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CEO compensation and incentives: Evidence from M&A bonuses[☆]

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Abstract

We investigate CEO compensation for completing M&A deals. 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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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

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Group paid their CEOs cash bonuses of \$5 million to \$14 million dollars for the successful completion of M&A deals.

In spite of these large compensation packages, prior research shows that shareholders of 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 et al. \(2003\)](#) report substantial negative announcement returns and substantial losses to large acquiring firms, especially for acquisitions occurring after 1997. Several studies also show a negative drift in the price of the acquiring firm several years after the acquisition (see e.g., [Jensen and Ruback, 1983](#); [Agrawal et al., 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 CEOs for M&A deals. In this paper, we provide additional insights with respect to 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 M&A compensation packages are associated with self-serving behavior, the costs of these packages can be substantial, as CEOs who acquire other firms because of the rents they can extract from 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 analyze the determinants of the compensation level, and explore how measures of effort, skill, 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 rewarding their CEOs. In almost all of these cases, the payment is given in the form of a cash bonus. Our cross-sectional analysis suggests that measures of CEO effort and skill in forming the deal explain part of the variation in the level of the M&A bonus — 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. In fact, we find some evidence that such measures 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 that state that they give M&A bonuses, CEOs on the nominating committee receive, on average, an additional \$1.408 million for deal completion. Moreover, CEOs who are also heads of their boards, receive an additional \$1.447 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, which suggests 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 relating to the reasons behind the payment of M&A bonuses, in spite of SEC requirements that companies report such information. Out of the 125 firms who cite the completion of the deal as a reason for the bonus, only 64 firms (51%) provide more detailed explanation. In those firms, we find that the most frequent motivation for the M&A bonus is the resulting increase in firm size and revenues (36 firms), followed by CEO effort and skill (27 firms). Only 22 firms argue that value enhancement is a reason for the bonus.

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

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

This study contributes to the empirical literature that examines the relation between CEO compensation and M&A deals. Denis et al. (1997) and Datta et al. (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 paid to the CEO for completing the deal. In contrast, Hartzel et al. (2001) do examine compensation specifically related to acquisitions; however, they examine the compensation of the CEO of the target firm, rather than that of the acquiring CEO.

Our paper also contributes to the literature that examines the relation between CEO compensation and CEO board power. Hallock (1997) looks at compensation of CEOs of large corporations in 1992 and finds that when there is an interlocking board relation, the CEO receives greater compensation. Core et al. (1999) look at compensation contracts of CEOs of large firms between 1982 and 1984 and find that CEOs that are heads of their boards receive larger compensation. They also find that the reward is larger when a CEO has more influence over the selection of the board members. Cyert et al. (2002) find that CEOs that are heads of their boards receive higher compensation, and that compensation committees with higher equity stakes tend 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 both 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 who is required to exert higher effort is paid more for his or her services.

Work by [Mirrlees \(1974, 1976\)](#), [Holmstrom \(1979\)](#), [Grossman and Hart \(1983\)](#), and others all show 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 context, the CEO should receive higher compensation if the tasks require greater skill or if the CEO has to work harder, but since the board does not fully observe the tasks, it should align managerial incentives by tying CEO compensation to observable outcome variables that are correlated with CEOs tasks. Compensation should therefore be based on observable measures of tasks that maximize value, such as market returns or profitability ratios.

In contrast to the above traditional view, a second view, the "managerial power" approach, argues that CEOs have the power to influence board decisions including compensation decisions, and that compensation contracts do not necessarily maximize shareholder wealth. This argument is consistent with empirical evidence about suboptimal CEO compensation contracts. For example: [Blanchard et al. \(1994\)](#) find that when companies receive a 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.

There are several reasons to believe that CEOs influence board decisions. [Shivdasani and Yermack \(1999\)](#) provide evidence that CEOs have the power to affect the selection of directors. [Jensen \(1993\)](#), [Bebchuk et al. \(2002\)](#), 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. These authors 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 et al. (2002) and Bebchuk and Fried (2003) formally tie managerial power to CEO compensation. They argue that CEOs who have more power will extract more rent 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 that want to maximize rent extraction might try to find justifiable reasons for their compensation. A merger or acquisition could provide such a justification — a manager who acquires another company spends extra time and effort in constructing the deal, and thus the manager can use this task as a justification for additional compensation.

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 is consistent with cross-sectional variation in M&A compensation.

According to the traditional view, there should be a positive correlation across acquiring firms between measures of deal complexity 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 skill 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 such that 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. Deal related information is obtained from the SDC database, 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 firms, 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, which 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, which implies that the distribution of firm size in our sample has high variance and is skewed. Acquiring firms in our sample are profitable, with an average book return on assets of 11.7%. Finally, the average market return to the shareholders of the acquiring firm in the year prior to the deal is 25.8%, compared to an average market return of

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

The sample includes 327 large M&A deals between the years 1993 and 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 the Execucomp database, and all other financial data are from the Compustat and CRSP databases. *Market Capitalization* is the acquirers' market value of equity a year before the announcement of the deal; *EBITDA* is earnings before interest, taxes, depreciation, and amortization; *ROA* equals *EBITDA* divided by the total book value of assets; *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; *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; *Insider Ratio* is the percentage of insiders or gray insiders on the board; *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.

	Mean	Std. Dev.	25%	Median	75%
<i>Panel A. Financial characteristics of the acquiring firms</i>					
<i>Market Capitalization</i>					
(pre merger; \$ millions)	29,596	54,248	4,114	10,703	28,088
<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&P500 Return</i>	25.3%	9.1%	21%	28.6%	33.4%
<i>Panel B. Deal characteristics</i>					
<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%				
<i>Panel C. Governance characteristics of the acquiring firms</i>					
<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%				

25.3% on the S&P 500 during that period. 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 these two metrics suggests that the data is skewed by several particularly large deals.¹ From the day the deal is announced, it takes an average of about five months (155 days) to complete it and more than 75% of the firms complete the deal within six months.

The market tends to react negatively to the M&A announcement. The two-day market-adjusted return surrounding deal announcement 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 et al., 2003). However, the large standard deviation suggests that the announcement effect of some of the deals is quite large. Most of the acquiring firms buy companies 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 entities 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, where 30% of the members are “insiders”, 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 chairman of the board. In 25% of the acquiring firms, the CEO is a member of the nominating committee, the committee that 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 that for 1994, 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, while Klein (2002) 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,² which allows us to identify which components of CEO compensation are directly associated with the deal, and to identify governance variables in the acquiring firms. In 129 cases (39%), the compensation committee

¹For example, the Exxon-Mobil merger has a deal value of \$78.9 billion. Although we explicitly control for size and heteroskedasticity 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.

²SEC regulation S-K (item 402 executive compensation section K), states that, at the end of every fiscal year, firms must disclose their compensation policies with respect to the manager, and provide a specific discussion describing each measure of the firm performance, whether qualitative or quantitative, on which managerial compensation is based.

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 and 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 is 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.

	<i>N</i>	<i>Bonus</i> (\$ thousands)		<i>Deal size</i> (\$ millions)	
		Mean	Median	Mean	Median
Firms not giving cash bonuses	40	0.0	0.0	3,648.6	2,200.0
Firms giving cash bonuses	287				
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

cites the completion of the deal as a reason for providing compensation. In almost all of these cases, the form of compensation is a cash bonus.³ Therefore, we focus our analysis on the bonus component.

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. For 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 \$1.29 million, respectively. Overall, 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 furthermore, 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

³In 125 (97%) cases, the committee gave the remuneration in the form of cash bonus. 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.

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 mergers or acquisitions, our first set of analyses examines whether M&A bonuses actually represent additional compensation to CEOs. We begin by estimating the following regression model using the entire Execucomp sample:

$$\begin{aligned} \text{Bonus}_{it} = & a_0 + a_1 \text{Size}_{it} + a_2 \text{ROA}_{it} + a_3 \text{ROAGrowth}_{it} + a_4 \text{Return}_{it} \\ & + a_5 \text{SalesGrowth}_{it} + a_6 \text{Margin}_{it} + a_7 \text{MarginGrowth}_{it} \\ & + a_8 \text{AcquisitionDummy}_{it} + v_i + \omega_t + \varepsilon_{it}. \end{aligned} \quad (1)$$

The dependent variable in Eq. (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 earnings before interest, depreciation, and amortization, divided by total book assets; *ROA Growth* is the percentage growth in *ROA* relative to previous year; *Return* is the stock return of the firm; *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 one 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. If this were not the case, 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 I 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 the prior literature, we also find significant effects for *Size*, *ROA* and *Return*.

To make sure that we do not capture a substitution effect between bonuses and other forms of compensation, such as salary or options, we rerun our regression and let the dependent variable be bonuses-plus-salary. If there is a substitution effect we should not find a positive relation between bonuses plus salary and the acquisition year dummy. The results in Table 3 column II show that the coefficient of the *Acquisition Dummy* variable is significant and positive, suggesting no substitution. 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.

To illustrate the acquisition effect on CEO bonus, we plot the bonus-to-base-salary ratio in acquisition and nonacquisition years for our sample of 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

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

**.*Significant at the 0.01, 0.05 level (two-tailed).

during the acquisition year and also two years before, one year before, and one year after the acquisition year. We then average the bonus-to-base salary across firms and plot the results in Fig. 1.

Panel A of Fig. 1 displays the results for all acquiring firms in our sample. The average bonus is 130% of the base salary two years before the deal, 184% of the base salary in the year of the deal, and 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 is 156% of the base salary two years before the deal, 272% of the base salary in the year of the deal, and 186% in the second year after the deal. The bonus during the year of the deal is

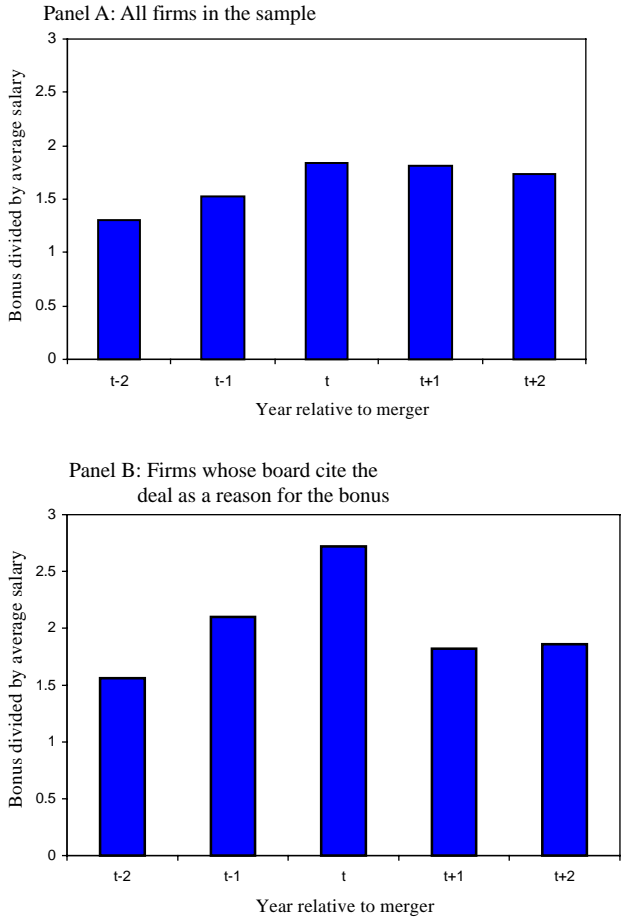


Fig. 1. Magnitude of CEO bonuses as a percentage of their average base salary. For each acquiring firm we identify the bonuses that the CEO receives two years before the deal ($t-2$) to two years after the deal ($t+2$), and we divide the bonuses by the average base salary of that CEO. We then average 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 year t for completing the deal. The sample includes large M&A deals between the years 1993 and 1999, with a deal value of \$1 billion dollars or more, where the acquiring and target firms are publicly traded U.S. companies.

significantly higher than the bonus two years before or two years after the deal, at the 5% level of significance.

To get a sense of how acquisition bonuses change over time, we display in Fig. 2 the average bonus paid to the CEOs during the acquisition years for the years 1993 to 1999. We also plot the average bonus paid to the firms in our sample in the nonacquisition years. Panel A shows that the average bonus in the acquisition years

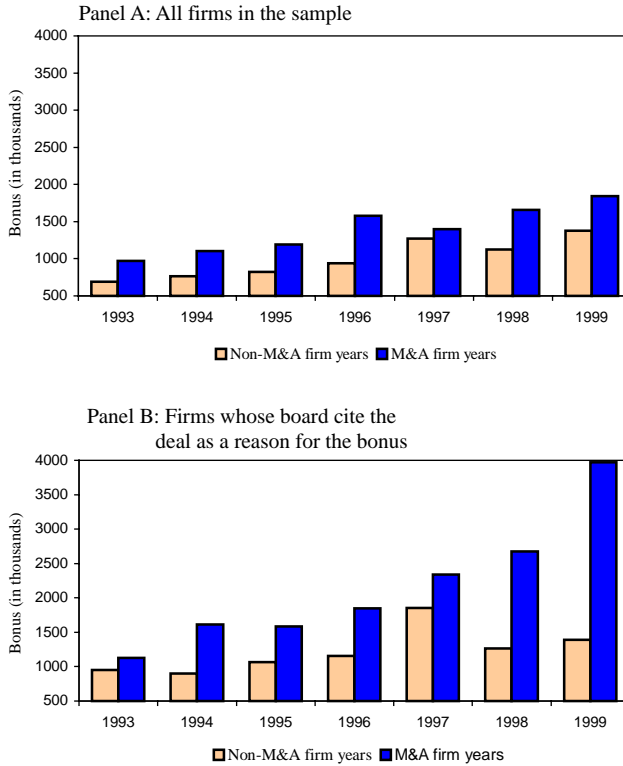


Fig. 2. Average CEO bonus in M&A years versus non-M&A years. This figure shows the average CEO bonus over time for the 327 acquiring firms in the sample. In each year we calculate separately the average bonus of CEOs who acquire in that particular year, and the average bonus of CEOs who do not acquire 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 large M&A deals between the years 1993 and 1999, with a deal value of \$1 billion dollars or more, where the acquiring and target firms are publicly traded U.S. companies.

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 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 Figs. 1 and 2 and Table 3 provide us with some assurance that managers receive extra bonus

compensation for the M&A deal, and moreover, that boards are not simply engaging in ex post re-labeling.

3.3. Measuring effort, skill, performance, and managerial power

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

The first measure we use is the size of the deal, *Deal Size*, defined as the value of the deal and obtained from the SDC database. We expect that larger deals are more complex and thus require more effort and skill 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 et al. (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 et al., 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 is also 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 business relation 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 et al. (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, skill and managerial power explain the level of the bonus, we use the following regression model:

$$\begin{aligned}
 Bonus_i = & \alpha_0 + \alpha_1 Size_i + \alpha_2 Deal\ Size_i + \alpha_3 Adj.Return2day_i \\
 & + \alpha_4 Time\ to\ Complete_i + \alpha_5 Diversify_i + \alpha_6 ROA_i + \alpha_7 Return_i \\
 & + \alpha_8 CEO\ Chair_i + \alpha_9 CEO\ Nominating_i + \alpha_{10} Insider\ Ratio_i \\
 & + \alpha_{11} Num\ Board_i + \alpha_{12} Heckman_i + [Year\ Dummies] \\
 & + [Industry\ Dummies] + \varepsilon_i.
 \end{aligned} \tag{2}$$

Our dependent variable, *Bonus*, is intended to capture the award paid to the CEO that is associated with the M&A deal. However, because this exact amount is not given in most cases, we use several 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 both increasing bonuses over time (see, e.g. Fig. 1) and systematic differences in bonuses across industries, and *Size*, which is the book value of the acquirers’ assets at the beginning of the acquisition year.

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

model the probability that a firm will undertake a large acquisition. 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.

We use the estimates from the probit regression to construct the *Heckman* variable, which when added to Eq. (2), corrects for a potential correlation between the error in the first-stage probit regression and the error term (ϵ) in Eq. (2).

From the compensation committee reports we are able to distinguish firms that pay M&A bonuses from those that do not. 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 that is associated with the deal. In these cases we need to empirically separate the M&A-related bonus.

We use multiple specifications to isolate the bonus paid for the M&A deal. In the first specification, we assume that whenever the CEO is paid for both performance and the deal, the portion of performance can be reasonably approximated by the CEO's bonus in the year prior to the deal.⁴ Therefore, we subtract the previous-year bonus from all bonuses paid for both performance and the deal, and use them as the dependent variable. 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 that 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 we therefore use the entire bonus amount as the dependent variable. We present the results of this second specification in column II of Table 4.

In the third specification we use the full sample and the entire amount of the bonus, and also include additional explanatory variables designed 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 at 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 a bonus both for the deal and for performance 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

⁴If the firm also acquired in the previous year, we use the bonus from the most recent year in which there was no acquisition.

Table 4

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

The sample includes M&A deals between 1993 and 1999 with a deal value of \$1 billion dollars or more, where the acquiring and target firms are publicly traded U.S. companies, with nonmissing 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 CEO's 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 control for the portion of the bonus related 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; *ROA* is the earnings before interest, taxes, depreciation, and amortization divided by the book value of assets; *Return* is the raw return of the stock during the fiscal year; *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; *Num Board* is the number of members on the Board of Directors; *Heckman* is the coefficient from the Heckman (1979) correction. The regression also includes 6 year and 11 industry dummies. To eliminate heteroskedasticity, the regression is 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 (0.259)	-1.38	-0.207 (0.147)	-1.41	-0.396* (0.265)	-1.49	-0.437** (0.266)	-1.64
<i>Deal Size</i>	0.271** (0.067)	4.03	0.322** (0.103)	3.11	0.213** (0.08)	2.66	0.212** (0.081)	2.62
<i>Adj. Return 2day</i>	-82.4** (21.8)	-3.79	25.4 (37.5)	0.68	-51.1* (22.1)	-2.31	-42.4 (22.3)	-1.90
<i>Time to Complete</i>	205.6** (49)	4.19	1425.2** (360.1)	3.96	188.4** (64.9)	2.90	203.2** (66.2)	3.07
<i>Diversify</i>	-845.5** (236.9)	-3.57	-271.2 (421.2)	-0.64	-510.6 (298.1)	-1.71	-512.2 (324.9)	-1.58
<i>ROA</i>	—	—	—	—	1383.2 (1435.5)	0.96	53.2 (1501.7)	0.04
<i>Return</i>	—	—	—	—	86.2 (54.2)	1.59	82.7 (54.5)	1.52
<i>CEO Chair</i>	578.2* (292.8)	1.98	1447.5** (535.4)	2.70	828.0** (296.7)	2.79	838.0** (308.2)	2.72
<i>CEO Nominating</i>	722.6** (268.4)	2.69	1408.2** (471.6)	2.99	819.6** (260.3)	3.15	889.3** (279.9)	3.18
<i>Insider Ratio</i>	212.1 (140.2)	1.51	178.1 (220.8)	0.81	158.3 (136.1)	1.16	138.0 (136.2)	1.01
<i>Num Board</i>	-332.6** (49.3)	-6.75	-377.4** (91.8)	-4.11	-304.5** (49.1)	-6.21	-295.7** (49.4)	-5.99
<i>Heckman</i>	0.232 (0.128)	1.81	0.090 (0.067)	1.34	0.298* (0.132)	2.26	0.331* (0.132)	2.50
<i>Year Dummies</i>	Included		Included		Included		Included	
<i>Industry Dummies</i>	Included		Included		Included		Included	
Adjusted R ²	63.6%		73.7%		63.3%		61.5%	
Observations	242		122		242		242	

**.*Significant at the 0.01, 0.05 level (two-tailed).

variables associated with measures of managerial power are applicable to all firms, and are therefore not interacted with any of the subsamples. We present the results of this specification in column III of Table 4.⁵

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 deal complexity are positively associated with the bonus. The *Deal Size* coefficient varies between 0.213 (column III) and 0.322 (column II), and is statistically significant across the three specifications. The *Time to Complete* coefficient varies between 188.4 (column III) and 1425.23 (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 differently 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 -2.31) 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, 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 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, 2.79). The *CEO Nominating* coefficient ranges between 722.6 (column I) and 1408.2 (column II), and is statistically significant across the three specifications (*t*-statistics = 2.69, 2.99, and 3.15 respectively). The positive sign of these two coefficients suggests that CEOs with greater board influence earn greater bonuses. The *Insider Ratio* coefficient is positive in all three specifications but is not significant at conventional levels. This result is consistent with Core et al. (1999) who do not find a significant relation between the 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 -304.5 (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 a 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

⁵In 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.

size in our sample. Consistent with Yermack (1996), we find a negative relation between Tobin's Q and board size. However, closer examination of 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 mainly in the telecommunication and computer industry, which have a higher 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 the period studied here, we have a significantly larger representation of new-economy firms. Thus, high Q in our sample is not only a proxy for the efficiency but also for growth prospects; the larger bonuses in these firms seems to capture an industry effect. We therefore add a new-economy dummy variable to our regressions. This new-economy dummy reduces the magnitude of the negative coefficient of board size, but the coefficient is still significantly negative, which suggests 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 those firms that have a CEO on the nominating committee ($n = 64$) and those firms that have a CEO that is not on the nominating committee ($n = 178$). For the latter set of firms, the coefficient on board size is positive, but not significant. For the former set of firms, 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 Eq. (2) and the correlation between the error term in Eq. (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 Eq. (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 that 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 statistically significant coefficients in column (III). An increase of one standard deviation in deal size (\$8.748 billion) increases the CEO compensation by \$1.86 million. An increase in the time to complete the deal by one standard deviation (117 days) from the mean increases the CEO's compensation by \$0.106 million. A decrease in abnormal return of 1% is associated with an increase of \$51.1 thousand in compensation. A CEO who is also the chair receives on average \$828 thousand more than a CEO who is not. A CEO who is on the nominating committee receives on average \$819.6 thousand more than a CEO who is

not on the nominating committee. 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.

The economic significance of board power becomes even stronger within the sample of firms that state that they give an M&A bonus (column II). In this specification, a CEO who is also the chair receives on average \$1.447 million and a CEO who is on the nominating committee receives on average an additional \$1.408 million more. We also get stronger effects in deal size and in the time to complete the deal. An increase of one standard deviation in deal value (\$8.748 billion) increases the CEO compensation by \$2.816 million. An increase in the time to complete the deal by one standard deviation (117 days) from the mean increases the CEO's compensation by \$0.801 million.

Overall, the results indicate that the most economically significant factors that determine the compensation of the CEO appear to be deal size and the measures of power. While deal size might be indicative of greater effort and skill, it might also reflect agency problems associated with “empire building”, and in this respect may 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, which suggests that compensation committees do not consider market reaction to the announcement of the deal as a measure of performance. To the extent that market reaction is indicative of the level of CEO expropriation in the deal, a negative relation between the announcement effect and the bonus is 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 ensure that higher bonuses are not offset by a lower base salary, and that the bonus effect we are capturing does indeed impact the total salary of the CEO. We present the results in Table 4, 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 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 zero (least managerial power), to three (greatest power). We present the results in Table 5.

Twenty-one acquiring firms have an index of zero, 106 firms have an index of one, 90 firms have an index of two, and 25 firms have an index of three.⁶ The deal size of

⁶For 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.

Table 5

Bonus and deal characteristics based on managerial power variables

The sample includes large M&A deals between 1993 and 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 (equals one if CEO is chairman, zero otherwise); whether the CEO is on the nominating committee (equals one 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 (equals one if board size is lower than median board size, zero otherwise). Thus, firms with a managerial power index of three have a CEO who is also the chairman, who is on the nominating committee, and who is on a relatively small board. *Deal Size* is the dollar value of the deal, as reported by SDC; *Deal to Assets* 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 Size* is the CEO bonus deflated by the dollar value of the deal; *Bonus to Time-to-Complete* 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				<i>t</i> -statistic group 3 vs. group 0	<i>t</i> -statistic group 3 vs. groups 0,1,2
		0	1	2	3		
<i>Deal Size</i> (\$ millions)	Mean	9466.1	6436.7	3607.0	2743.2	2.77	3.35
	Median	5309.7	2932.7	1900.0	1657.4		
<i>Deal to Assets</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> (\$ thousands)	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> (× 1000)	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-to-Complete</i> (\$ thousands/days)	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		

the acquiring firms is 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 to Assets*), 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 firms' assets. The difference in the average deal size between the two groups is significant at the 5% level (*t*-statistic 1.96). This result suggests that when controlling for acquirer size, deal size is not only correlated with managerial skill but also with managerial power. This result 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. For the most-powerful-CEO group the ratio is 0.1188%, which is more than twice the ratio of 0.0538% for the least-powerful-CEO group.

The two-day abnormal return 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 as bad news M&A deals in which the CEO has board power. A CEO with greater power is associated with a larger M&A deal relative to the size of his or 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, skill, and performance might not capture the true managerial input in the deal. We therefore, repeat the regressions using other measures of effort, skill, and performance.⁷

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, presumably 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, where we define the premium as the target price in the deal, divided by the market

⁷These variables are not included in our original regression, primarily because they reduce the sample size considerably due to missing data in the SDC database.

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 Eq. (2) with the above 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, however, 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 coefficients in the original regressions. Overall, the results of our robustness checks support our original results, namely, that measures of CEO effort and skill have a limited power to explain 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 the reasons cited for the CEO bonus, for cases in which 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 by executing the deal, 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 seven categories: market reaction; managerial leadership; managerial effort; managerial skill; increasing the size/revenues/growth of the company; recommendation of an independent counselor; and providing opportunities to realize synergies. Compensation committees might cite more than one reason for the bonus. 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 56.25% of the sample of firms that provide reasons) is an increase in the size, revenue, and growth of the firm. The least frequent reason is independent council (one instance) and market reaction to the deal (four instances). This pattern appears in the sample taken as a whole, as well as when the sample is partitioned by bonus size.

In Panel B, we recategorize the compensation committee comments into three groups, one that relates to effort and skill, one that relates to performance, and one that relates directly to size. In this case, the most frequent reason for compensating the CEO is for increasing firm size, revenues, and growth (56.25%). The second-most frequent reason is managerial effort and skill, and only in 34.3% of the cases is the reason maximizing profits and value.

The results suggest that compensation committees are reluctant to provide information about the CEO bonus. In 49% of the cases, the committees do not

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. Out of the 125 firms who cite the completion of the M&A deal as a reason for the bonus, 64 firms provide detailed justification for the bonus. We 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.

Bonus size	Justification for the bonus						
	Market reaction	Leadership	Extra effort	Skill	Increases size/ revenues/ growth	Recomm. of independent counselor	Provides opportunity to realize synergies/ profits
<i>Panel A: number of firms who justify the deal bonus</i>							
\$5 million or greater	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
Bonus size	Justification for the bonus						
	CEO effort, skill and leadership	Increases size/ revenues/growth	Market reaction/ providing opportunity to realize synergies/ profits				
<i>Panel B: number of firms who justify the deal bonus—classification into performance, effort and size</i>							
\$5 million or greater	7	9	2				
\$1 million–\$5 million	5	16	7				
Less than \$1 million	15	11	13				
	27	36	22				

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 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 the successful completion of a merger or acquisition deal. This compensation is 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 skill 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 compared 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. \(2002\)](#) and [Bebchuk and Fried \(2003\)](#), 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 relating to why they give M&A bonuses. In about 50% of the cases, they do not provide clear information relating to 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. However, potential indirect costs associated with them could be very large. 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, CEOs may choose deals that maximize their own wealth rather than shareholder value. We find that M&A deals in which CEOs have more power suffer from a negative abnormal return of -3.8% , which is significantly larger than the abnormal returns observed when CEOs have less power. This large abnormal negative return suggests that the economic losses associated with self-dealing perks can be substantial.

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