensation decision. We use several variables to approximate the level of managerial power, several of which have been used in the past (e.g., Shivdasani and Yermack 1999, Core, Holthausen and Larcker 1999). Our first measure is a dummy variable that equals one if the manager is also the chairman of the board, and zero otherwise (*CEO Chair*). We expect that

CEOs who also serve as chairs will be able to exert more influence over the board. Our second measure is a dummy variable that equals one if the CEO is also a member of the nominating committee (*CEO Nominating*). A CEO who also is a member of the nominating committee should be more able to influence the selection of new directors, and directors whose selection was influenced by the CEO might feel compelled to reciprocate with respect to executive compensation (Bebchuk et al. 2002, 2003). Our third measure is the ratio of the number of insiders and “gray” directors (those who were once insiders, or that have outside deals with the firm) to total directors (*Insider Ratio*), where a higher proportion of insiders would be indicative of greater managerial power. We note, however, that there is mixed evidence on whether higher ratio of outside directors is more effective (see Core, Holthausen and Larcker (1999) for a review of the literature). Our final measure of managerial power is the number of directors on the board (*Num Board*). We expect larger number of board members to be associated with less effective board and higher managerial power (Jensen 1993, Yermack 1996).

## 4. Empirical Results

### 4.1 Cross Sectional Analysis

To investigate the extent to which effort, skills and managerial power explain the level of the bonus, we use the following regression model:

$$\begin{aligned}
 Bonus_i = & \alpha_0 + \alpha_1 Size_i + \alpha_2 Deal\ Size_i + \alpha_3 Adj.Return\ 2day_i + \alpha_4 Time\ to\ Complete_i \\
 & + \alpha_5 Diversify_i + \alpha_6 ROA_i + \alpha_7 Return_i + \alpha_8 Num\ Board_i + \alpha_9 CEO\ Chair_i + \alpha_{10} CEO\ Nominating_i \\
 & + \alpha_{11} Insider\ Ratio_i + \alpha_{12} Heckman_i + \sum_{t=1994}^{1999} \alpha_t Year_t + \sum_{k=1}^K \gamma_k Industry_k + \varepsilon_i
 \end{aligned} \quad (2)$$

Our dependent variable, *Bonus*, is intended to capture the bonus associated with the deal. However, because this exact amount is not given in most cases, we use different estimation techniques to isolate the bonus related to the deal (see below). All measures of effort,



performance, and managerial power are as defined in the previous section. Our control variables are time and industry fixed effects, to control for the impact of increasing bonuses over time and for systematic differences in bonuses across industries, (see, e.g. Figure 1), and *Size*, which is the book value of assets at the beginning of the acquisition year.

We initially run an ordinary least squares estimation of equation (2). However, a White test rejects the null of homoscedasticity at the 5% level ( $\chi^2 = 34.47$ , p-value = 0.024). Further analysis suggests that as the size of the acquirer increases so does the error term. Therefore, we normalize all variables by the book value of assets of the acquirer to control for heteroscedasticity. This approach is successful, as we no longer reject the null of homoscedasticity after this adjustment.

Additionally, a potential selection bias exists in this regression because the acquiring firms are not chosen at random from the population of firms. If the omitted variables that determine whether a firm will acquire another firm are correlated with those that determine the bonuses, then a simple regression will have a specification error. To overcome this potential misspecification we use the Heckman (1979) correction. We first run a probit regression over the Execucomp firms that models the probability that a firm will undertake a large acquisition.<sup>6</sup> We use the estimates from the probit regression to construct the *Heckman* variable, which when added to equation (2), corrects for a potential correlation between the error in the first-stage probit regression and the error term ( $\varepsilon$ ) in equation (2).

We use multiple specifications to isolate the bonus paid for the M&A deal. From the compensation committee reports we are able to isolate firms that pay M&A bonuses from firms

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<sup>6</sup> Our explanatory variables for the probit regression are pre-merger market to book ratio, cash to assets, debt to assets, ROA, revenue, an indicator variable for new economy firms, and indicator variables for whether the firm acquired another firm in the previous year or the previous two years. We also include year dummies and industry dummies. All variables except ROA are significant at the 5% level.

that do not pay M&A bonuses. However, when the CEO is awarded a bonus both for completing the M&A deal and for performance not related to the deal, the compensation committee often does not isolate that part of the bonus associated with the deal. In these cases we need to empirically separate the M&A-related bonus.

In the first specification, we assume that whenever the CEO is paid for both performance and for the deal, the portion of performance can be reasonably approximated by the CEO's bonus in the year prior to the deal.<sup>7</sup> Therefore, we subtract the previous-year portion from all bonuses that are paid for both performance and the deal, and run the regression on our full sample. The bonuses of firms that do not cite the deal as a reason for the bonus are set to zero. We report the results of this procedure in column I of Table 4.

In the second specification, we account for the portion of the bonus not associated with the deal by considering only those firms whose compensation committees' state they paid the bonus in part because of the deal. This procedure reduces the sample to 122 firms. For these firms, we assume that the bonus is paid only for the deal, and therefore we use the entire amount as the dependent variable. We present the results of the regression in column II of Table 4.

The third specification uses the full sample and the entire amount of the bonus, and adds additional explanatory variables to capture nonacquisition related aspects of firm performance that might explain the bonus. Drawing from our results in Table 3, we include the firm's return on assets (*ROA*) defined as earnings before interest, taxes, depreciation and amortization divided by book value of assets in the beginning of the year, and the firm's stock return during the acquisition year (*Return*). We then divide the sample into three groups of firms, those that pay a bonus exclusively for the deal (group D), those that pay bonus for the deal and for performance

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<sup>7</sup> If the firm also acquired in the previous year, we use the bonus from the most recent year in which there was no acquisition.

not related to the deal (group DP) and those that do not pay a bonus for the deal (group P). The performance variables not associated with the deal are interacted with indicator variables for groups P and DP, because these are the only groups for which the bonus is related to firm performance. The deal related variables are interacted with indicator variables for groups D and DP, because only these bonuses should be associated with deal characteristics. The variables associated with measures of managerial power are applicable to all firms, and are therefore not interacted with any of the sub samples. We present the results of this specification in column III of Table 4.<sup>8</sup>

Overall, the results in Table 4 are very similar across all three specifications. The deal size and time to complete coefficients are positive and significant in all specifications, suggesting that measures of the complexity of the deal are positively associated with the bonus. The *Time to Complete* coefficient varies between 203.15 (column III) and 1425.23 (column II) and is statistically significant across the three specifications. The *Deal Size* coefficient varies between 0.211 (column III) and 0.321 (column II), and is statistically significant across the three specifications. The *Diversify* coefficient is significant and negative in the first specification, but insignificant in the second and third specifications. Thus, there is limited evidence suggesting that CEOs of firms that acquire from outside their industry are rewarded differentially than CEOs of firms who acquire within the same industry.

Our measure of performance, *Adj. Return 2day*, is negative in column I (t statistic  $-3.79$ ) and column III, (t-statistic  $-1.90$ ) but not significant in column II. This result does not support the hypothesis that CEOs are compensated for performance in M&A deals. In fact, the significantly negative relation suggests that the compensation is not paid optimally. Overall,

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<sup>8</sup> In model (III), the bonus variable is truncated at zero. Therefore an OLS regression might suffer from misspecification. To check if this is a concern, we reestimate this model using truncated OLS (TOBIT). All inferences are unchanged using the TOBIT procedure.

while there appears to be a relation between measures of effort and the bonus, there is no evidence that the bonus is related to observable measures of performance, as suggested by moral hazard models.

The governance measures have a significant impact on the bonus. The *CEO Nominating* coefficient ranges between 722.6 (column I) and 1408.0 (column II), and is statistically significant across the three specifications (t-statistics = 2.69, 2.99, 3.18 respectively). The *CEO Chair* coefficient ranges between 578.2 (column I) and 1447.5 (column II), and is statistically significant across the three specifications (t-statistics = 1.98, 2.70, 2.72). The positive sign of these two coefficients suggests that CEOs with greater board influence earn greater bonuses. The *Insider Ratio* coefficient is positive in two of the three specifications but it is not significant at conventional levels. This result is consistent with Core, Holthausen and Larcker (1999) who do not find a significant relation between insider ratio and managerial compensation, and might suggest that our measure of insiders is a very noisy proxy for board independence.

Somewhat surprisingly, the *Num Board* coefficient is negative and significant across all three specifications, ranging between -237.8 (column III) and -377.4 (column II). This result implies that larger boards pay lower bonuses. On the surface, this result is inconsistent with Yermack's (1996) finding that smaller boards are associated with higher Tobin Q, and the general notion that smaller boards are more effective.

To better understand our findings with respect to board size, we conduct two supplemental analyses. First, we examine the relation between Tobin's Q and board size in our sample. Consistent with Yermack (1996), we find a negative relation between Tobin's Q and board size. However, looking more closely at our sample of firms reveals that about 40% of the firms in our sample that have high Tobin's Q fall into a category of new-economy firms (i.e.

firms that are mainly in the telecommunication and computer industry, which have high growth perspective (Murphy 2003)). New economy firms tend to have smaller boards and larger bonuses. Thus, one difference between our findings and the findings in prior research is that during our time period, we have a significantly larger representation of new economy firms. The high Q in our sample is not only a proxy for the efficiency but also for growth prospects, and the larger bonus in these firms seems to capture an industry effect. We therefore add a new economy dummy variable to our regressions. Adding the dummy variable reduces the magnitude of the negative coefficient of board size, but the coefficient is still significantly negative, suggesting that industry effects explain only part of the result.

Second, we examine the partial correlation between bonus and board size conditional on each of the other explanatory variables, and find that the relation between bonus and board size is only significantly negative conditional on the CEO being on the nominating committee. Therefore, we rerun the regression in column III separately for firms who have a CEO on the nominating committee (n=64) and firms who have a CEO that is not on the nominating committee (n=178). For firms where the CEO is not on the nominating committee, the coefficient on board size is positive, but not significant. For the firms where the CEO is on the nominating committee, the coefficient is significantly negative. One interpretation of this finding is that when the CEO is more involved in choosing board members, a smaller board might actually mean that the CEO has more managerial power.

Our last variable, *Heckman*, has a positive coefficient across the three specifications, and is statistically significant in one of them (column III). The coefficient is an estimate of the product of the standard deviation of the error in equation (2) and the correlation between the error term in equation (2) and the error in the first-stage regression. Thus, the sign of the

coefficient is determined by the correlation between the two error terms. A significantly positive coefficient therefore means that the error term in equation (2) is positively correlated with the error term in the first-stage regression. Intuitively, the positive coefficient on the *Heckman* variable suggests that the likelihood of acquiring is positively associated with the bonus paid for the acquisition. This result might also be interpreted as consistent with the managerial power argument, in that CEOs who expect to extract higher bonuses for completing M&A deals are more likely to enter these deals.

To get a sense of the economic significance of our regression results, we examine the magnitude of the coefficients in column (III) that are statistically significant. An increase of one standard deviation in deal value (\$8.748 billion) increases the CEO compensation by about \$1.84 million. An increase in the time to complete the deal by one standard deviation (118 days) from the mean increases the CEO's compensation by about \$0.114 million. A decrease in 1% abnormal return is associated with an increase of \$42 thousand in compensation. A CEO who is on the nominating committee receives on average about \$889 thousand more than does a CEO who is not on the nominating committee. A CEO who is also the Chair receives on average about \$837 thousand more than a CEO who is not. An increase of one standard deviation in board size (4 members) decreases the bonus by about \$1.2 million, and as mentioned above, this is driven by cases where the CEO is also on the nominating committee.

Overall, the results indicate that the most economically significant factors that determine the compensation of the CEO appear to be size of the deal and the measures of power. While deal size might be indicative of greater effort and skills, it might also reflect the agency problems associated with 'empire building', and in that respect be related to the managerial power hypothesis. The most direct measure of performance, the two-day adjusted return, appears to be

negatively related to the bonus, suggesting that compensation committees do not consider market reaction as a measure of performance. If market reaction is indicative of the level of CEO expropriation in the deal, then a negative relation between the announcement effect and the bonus would be consistent with the managerial power argument.

We also re-estimate the regression in column III, using bonus plus salary as the dependent variable. This specification is used to make sure that higher bonuses are not offset by lower base salary, and that the bonus effect we are capturing does make an impact on the total salary of the CEO. We present the results in Table 3 column IV. If there is a negative correlation between the bonus and salary, then the results in column III should not follow in column IV. Our results indicate that there is no offsetting relation between the two components of the compensation.

To get another sense of the effect of managerial power on compensation and other aspects of the deal, we compare summary statistics of the acquiring firms, based on how powerful the manager is in these firms. We first construct an index of managerial power, by taking the sum of the three dichotomous managerial power variables that are significant in Table 4. The three variables included in the index are the indicator variable of whether the CEO is also the chairman of the board, the indicator variable of whether the CEO is on the nominating committee, and the indicator variable of whether the board size is smaller than the median size in our sample. Thus, the managerial power index can range from 0 (lowest managerial power), to 3 (highest power). We present the results in Table 5.

Twenty-one acquiring firms have an index of 0, 106 firms have an index of 1, 90 firms have an index of 2, and 25 firms have an index of 3.<sup>9</sup> The deal size of the acquiring firms is

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<sup>9</sup> For example, an index of 3 implies that the CEO is also the chair, that the CEO serves on the nominating committee, and that the board is below median size.

largest for the least powerful CEO group, averaging \$9.466 billion and it decreases as the CEO becomes more powerful. The most powerful CEO group has an average deal size of \$2.743 billion. However, when measuring the size of the deal relative to the size of the acquiring firm, (*Deal%*), the most powerful CEOs engage in larger deals. They acquire companies whose size is on average 36% of their own firms' assets. The least powerful CEOs acquire companies whose size is on average only 23.8% of their own assets. The difference in the average deal-size between the two groups is significant at the 5% level (t-statistic of 1.96). This result suggests that controlling for acquirer size, deal size is not only correlated with managerial skills but also with managerial power. It is consistent with the argument that deal size is itself a measure of agency conflicts (Jensen 1986).

The average bonus levels in the four groups are not statistically different from one another. The average bonus of the most-powerful-CEO group is \$1.847 million and the bonus for the least-powerful-CEO group averages \$2.118 million. However, the difference in the ratio of bonus to deal-size is significant. In the most-powerful-CEO group the ratio is 0.1188%, which is more than twice the ratio of 0.0538% in the least-powerful-CEO group.

The two-day abnormal return to of the deal announcement is negative on average in all groups. However, the return is statistically different from zero only in the most-powerful-CEO group. This group also averages the lowest two-day announcement period return of -3.8%, which is significantly lower than the return to the other groups (t-statistic = 2.14). These results suggest that the market perceives M&A deals in which the CEO has large power as bad news. A CEO with greater power is associated with a larger M&A deal relative to the size of his/her firm, higher cash bonus, and a more negative market perception. The results are consistent with the argument that managerial power enables the extraction of rents by the CEO.



## 4.2 Robustness

The fact that we get similar results using the three different methodologies suggests that the results are robust across various specifications. Nevertheless, the variables we use to measure effort, skills and performance might not capture the true managerial input in the deal. Therefore, we repeat the regressions using other measures of effort, skills and performance.<sup>10</sup>

Our first measure is the number of times that the board meets during the acquisition year. This variable might represent the level of complexity and the amount of decision-making associated with the deal. A second measure of effort is the number of advisors who are hired for the acquisition. The larger the number of advisors, the more complex the deal, and the more effort required to complete the deal. We also use deal premium as a measure of deal performance. We define the premium as the value of the target in the deal, divided by the value of the target four weeks before the deal. We obtain information on the number of board meetings from the proxy statements, and on the number of advisors and the market premium from SDC.

When we repeat the regression in Equation (2) with these variables, we find that the coefficients associated with both the number of advisors and the deal premium are not significant. The coefficient associated with the number of board meetings is significant, with a coefficient of 67.3. This number suggests that for every additional board meeting, the CEO receives an additional \$67.3 thousand. The average number of meetings during the acquisition year is 5.0, and the standard deviation is 3.0, suggesting that an increase in one standard deviation in the number of board meetings is associated with an increase of about \$200 thousand in bonus. The coefficients of all other included variables are qualitatively unchanged from the

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<sup>10</sup> These variables are not included in our original regression, primarily because they reduce the sample size considerably due to missing data in the SDC database.

coefficients in the original regressions. Overall, the results of our robustness checks reaffirm our original results that measures of effort and skills have a limited explanatory power of the cross sectional variation in the deal bonus, but that measures of performance do not explain cross sectional variation in the bonus.

### **4.3 Analysis of the Compensation Committee Report**

Our final analysis involves reading the compensation committee report to investigate what reasons were cited for the bonus, when a bonus is given in whole or in part for the merger or acquisition. In 61 cases (49%), the compensation committee does not provide an explicit reason for the bonus, except for mentioning that the CEO completed the deal, or that the CEO complied with the strategy of the firm. This percentage holds both for firms that pay high bonuses and for firms that pay low bonuses. For the remaining firms, we classify the reasons into six categories: price reaction, managerial effort, managerial skills, increasing the size/revenues/growth of the company, recommendation of an independent counselor, and providing opportunities to realize synergies. We present the results in Table 6.

Panel A of Table 6 shows that the most frequent justification for the deal bonus (36 cases or 29% of the whole sample) is increasing size/revenue/growth. The least frequent reason is independent council (one instance) and market reaction to the deal (four instances). The pattern appears in the sample as a whole as well as when the sample is partitioned by bonus size.

In Panel B we recategorize the comments into three groups. We combine the reasons that relate to effort and skills, those that relate to performance, and those that relate directly to size. The most frequent reason for compensating the CEO is for increasing firm size, revenues and

growth (42%). The second most frequent reason is managerial efforts and skill. Only in 25% of the cases is the reason maximizing profits and value.

The results suggest that compensation committees are reluctant to provide information about the bonus. In 49% of the cases, they do not justify the bonus beyond the fact that it is paid for completing the deal. In the rest of the cases, the compensation committees appear to be more concerned with paying their CEOs for maximizing firm size and revenues, rather than paying their CEOs for maximizing value.

## **5. Conclusion**

Using a sample of 327 large M&A deals between 1993 and 1999, we find that about 39% of the acquiring firms reward their CEOs for acquiring other firms. This compensation comes mainly in the form of cash bonuses. Our analysis suggests that CEOs receive higher bonus compensation when the deals are larger. They also receive higher bonuses when they exert more effort in forming the deal. However, except for deal size, we find that measures of effort and skills do not explain a significant amount of the variation in the bonus. We find some evidence that deal size is correlated with more managerial power, since more powerful CEOs are likely to enter larger deals compare to the size of their own firms. We also find that measures of managerial power explain much of the cross-sectional variation in the bonus.

Our results suggest that managerial power plays a significant role in determining M&A bonuses. Moreover, the managerial power variables appear to explain much more of the variation in the bonus than measures of effort or performance. These findings are consistent with the argument of Bebchuk et al. (2002, 2003), that CEO power is a significant driver of CEO compensation.

We find additional evidence consistent with this argument. When we look at the compensation committee reports, we find that compensation committees seem to hide information on why they give M&A bonuses. In about 50% of the cases they do not provide enough information on why they give the deal bonuses. In the rest of the cases, their main arguments for bonuses rely on maximization of firm size rather than on maximization of firm value.

The direct costs of deal bonuses seem small compared to the potential indirect costs that they entail. However, if CEOs have the power to affect board decisions and if they believe that M&A deals provide opportunities for them to extract rents from the shareholders through salaries and bonuses, they will choose deals that maximize their own wealth rather than shareholders' value. We find that M&A deals where CEOs have more power, suffer from a negative abnormal return of  $-3.8\%$ , which is significantly larger than the abnormal returns when CEOs have less power. This large abnormal negative return suggests that the economic losses associated with the self-dealing perks can be substantial.

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**Table 1****Descriptive Statistics of acquiring firms in large M&A deals**

The sample includes 327 large M&A deals between the years 1993-1999, with a deal value of \$1 billion dollars or more, where the acquiring and target firms are publicly traded U.S. companies. The deal data are from the SDC database, the bonus and governance data are from the proxy statements of the acquiring firms and from the Execucomp database, and all other financial data are from the Compustat and CRSP databases. *EBITDA* is earnings before interest, taxes, depreciation and amortization. *ROA* equals *EBITDA* divided by total book value of assets. *Market\_return* is the stock return of the acquiring firm in the year before the acquisition. *S&P500 Return* is the return on the S&P500 index in the year before the acquisition. *Deal Size* is the dollar value of the deal, as reported by SDC. *Time to Complete* is the number of days between the acquisition announcement and the date of completion. *Adj. Return 2day* is the two-day market-adjusted return between the day prior and the day after the announcement of the deal. *Market Capitalization* is the acquirers' market value of equity a year before the announcement of the deal. *Diversify* is an indicator variable which equals one if the target firm has a different two-digit SIC code than the acquiring firm, and zero otherwise. *Num Board* is the number of members on the Board of Directors; *CEO Chair* is an indicator variable which equals one if the CEO is also the chairman of the board. *CEO Nominating* is an indicator variable that equals one if the CEO is on the nominating committee. *Insider Ratio* is the percentage of insiders or gray insiders on the board.

|                                                                   | Mean     | Std Dev. | 25%      | Median   | 75%      |
|-------------------------------------------------------------------|----------|----------|----------|----------|----------|
| <b>Panel A. Financial characteristics of the acquiring firms</b>  |          |          |          |          |          |
| <i>EBITDA</i> (\$ millions)                                       | 2420.1   | 3783.5   | 561.3    | 1162.3   | 2594.0   |
| <i>ROA</i>                                                        | 11.7%    | 7.6%     | 5.5%     | 10.6%    | 16.7%    |
| <i>Return</i>                                                     | 25.8%    | 66%      | -6.3%    | 21.9%    | 45.2%    |
| <i>S&amp;P500 Return</i>                                          | 25.3%    | 9.1%     | 21%      | 28.6%    | 33.4%    |
| <i>Market Capitalization</i><br>(pre merger; \$ millions)         | 29,596   | 54,248   | 4,114    | 10,703   | 28,088   |
| <b>Panel B. Deal Characteristics</b>                              |          |          |          |          |          |
| <i>Deal Size</i> (\$ millions)                                    | 4,747.78 | 8,748.95 | 1,408.30 | 2,212.50 | 4,124.82 |
| <i>Time to Complete</i> (# days)                                  | 155      | 117      | 85       | 129      | 182      |
| <i>Adj. Return 2day</i>                                           | -1.5%    | 7.6%     | -5.6%    | -1.1%    | 2.5%     |
| <i>Diversify</i>                                                  | 34%      |          |          |          |          |
| <b>Panel C. Governance Characteristics of the acquiring firms</b> |          |          |          |          |          |
| <i>Num Board</i>                                                  | 13       | 4        | 10       | 13       | 15       |
| <i>Insider Ratio</i>                                              | 30%      | 19%      | 17%      | 25%      | 40%      |
| <i>CEO Chair</i>                                                  | 73%      |          |          |          |          |
| <i>CEO Nominating</i>                                             | 25%      |          |          |          |          |

**Table 2****Stated reasons for CEO bonuses as provided in the compensation committee report**

The sample includes 327 large M&A deals between the years 1993-1999, with a deal value of \$1 billion dollars or more, where the acquiring and target firms are publicly traded U.S. companies. For each deal, we read the discussion of the compensation committee in the annual proxy statement to determine whether the cash bonus is explicitly linked to the merger or acquisition. *Bonus* is the cash bonus paid to the CEO for the year in which the merger completed, as provided by Execucomp and verified by reading the proxy statement. *Deal Size* is the dollar value of the merger or acquisition, as reported by SDC.

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|                                               | <b>N</b>   | <b>Bonus</b><br><b>(\$ thousands)</b> |               | <b>Deal Size</b><br><b>(\$ millions)</b> |               |
|-----------------------------------------------|------------|---------------------------------------|---------------|------------------------------------------|---------------|
|                                               |            | <b>mean</b>                           | <b>median</b> | <b>mean</b>                              | <b>median</b> |
| <b>Firms not giving cash bonuses:</b>         | <b>40</b>  | 0.0                                   | 0.0           | 3,648.6                                  | 2,200.0       |
| <b>Firms giving cash bonuses:</b>             | <b>287</b> |                                       |               |                                          |               |
| M&A is cited as the sole reason for the bonus | 7          | 5,501.2                               | 4,000.0       | 32,271.1                                 | 21,345.5      |
| M&A is cited as one reason for the bonus      | 118        | 2,208.0                               | 1,500.0       | 5,410.1                                  | 2,271.9       |
| M&A is not cited as a reason for the bonus    | 162        | 1,298.6                               | 862.6         | 3,589.9                                  | 2,054.5       |

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**Table 3****Regression of performance, firm size, and M&A activity on CEO compensation.**

The sample includes all firms in the Execucomp database between 1993 and 1999, which have financial information in the Compustat database. *Acquisition Dummy* is an indicator variable which equals one if the firm was an acquirer in a significant M&A deal (deal value of more than \$1 billion) during the year. *Size* is the book value of assets prior to the acquisition, *ROA* is the earnings before interest, taxes, depreciation and amortization divided by the book value of assets. *ROA Growth* is current *ROA* divided by *ROA* in the previous year. *Return* is the raw return of the stock during the fiscal year, *Sales Growth* is the value of sales divided by sales in the previous year. *Margin* is earnings before interest, taxes, depreciation and amortization divided by sales. *Margin Growth* is the margin in year *t* divided by the margin in the previous year. The regression includes also year specific and firm specific fixed effects. The numbers in parentheses are the standard deviation of the coefficient estimates.

| Dependent variable:      | Bonus                 |             | Bonus Plus Salary     |             |
|--------------------------|-----------------------|-------------|-----------------------|-------------|
| Variable                 | Coefficient           | t-statistic | Coefficient           | t-statistic |
| <i>Acquisition Dummy</i> | 189.09 **<br>(82.34)  | 2.30        | 185.69 **<br>(83.61)  | 2.22        |
| <i>Size</i>              | 0.0083 **<br>(0.001)  | 8.03        | 0.009 **<br>(0.001)   | 8.56        |
| <i>ROA</i>               | 1138.61 **<br>(254.1) | 4.48        | 1197.90 **<br>(258.0) | 4.64        |
| <i>ROA Growth</i>        | -15.33<br>(23.54)     | -0.65       | -21.64<br>(23.91)     | -0.91       |
| <i>Return</i>            | 34.78 **<br>(15.78)   | 2.20        | 31.31 *<br>(16.0)     | 1.96        |
| <i>Sales Growth</i>      | 40.68<br>(29.14)      | 1.40        | 41.74<br>(29.14)      | 1.41        |
| <i>Margin</i>            | -26.05<br>(29.04)     | -0.90       | -24.97<br>(29.49)     | -0.85       |
| <i>Margin Growth</i>     | 15.98<br>(21.29)      | 0.65        | 23.00<br>(24.91)      | 0.92        |
| Adjusted R <sup>2</sup>  | 68.3%                 |             | 59.7%                 |             |
| Number of Observations   | 7334                  |             | 7334                  |             |

\*\* , \* significant at a 0.01, 0.05 level (one-tailed)

**Table 4****Regression of merger bonus on measures of effort, skill and managerial power**

The sample includes M&A deals between 1993-1999 with a deal value of \$1 billion dollars or more, where the acquiring and target firms are publicly traded U.S. companies, with non-missing data for all of the regressors. We categorize the sample into three groups of firms: those that cite the deal as the sole reason for the bonus (group D), those that cite the deal and other non-deal related factors as reasons for the bonus (group DP), and those who do not cite the deal as a reason for the bonus (group P). In models (I) and (II), the dependent variable is the estimated merger bonus, for which we use the entire bonus for group D, normalize the bonus of group P to zero, and adjust the bonus of group DP by subtracting the CEOs' prior-year bonus. Model (I) uses the full sample while model (II) uses only groups D and DP. In model (III), the dependent variable is the entire amount of the bonus, and we use regressors to extract the portion of the bonus related to the deal to performance. Model (IV) is the same as model (III), except that the dependent variable is the total salary plus bonus. Independent variables are defined as follows: *Size* is the book value of assets prior to the acquisition. *Deal Size* is the dollar value of the deal, as reported by SDC. *Adj. Return 2day* is the two-day market-adjusted return for the day prior to and the day of the merger announcement. *Time to Complete* is the log of the number of days between the deal announcement and the date of completion. *Diversify* is an indicator variable which equals one if the target firm has a different two-digit SIC code than the acquiring firm. *Num Board* is the number of members on the Board of Directors; *CEO Chair* is an indicator variable that equals one if the CEO is also the chairman of the board. *CEO Nominating* is an indicator variable that equals one if the CEO is on the nominating committee. *Insider Ratio* is the percentage of insiders or gray insiders on the board. *Heckman* is the coefficient from the Heckman (1979) correction. The regression also includes 6 year and 11 industry dummies. To eliminate heteroscedasticity, all variables in the regression (including the intercept) are normalized by the book value of assets.

| Variable                | (I)                 |        | (II)                |        | (III)              |        | (IV)                |        |
|-------------------------|---------------------|--------|---------------------|--------|--------------------|--------|---------------------|--------|
|                         | Coefficient         | t-stat | Coefficient         | t-stat | Coefficient        | t-stat | Coefficient         | t-stat |
| <i>Size</i>             | -0.358<br>(0.259)   | -1.38  | -0.207<br>(0.147)   | -1.41  | -0.396*<br>(0.265) | -1.49  | -0.437**<br>(0.266) | -1.64  |
| <i>Deal Size</i>        | 0.271**<br>(0.067)  | 4.03   | 0.322**<br>(0.103)  | 3.11   | 0.213**<br>(0.08)  | 2.66   | 0.212**<br>(0.081)  | 2.62   |
| <i>Adj. Return 2day</i> | -82.4**<br>(21.8)   | -3.79  | 25.4<br>(37.5)      | 0.68   | -51.1**<br>(22.1)  | -2.31  | -42.4<br>(22.3)     | -1.90  |
| <i>Time to Complete</i> | 205.6**<br>(49)     | 4.19   | 1425.2**<br>(360.1) | 3.96   | 188.4**<br>(64.9)  | 2.90   | 203.2**<br>(66.2)   | 3.07   |
| <i>Diversify</i>        | -845.5**<br>(236.9) | -3.57  | -271.2<br>(421.2)   | -0.64  | -510.6<br>(298.1)  | -1.71  | -512.2<br>(324.9)   | -1.58  |
| <i>ROA</i>              | ---                 | ---    | ---                 | ---    | 1383.2<br>(1435.5) | 0.96   | 53.2<br>(1501.7)    | 0.04   |
| <i>Return</i>           | ---                 | ---    | ---                 | ---    | 86.2<br>(54.2)     | 1.59   | 82.7<br>(54.5)      | 1.52   |
| <i>Num Board</i>        | -332.6**<br>(49.3)  | -6.75  | -377.4**<br>(91.8)  | -4.11  | -304.5**<br>(49.1) | -6.21  | -295.7**<br>(49.4)  | -5.99  |
| <i>CEO Nominating</i>   | 722.6**<br>(268.4)  | 2.69   | 1408.2**<br>(471.6) | 2.99   | 819.6**<br>(260.3) | 3.15   | 889.3**<br>(279.9)  | 3.18   |
| <i>CEO Chair</i>        | 578.2*<br>(292.8)   | 1.98   | 1447.5**<br>(535.4) | 2.70   | 828.0**<br>(296.7) | 2.79   | 838.0**<br>(308.2)  | 2.72   |
| <i>Insider Ratio</i>    | 212.1<br>(140.2)    | 1.51   | 178.1<br>(220.8)    | 0.81   | 158.3<br>(136.1)   | 1.16   | 138.0<br>(136.2)    | 1.01   |
| <i>Heckman</i>          | 0.232<br>(0.128)    | 1.81   | 0.090<br>(0.067)    | 1.34   | 0.298**<br>(0.132) | 2.26   | 0.331**<br>(0.132)  | 2.50   |
| <i>Year Dummies</i>     | included            |        | included            |        | included           |        | included            |        |
| <i>Industry Dummies</i> | included            |        | included            |        | included           |        | included            |        |
| Adjusted R <sup>2</sup> | 63.6%               |        | 73.7%               |        | 63.3%              |        | 61.5%               |        |
| Observations            | 242                 |        | 122                 |        | 242                |        | 242                 |        |

\*\* , \* significant at a 0.01, 0.05 level (two-tailed)

**Table 5****Bonus and Deal Characteristics based on managerial power variables**

The sample includes large M&A deals between 1993-1999 with a deal value of \$1 billion dollars or more, where the acquiring and target firms are publicly traded U.S. companies. The Managerial Power index is constructed by taking the sum of three dichotomous managerial power indicator variables, and therefore ranges from 0 to 3. The three variables included in the index are whether the CEO is also the chairman (=1 if CEO is chairman, zero otherwise), whether the CEO is on the nominating committee (=1 if CEO is on nominating committee, zero otherwise), and whether the board size is above or below the median board size for the firms in our sample (=1 if board size is lower than median board size, 0 otherwise). Thus, firms with a managerial power index of 3 have a CEO who is also the chairman, who is on the nominating committee, and a relatively small board. *Deal Size* is the dollar value of the deal, as reported by SDC. *Deal %* is the value of the deal deflated by the assets of the acquiring firms. *Bonus* is the annual bonus awarded to the CEO in the year of the merger or acquisition. *Bonus to Deal Value* is the CEO bonus deflated by the dollar value of the deal. *Bonus to Time* is the CEO bonus deflated by the time to complete the merger. *Adj. Return 2day* is the two-day market-adjusted return for the day prior to and the day of the merger announcement.

| Variable                  | Statistic | Managerial Power Index |         |         |         | t-statistic<br>group 3 vs<br>group 0 | t-statistic<br>group 3 vs<br>groups 0,1,2 |
|---------------------------|-----------|------------------------|---------|---------|---------|--------------------------------------|-------------------------------------------|
|                           |           | 0                      | 1       | 2       | 3       |                                      |                                           |
| <i>Deal Size</i>          | mean      | 9466.1                 | 6436.7  | 3607.0  | 2743.2  | 2.77                                 | 3.35                                      |
|                           | median    | 5309.7                 | 2932.7  | 1900.0  | 1657.4  |                                      |                                           |
| <i>Deal %</i>             | mean      | 0.238                  | 0.276   | 0.271   | 0.366   | 1.66                                 | 1.96                                      |
|                           | median    | 0.170                  | 0.190   | 0.235   | 0.285   |                                      |                                           |
| <i>Bonus</i>              | mean      | 2118.9                 | 1613.9  | 1448.5  | 1847.4  | 0.37                                 | 0.58                                      |
|                           | median    | 875.0                  | 918.1   | 875.0   | 1200.0  |                                      |                                           |
| <i>Bonus to Deal Size</i> | mean      | 0.538                  | 0.458   | 0.718   | 1.188   | 1.98                                 | 2.77                                      |
|                           | median    | 0.159                  | 0.284   | 0.361   | 0.609   |                                      |                                           |
| <i>Bonus to Time</i>      | mean      | 18.03                  | 12.05   | 23.64   | 19.21   | 0.16                                 | 0.34                                      |
|                           | median    | 9.18                   | 6.15    | 7.52    | 11.32   |                                      |                                           |
| <i>Adj. Return 2day</i>   | mean      | -0.0196                | -0.0134 | -0.0072 | -0.0381 | 1.48                                 | 2.14                                      |
|                           | median    | -0.0062                | -0.0050 | -0.0063 | -0.0204 |                                      |                                           |
| Number of Observations    |           | 21                     | 106     | 90      | 25      |                                      |                                           |

**Table 6**  
**Stated Reasons for Providing M&A Bonuses**

The sample consists of 327 M&A deals between 1993 and 1999 that had a deal value in excess of one billion dollars, where the acquirer and target firms were both publicly traded U.S. companies. For each firm that pays M&A bonus we read the proxy statement to determine the reason for the bonus. We then classify the reasons into seven categories, and present the number of firms who use these reasons in Panel A. In panel B we collapse the reasons into three main categories.

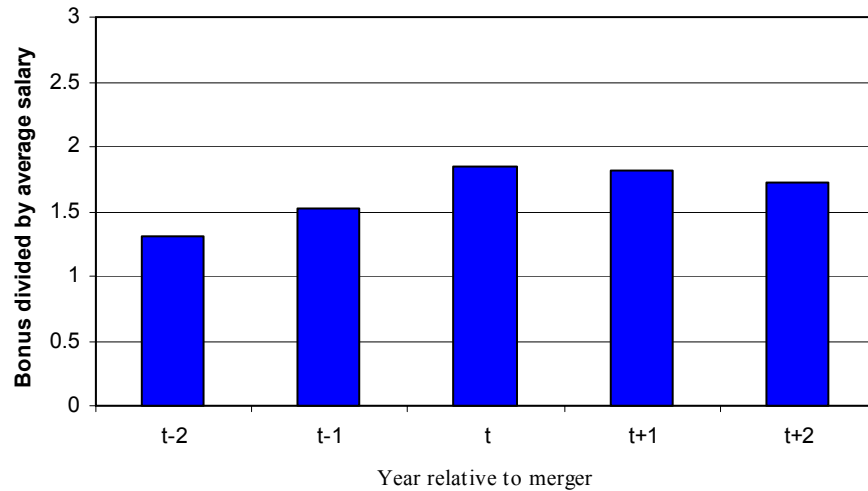
Panel A: Number of firms who justify the deal bonus

| <i>Bonus size</i>         | <i>Justification for the bonus</i> |            |               |        |                                         |                                       |                                                     |
|---------------------------|------------------------------------|------------|---------------|--------|-----------------------------------------|---------------------------------------|-----------------------------------------------------|
|                           | Market reaction                    | Leadership | Extra efforts | Skills | Increasing size/<br>revenues<br>/growth | Recomm<br>of independent<br>counselor | Providing<br>opportunity<br>to realize<br>synergies |
| \$5 million -             | 0                                  | 5          | 2             | 0      | 9                                       | 1                                     | 2                                                   |
| \$1 million - \$5 million | 0                                  | 4          | 1             | 0      | 16                                      | 0                                     | 7                                                   |
| Less than \$1 million     | 4                                  | 6          | 6             | 3      | 11                                      | 0                                     | 9                                                   |
|                           | 4                                  | 15         | 9             | 3      | 36                                      | 1                                     | 18                                                  |

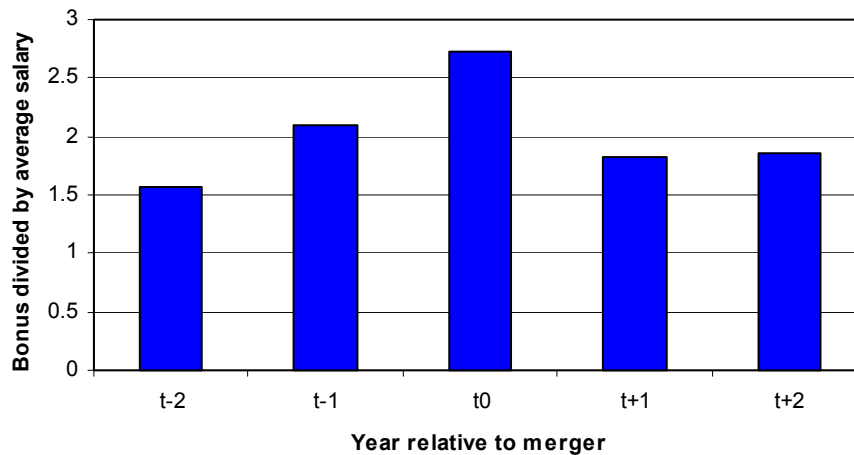
Panel B: Number of firms who justify the deal bonus - classification into performance, effort and size

| <i>Bonus size</i>         | <i>Justification for the bonus</i>      |                                            |                                                                                      |
|---------------------------|-----------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------|
|                           | CEO effort,<br>skills and<br>leadership | Increasing<br>size/<br>revenues<br>/growth | Market reaction/<br>Providing<br>opportunity<br>to realize<br>synergies<br>/ profits |
| \$5 million -             | 7                                       | 9                                          | 2                                                                                    |
| \$1 million - \$5 million | 5                                       | 16                                         | 7                                                                                    |
| Less than \$1 million     | 15                                      | 11                                         | 13                                                                                   |
|                           | 27                                      | 36                                         | 22                                                                                   |

**Panel A: All firms in the sample**

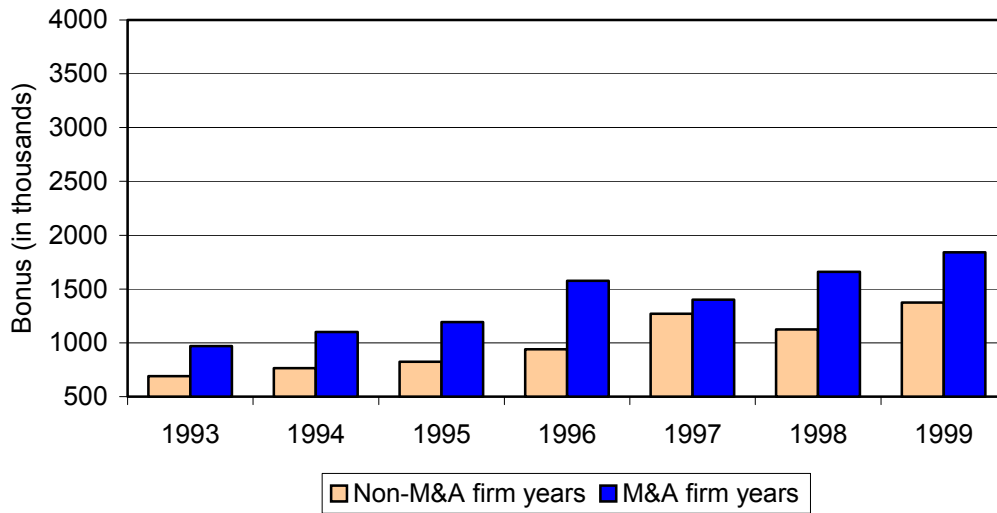


**Panel B. Firms whose board cites the deal as a reason for the bonus**

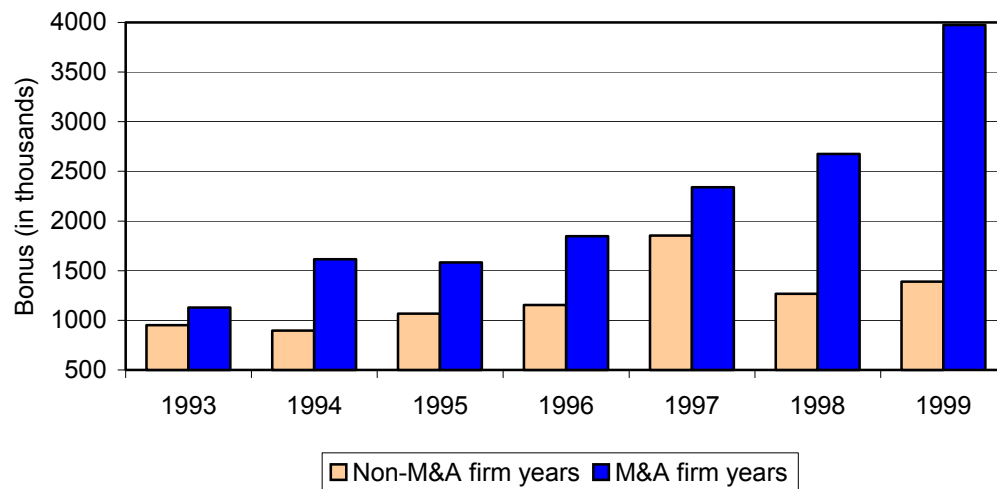


**Fig. 1. Magnitude of CEO bonuses as a percentage of their average base salary.** For each acquiring firm we identify the bonuses that the CEO receives two years before the deal (t-2) to two years after the deal (t+2), and we divide the bonuses by the average base-salary of that CEO. We then average the bonus-to-base-salary ratio for the firms in the sample and plot the results. Panel A shows the results for all 327 firms in the sample. Panel B shows the results for the sample of 125 firms whose compensation committees report that they pay the bonus in t0 for completing the deal. The sample includes large M&A deals between the years 1993-1999, with a deal value of \$1 billion dollars or more, where the acquiring and target firms are publicly traded U.S. companies.

**Panel A. All Firms in the sample**



**Panel B. Firms whose board cites the deal as a reason for the bonus**



**Fig. 2. Average CEO bonus in M&A years versus non-M&A years.** This figure shows the average CEO bonus over time for the 327 acquiring firms in the sample. In each year we calculate separately the average bonus of CEOs who acquire in that particular year, and the average bonus of CEOs who do not acquire in that year. Panel A shows the average bonus for all the firms in the sample. Panel B shows the average bonus for the 125 firms whose compensation committees state that they pay the bonuses for completing the deal. The sample includes M&A deals that had a deal value in excess of \$1 billion dollars, where the acquirer and target firms are both publicly traded U.S. companies.