Why Do Managers Undertake Acquisitions? An Analysis of Internal and External Rewards for Acquisitiveness

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We study the effect of a firm's acquisitions on the subsequent career of its chief executive officer (CEO) by examining a sample of executives who undertook large acquisitions between 1986 and 1988. We find that acquirers do not have significantly different compensation growth from executives who did not undertake acquisitions. Further, we find the effect of acquisitions on compensation does not depend on whether the acquisition increased shareholder wealth, nor on whether the acquisition was diversifying. We do find a benefit to acquisitions, however, because CEOs who completed acquisitions are significantly more likely to gain outside directorships than those who did not complete acquisitions. Our results do not support the argument that CEOs have an incentive to pursue acquisitions in order to increase their own compensation, but lend support to the argument that CEOs have an incentive to pursue acquisitions to increase their prestige and standing in the business community.

1. Introduction

The separation of ownership and control leads to many potential conflicts of interest between shareholders and top managers. One of the most prominent conflicts surrounds the decision of whether or not to undertake an acquisition. Managers, it is frequently argued, "build empires," increasing the size and scope of the firm well beyond that which maximizes shareholder wealth.

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If managers abandon the interests of shareholders in order to build empires, it must be that managers capture some private benefits from controlling larger firms. Most of the literature examining this agency problem simply *assumes* that these private benefits exist and examines the *consequences* of empire-building behavior. In this article, we return to the foundation of this agency problem and ask the question: what incentives do managers have to undertake acquisitions which are not in the best interest of shareholders? We examine the rewards garnered by CEOs subsequent to acquisitions for evidence of a conflict of interest between owners and managers.

We consider two ways in which private benefits could accrue to managers from undertaking acquisitions. First, it has been suggested that managers may be able to increase their compensation by increasing the sizes of their firms. Second, managers may be able to increase their prestige or standing in the business community by purchasing other firms.[1]

Both of these possible motivations for undertaking acquisitions have been articulated repeatedly. For example, Jensen (1989:66) makes the power and prestige argument: "corporate growth enhances the social prominence, public prestige, and political power of senior executives. Rare is the CEO who wants to be remembered as presiding over an enterprise that makes fewer products in fewer plants in fewer countries than when he or she took office—even when such a course increases productivity and adds hundreds of millions of dollars of shareholder value."

Similarly, the executive compensation argument has been made by a remarkably disparate set of authors. For example, Reich (1983:166) claims that "when professional managers plunge their companies deeply into debt in order to acquire totally unrelated businesses, they are apt to be motivated by the fact that their personal salaries and bonuses are tied to the volume of business their newly enlarged enterprise will generate rather than to any potential for any added returns to shareholders." Likewise, Jensen (1989:66) argues "managers have many incentives to expand company size beyond that which maximizes shareholder wealth. Compensation is one of the most important incentives."

While the positive relationship between executive pay and the scale of a firm's operations (both across groups of executives and through time for individual executives) is perhaps the best established fact in the large literature on executive compensation, this does not necessarily imply that executives can increase their pay by engaging in shareholder-value-reducing acquisitions.[2] That is, although increasing the scale of the firm may on average be associated with compensation gains, it is possible that sales increases resulting from acquisitions are not

1. Other incentives for acquisition have been suggested by Shleifer and Vishny (1989) and Amihud and Lev (1981). Shleifer and Vishny argue that CEOs will tend to buy assets which they are uniquely good at managing in order to render themselves irreplaceable. Amihud and Lev argue that CEOs may undertake diversifying acquisitions to reduce employment risk. These possibilities have been tested by Morck, Shleifer, and Vishny (1990) and Matsusaka (1993).

2. Rosen (1992) provides a thorough survey of the executive compensation literature.

rewarded. Despite the prominence of the claim that acquisition activity is rewarded with increased compensation, there has been relatively little work done by economists to compare compensation outcomes for executives who buy other firms to those who do not.

Lambert and Larcker (1987) examine a sample of 35 U.S. acquisitions and report that the changes in executives' salaries and bonuses in response to acquisitions are small. They measure the change in an executive's total wealth in response to an acquisition as the sum of the change in salary plus bonus and the change in the value of his or her stock ownership. Variation in total wealth, they find, is dominated by the change in the value of an executive's stock holdings in response to the acquisition. They conclude that the potential for increased compensation does not appear to provide a strong incentive for managers to undertake acquisitions that are not in shareholders' interests.

Rose and Shepard (1997) find a similar result in studying the relationship between diversification and executive compensation. They find that, ceteris paribus, executives of more diversified firms receive higher compensation, but that increases in their diversification measure are met by a reduction in executive pay. While Rose and Shepard do not consider acquisitions directly, their results would seem to suggest that managers are penalized for diversifying acquisitions.

In contrast, Firth (1991) studies a sample of 171 United Kingdom acquisitions and demonstrates a significant gain in compensation for executives subsequent to making an acquisition. In his sample, cash compensation increases sufficiently after an acquisition to dominate any change in the value of executive stock holdings.

We combine the approaches taken by earlier analyses by examining pay changes surrounding all of the acquisitions valued at greater than $25 million undertaken by CEOs in the *Forbes* Compensation Survey in 1986, 1987, and 1988. Our database yields a more complete study of acquisitions than that of Lambert and Larcker and a more direct test of the effect of diversifying acquisitions than that of Rose and Shepard.

We also examine the hypothesis that CEOs can increase their standing in the business community via acquisitions. Virtually no effort has been devoted to measuring the extent to which acquisitions affect an executive's prestige, perhaps due to the difficulty of measuring "social prominence, public prestige and political power." One possible proxy for an executive's standing in the business community is suggested by Kaplan and Reishus (1990). They show that a CEO is more likely to obtain and keep seats on other firms' boards of directors when the CEO's own firm performs well. Mace (1971:195) claims that outside directors are selected in large part on the basis of their standing within the business community, arguing "the titles and prestige of candidates are of primary importance." Thus, by testing whether CEOs who undertake acquisitions gain board seats, we are testing whether CEOs who undertake acquisitions gain prestige.

It is possible that CEOs are selected for directorships for reasons other than prestige, including demonstrated ability (Fama, 1980; Fama and Jensen, 1983) or business connections. However, directorships can be remunerative, and may

themselves confer prestige and recognition on the director.[3] Thus, even if CEOs are not sought for directorships because of the CEO's prestige, CEOs may seek directorships for the prestige the directorship itself confers. Thus, if CEOs who undertake acquisitions are more likely to gain board seats and board seats confer prestige, then our tests measure whether CEOs gain power and prestige by undertaking acquisitions.[4]

We construct a database of changes in outside directorships held by executives listed in the 1986 *Forbes* Compensation Survey and match this to our sample of acquisitions. We then test whether CEOs who undertake acquisitions gain more board seats than CEOs who do not undertake acquisitions.

We find that managers who undertook acquisitions do not have significantly higher or lower compensation growth than managers who did not undertake acquisitions. As in Lambert and Larcker's analysis, we find pecuniary returns to acquisitions from changes in salary and bonus are small. We also find no difference in compensation increases between managers who undertook shareholder-value-increasing acquisitions (as measured by the event response to news of the transaction) and those who undertook value-reducing acquisitions. Nor do we find the compensation growth of managers who undertook diversifying acquisitions to be significantly different from the compensation growth of managers who undertook nondiversifying acquisitions. This result stands in contrast to the results presented by Rose and Shepard and we discuss some reasons why the methodologies used in the two articles might be expected to lead to different results.

As in Kaplan and Reishus, executives in our sample are more likely to receive and keep board seats when their firms perform well. Controlling for this effect, CEOs who make acquisitions are more likely to obtain and less likely to lose seats on other firms' boards. This relationship holds both for CEOs who undertake value-increasing transactions and for CEOs who undertake value-reducing transactions.

Finally, in part as an input to correcting survivorship biases in the compensation data, we show that managers who undertake acquisitions are less likely to be replaced as CEO, controlling for other aspects of firm performance. These results are preliminary, but are consistent with the hypothesis in Shleifer and Vishny (1989) that managers undertake acquisitions in order to entrench themselves.

The remainder of the article proceeds as follows: In Section 2 we describe our database of acquisitions, compensation, and directorships. We present our

3. A study by Pearl Meyer & Partners cited in *Forbes* by Linden, Lenzner, and Wolfe (1995:169) claims that the pay of the directors of the 200 largest industrial companies in the United States averaged $68,300, which *Forbes* estimated amounted to $700 per hour of directorship duties.

4. Of course, this does not rule out the possibility that the shareholders of the CEO's firm also receive benefits when the CEO obtains an outside board seat. However, so long as the CEO receives *some* private benefits from his or her board seats (pecuniary or otherwise), a link between acquisitions and board seats creates an agency problem: the CEO would then pursue acquisitions beyond the interests of shareholders.

main analysis and results in Section 3. In Section 4 we verify the robustness of our findings to some alternative empirical specifications. We offer conclusions in Section 5.

2. Data and Summary Statistics

We start with the 498 firms whose CEOs were listed in the *Forbes* Executive Compensation Survey in 1986, excluding financial services firms and firms in regulated industries. We follow the careers of this set of executives from the beginning of 1986 to the end of 1991, collecting data on compensation and seats held on outside boards and matching that to firm performance and acquisition information.

Directorship data is collected from several sources. We used the Lotus One-Source database to compile information on outside directorships for 1991 and the Datext database to obtain the outside directorships at the beginning of 1986. Parts of the dataset were double-checked using Standard & Poor's Register of Directors and Executives. Missing data were obtained using proxy materials in Lexis-Nexis. The directorship data was matched to mergers and acquisitions listed in the Lexis-Nexis M & A database. We consider mergers occurring between 1986 and 1988 with transaction value in excess of $25 million. To classify our set of acquisitions as to whether they represent a diversification for the acquirer, we match the SIC codes of the acquired firms to SIC codes of the acquirer's self-reported business segments taken from the Compustat Industry Segment files. Data on firm performance (sales, stock market return, and return on shareholders' equity) are obtained from the usual CRSP and Compustat sources. Of the 498 CEOs in the full sample, 152 were excluded due to death or data availability problems. Our sample of executives for whom we have full directorship, performance and acquisition data consists of 346 individuals.

Our data indicate that, on average, a CEO who is a net gainer of board seats gains 1.7 seats. We thus choose to use probit specifications to examine the determinants of gains and losses in board seats. We code the variable GAIN to equal one if the number of outside boards on which the CEO sits increases between 1986 and 1991 and to equal zero if the number of outside boards on which the CEO sits either decreases or stays constant between 1986 and 1991. The indicator variable LOSE equals one if the number of outside directorships decreases over the period and equals zero if the number of directorships increases or remains constant.

Our compensation measure is the change in salary plus bonus between 1985 and 1991. For most of our sample, this information is taken directly from the *Forbes* surveys. We augment the compensation data listed in *Forbes* by using proxy materials (the same source *Forbes* uses) to find the 1991 compensation of CEOs who are still with their firms, but whose firms have dropped from the *Forbes* sample.[5] This compensation measure excludes many sources of

5. This corrects a possible source of survivorship bias, since firms are included in the *Forbes* survey largely because of their size. Hence, firms which increase their size via acquisition should be much less likely to exit the survey. We do find that CEOs who undertake acquisitions are more

remuneration for top executives, including the value of stock option grants, restricted stock grants, and compensation from outside directorships. Our study shares this limitation with other work on executive compensation, as pre-1992 disclosure rules precluded construction of more comprehensive measures of compensation. However, this limitation is not severe for this study. Our goal is to examine whether managers have an incentive to undertake acquisitions which are not in the firm's best interests. We know that, when acquisitions are undertaken which adversely affect the firm's stock return, the value of the manager's stock and option holdings fall. In effect, our study explores whether there are large compensation increases to managers following acquisitions which potentially reverse the incentives inherent in stock- or option-based compensation plans.

Because we are interested in the effect of a CEO's acquisition activity on the CEO's subsequent compensation, we exclude firms that changed CEOs over the period. We have full compensation, performance, and acquisition data for 158 individuals. This compensation sample is a subset of the directorship sample.

Table 1 presents data definitions and summary statistics for these two samples.

3. Analysis and Results

We attempt to determine whether CEOs receive private benefits in the form of outside directorships or increased compensation from undertaking acquisitions. Our basic test is the following: we examine whether CEOs who undertook acquisitions in 1986, 1987, or 1988 were more likely to gain board seats over the 1986 to 1991 period than CEOs who did not undertake acquisitions. We also examine whether acquirers were rewarded with higher increases in compensation between 1985 and 1991 than nonacquirers.

The raw data strongly suggest that managers who undertake acquisitions gain more board seats and lose fewer board seats than managers who do not undertake acquisitions. Of the 215 managers in the directorship sample who did not make an acquisition, 58 (27%) gained one or more board seats, while 61 (31%) lost one or more board seats. On the other hand, 54 of the 131 managers (41%) who did make acquisitions gained seats, while only 25 (19%) lost seats. Conversely, the raw data do not suggest that acquirers achieve higher growth in compensation than nonacquirers. The mean increase in log compensation for the 68 managers in the compensation sample who undertook acquisitions was 0.48, compared to 0.51 for the 90 nonacquirers. The goal of this section is to verify these results using regression specifications which control for other factors affecting rewards garnered by CEOs.

Our basic approach is the same for both the directorship and compensation samples. For the directorship sample, we estimate a probit model, hypothesiz-

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likely to remain in the *Forbes* sample. A second potential source of survivorship bias arises within firms which remain in the *Forbes* survey but replace their managers. Managers who undertake acquisitions are less likely to be replaced as CEO than managers who do not undertake acquisitions. We adjust for this form of survivorship bias in Section 4.

Table 1. Summary Statistics

Variable	Definition	Directorship Sample	Compensation Sample
GAIN	Takes value one if CEO was net gainer of board seats between 1985 and 1991	0.324	
LOSE	Takes value one if CEO was net loser of board seats between 1985 and 1991	0 249	
$\Delta \log COMP_{85\text{-}91}$	Change in log compensation between 1985 and 1991		0.498 (0 396)
$\Delta \log SALES_{85\text{-}91}$	Change in log sales between 1985 and 1991	0.453 (0.510)	0.570 (0.505)
$MKRET_{85\text{-}91}$	Market return between 1985 and 1991	1.351 (1.683)	1.600 (1.991)
$\Delta ROE_{85\ 91}$	Change in return on common equity between 1985 and 1991	−0.054 (0.474)	−0.016 (0.157)
$\log SALES_{85}$	Log of 1985 sales	7.816 (1 140)	7.627 (1.017)
ACQ	Takes value one if firm made at least one acquisition between 1986 and 1988	0.379	0.430
ABNRET	Sum of event responses to news of acquisitions	−0.001 (0.030)	−0.00001 (0.035)
DIV	Takes value one if firm made at least one diversifying acquisition	0.139	0.139
N		346	158

Standard deviations in parentheses

ing that the probability a CEO gains outside directorships is a function of that CEO's firm's performance and the characteristics of any acquisitions undertaken by that CEO. For the compensation sample, we use OLS to regress the CEO's change in log compensation between 1985 and 1991 on performance and acquisition variables.

One can imagine two channels through which acquisitions could potentially affect managerial compensation and board seat attainment. The first channel is that the sales increases created by an acquisition could be rewarded. A second possibility is a direct channel; even controlling for the sales increases generated by the acquisition, managers may be rewarded for the increases in firm scope, visibility, etc., which result from the typical acquisition. Our empirical approach is designed to identify the effect of acquisitions on compensation through either of these two channels.

The ideal specification, then, is one in which the change in compensation and the probability of gaining board seats are allowed to depend on the sales growth directly attributable to an acquisition, the sales growth not attributable to an acquisition, and an acquisition indicator variable. Such a specification would separately identify the effects of an acquisition on compensation and

board seats through the "acquisition sales" channel and through the "direct" channel. Unfortunately the ideal specification cannot be constructed because it is impossible to determine exactly which part of a firm's sales growth is directly attributable to an acquisition and which part is not directly attributable to an acquisition.

Our approach is to approximate this ideal specification in two different ways. First, we allow the coefficient on the change in log sales to depend on whether the CEO undertook an acquisition. Second, we use information on the size of the acquired firms prior to the transaction in an attempt to assign sales growth of acquiring firms to internal and external sources. We discuss each of these approaches in detail below.

For the first approach, our basic probit specification can be written:

$$\begin{aligned}\Pr(GAIN = 1) &= \alpha_0 + \alpha_1 MKRET_{85\,91} + \alpha_2 \Delta ROE_{85:91} + \alpha_3 \Delta \log SALES_{85\,91} \\ &\quad + \alpha_4 \log SALES_{85} + \alpha_5 ACQ + \alpha_6 ACQ * \Delta SAL, \qquad (1)\end{aligned}$$

where $ACQ * \Delta SAL$ denotes the product of the acquisition dummy variable with change in log sales minus the mean change in log sales. For the compensation sample, the basic specification is

$$\begin{aligned}\Delta \log COMP_{85:91} &= \beta_0 + \beta_1 MKRET_{85:91} + \beta_2 \Delta ROE_{85\,91} \\ &\quad + \beta_3 \Delta \log SALES_{85:91} + \beta_4 ACQ + \beta_5 ACQ * \Delta SAL. \qquad (2)\end{aligned}$$

The logarithm of 1985 sales is included as an independent variable in the directorship probit because scale is likely to affect a CEO's opportunities for new outside directorships. We omit it from the compensation regressions since, while scale is likely to affect the level of pay, it is unlikely that it would affect changes in CEO pay.[6]

In these specifications, the acquisition dummy variable, ACQ, measures the direct effect of an acquisition on a manager's compensation growth and likelihood of gaining board seats. For nonacquirers, the effect of sales increases is measured by examining the coefficient for $\Delta \log SALES$. The total effect of sales increases for an acquirer is measured by examining the sum of the coefficients for $\Delta \log SALES$ and the $ACQ * \Delta SAL$ interaction term. If the coefficient for the $ACQ * \Delta SAL$ interaction term is negative while the coefficient for $\Delta \log SALES$ is positive, this would indicate that managers are rewarded for increasing sales, but that acquirer's sales growth is not rewarded as highly as nonacquirer's sales growth. If the coefficient for the $ACQ * \Delta SAL$ interaction term is positive, then managers are actually rewarded *more* for the sales growth which derives from an acquisition.

To assess the *full* effect of acquisitions on the rewards subsequently garnered by the CEO, we construct hypotheses involving the coefficients on both ACQ and $ACQ * \Delta SAL$. Our benchmark hypothesis is that a CEO who is the mean CEO in every regard except that he or she undertakes acquisitions that cause

6. Including $\log SALES_{85}$ in the compensation regressions does not alter the results in a meaningful way.

firm sales to increase by 20% more than it otherwise would have does not receive more rewards (either in the form of directorships or compensation) than the mean CEO who undertakes no acquisitions.[7] Using the notation of Equations (1) and (2), these hypotheses can be written

$$H_0 : \alpha_5 + 0.20\alpha_6 = 0 \tag{3}$$

$$H_0 : \beta_4 + 0.20\beta_5 = 0. \tag{4}$$

We estimate Equations (1) and (2) and present results in Table 2.[8] In columns 1 and 2, we report both the actual coefficients generated by our probit estimation and the implied probability changes associated with these coefficients. The probability change implied by a coefficient can be interpreted as the change in the probability that the CEO gains a board seat when the explanatory variable increases by one standard deviation, holding all other variables at their means. For dummy variables, the implied probability change is the change in the probability that the CEO gains a board seat when the dummy variable changes from zero to one. Column 3 of Table 2 lists OLS coefficients from estimation of Equation (2).

As expected, CEOs of bigger firms (firms for which log of sales in 1985 is large) are more likely to gain board seats. The coefficients for the performance measures are positive, as expected, but are not statistically significant. This suggests that firm size is at least as important a determinant of a CEO obtaining board seats as firm performance. The probability change estimate shows that the probability of a CEO adding a board seat between 1985 and 1991 increased by 11% if the CEO undertook an acquisition (which had zero affect on sales) in 1986, 1987, or 1988 ($p = 0.04$). The coefficient on the interaction term for change in sales acquisition is small, positive, and statistically insignificant. Thus undertaking an acquisition leads to board seat gains even when the acquisition makes no contribution to sales; gains are even more likely when the acquisition increases sales.

We quantify these effects by testing the hypothesis shown in Equation (3). We consider a firm with the mean characteristics which undertook an acquisition that caused sales to grow by 20%. The acquisition would be predicted to increase the probability that the manager gained an outside board seat by 13.0 percentage points. This overall increase in the probability of gaining seats is statistically different from zero at the 1.7% confidence level. If, in addition, this acquisition caused the stock return and accounting return of the company to shrink by 10 percentage points, the probability that the manager gained an outside board seat would still increase by 12.6 percentage points. This increase is statistically different from zero at the 2.2% confidence level.[9]

7. Of course, the choice of 20% here is completely arbitrary. We select this number because we wish to determine how a CEO's subsequent career is affected when he or she makes a significant acquisition.

8. Our reported regressions do not include industry fixed effects. Unreported analyses show that our findings are not altered by the inclusion of these effects.

9. For the directorship sample, our research design has a potential flaw in that we look at increases

Table 2. Determinants of Gains in Outside Directorships and Increases in Compensation—Acquisition Dummy With Interaction

	Dependent Variable		
	GAIN (Probit Specification)		$\Delta \log COMP_{85\text{-}91}$ (OLS Specification)
Independent Variable	Coefficient (1)	Implied Probability Change (2)	(3)
$\Delta \log SALES_{85\text{-}91}$	0 090	0.016	0.180
	(0.189)		(0.099)
$MKRET_{85\text{-}91}$	0.030	0 018	0.048
	(0.046)		(0.019)
$\Delta ROE_{85.91}$	0.088	0.015	0.559
	(0.194)		(0.293)
$\log SALES_{85}$	0.181	0.074	
	(0.068)		
ACQ	0.308	0 111	0.003
	(0 149)		(0 055)
$ACQ * \Delta SAL$	0.173	0.015	−0.031
	(0 323)		(0 139)
Constant	−2.088		0.326
	(0.563)		(0.055)
N	346		158

Standard errors in parentheses. Implied probability change is the change in the probability that *GAIN* = 1 when the explanatory variable increases by one standard deviation, holding all other variables at their means. For dummy variables, the implied probability change is the change in the probability that *GAIN* = 1 when the dummy variable changes from zero to one. OLS standard errors in column 3 are heteroskedastic consistent.

In contrast, the results from the compensation sample indicate that compensation is not sensitive to acquisitiveness. In column 3, the coefficient for the acquisition dummy is positive but statistically insignificant. The coefficient on the interaction term is negative and insignificant. We cannot reject the hypothesis that the coefficients on both the dummy and the interaction term are zero. To test the hypothesis of Equation (4), we note that if the mean CEO undertakes an acquisition that increases sales by 20%, his or her compensation is predicted to go down by 0.3% relative to the mean nonacquirer in the sample. This estimate is not significantly different from zero.

in outside directorships over a 5 year period which includes the acquisition period. It is possible that CEOs increased their board seats prior to undertaking acquisitions. In unreported regressions, we have reestimated the probit specifications for gains of board seats, estimating separate coefficients for indicator variables for 1986 acquisitions, 1987 acquisitions, and 1988 acquisitions. If it were true that CEOs who undertook acquisitions had a special tendency to gain board seats *prior* to their acquisitions, then we would expect to find the weakest relationship between 1986 acquisitions and gaining of board seats because we measure the initial number of seats held in 1986. CEOs who undertook acquisitions later would have had more time to gain board seats prior to undertaking their acquisitions. The biggest board seat gains are estimated for the CEOs of firms which undertook acquisitions in 1986. The coefficients for 1987 and 1988 decrease monotonically, although they are not significantly different from the 1986 coefficient. Hence we conclude that this potential flaw does not materially affect our results.

As noted above, our second approach uses information on the size of the acquired firms prior to the transaction in an attempt to assign sales growth of acquiring firms to internal and external sources. This allows us to test directly the effect on directorships and compensation of sales growth from external sources. Many of the target firms in our sample were privately held, so we restrict our attention to *Forbes* firms making no acquisitions or acquiring only public firms between 1986 and 1988. This places an additional restriction on both our directorship and compensation samples. In the restricted directorship sample, we have 215 firms that made no acquisitions and 31 firms that made only public acquisitions, whereas in the restricted compensation sample, we have 90 firms that made no acquisitions and 16 firms that made only public acquisitions. From Compustat, we obtain the sales reported by the acquired firms in the last fiscal year prior to the acquisition. Following a procedure similar to that used by Lambert and Larcker (1987) and Firth (1991), we define r as the ratio of the acquiring firm's sales to the sum of the acquiring and target firms' sales in the fiscal year prior to the acquisition.[10] We define a new variable as follows:

$$INTERNAL = \log(r * SALES_{91}) - \log(SALES_{85}).$$

Let *EXTERNAL* be the difference between the change in log sales from 1985 to 1991 and *INTERNAL*.

We replace $ACQ * \Delta SAL$ and $\Delta \log SALES_{85,91}$ in Equations (1) and (2) with *INTERNAL* and *EXTERNAL*, and report results in Table 3.

In the probit specification, the coefficient for *ACQ* and *EXTERNAL* are both positive, but neither is statistically different from zero at standard confidence levels. For all acquisitions which increase sales by at least 10%, the overall effect of undertaking an acquisition is statistically different from zero at the 5% confidence level. Thus the results from this specification suggest that acquisitions do contribute to board seat gains. However, due to the collinearity of *ACQ* and *EXTERNAL* and the small sample size, it is difficult to determine whether the gains are attributable to the direct effect of acquisitions or the indirect effect of acquisitions through the acquisition sales channel.

In order to interpret the net effect of these coefficients, consider again a firm which had mean performance in every regard, but which undertook an acquisition that increased sales by 20%. The acquisition is predicted to increase the probability that the manager is a net gainer of board seats by 25.6 percentage points. This increase is statistically significant at less than the 1% level. If this acquisition were also to reduce accounting and market returns by 10%, the increase in probability of gaining board seats would be 25.0%, which is still significant at less than the 1% level.

For the compensation sample, the results suggest a decrease in compensation

10. If the acquiring firm undertook more than one acquisition between 1986 and 1988, then r is defined as the ratio of the acquiring firm's sales to the sum of the acquiring and targets' sales in the fiscal year prior to the first acquisition. For example, if firm A bought firm B in 1986 and bought firm C in 1988, r is A's sales in 1985 divided by the sum of A's, B's and C's 1985 sales.

Table 3. Determinants of Gains in Outside Directorships and Increases in Compensation—*INTERNAL* and *EXTERNAL*

	Dependent Variable		
	GAIN (Probit Specification)		$\Delta \log COMP_{85:91}$ (OLS Specification)
Independent Variable	Coefficient (1)	Implied Probability Change (2)	(3)
$MKRET_{85:91}$	0.081	0.498	0 048
	(0 054)		(0.020)
$\Delta ROE_{85:91}$	0.097	0.018	0 280
	(0.212)		(0.280)
log $SALES_{85}$	0 232	0.092	
	(0.084)		
ACQ	0.356	0.130	−0.232
	(0 341)		(0.115)
INTERNAL	0.040	0.008	0.187
	(0 191)		(0 093)
EXTERNAL	1.831	0.060	0.708
	(1 304)		(0.257)
Constant	−2.529		0.323
	(0.693)		(0 053)
N	246		106

Standard errors in parentheses Implied probability change is the change in the probability that *GAIN* = 1 when the explanatory variable increases by one standard deviation, holding all other variables at their means For dummy variables, the implied probability change is the change in the probability that *GAIN* = 1 when the dummy variable changes from zero to one OLS standard errors in column 3 are heteroskedastic consistent

associated with small acquisitions. However, external sales growth is weighted more heavily in compensation that internal sales growth. (For the hypothesis that the coefficient for *INTERNAL* equals the coefficient for *EXTERNAL*, the p value equals 0.02.) The coefficients indicate that an acquirer who increases firm sales by 20% can expect a decrease in compensation of 9.0% relative to the mean nonacquirer in the sample. However, this decrease in compensation is not statistically different from zero at standard confidence levels ($p = 0.24$).

In assessing the effects of acquisitiveness on directorships and compensation, we have implicitly held other measures of performance, such as changes in the firm's market value, constant. One might ask whether shareholder-value-increasing acquisitions incur different responses from acquisitions that reduce shareholder value. To address this question, we compute the event response to news of each acquisition in our sample.[11] The variable *ABNRET* is defined as the sum of the abnormal returns associated with the firm's acquisitions between 1986 and 1988. We estimate Equations (1) and (2) including *ABNRET*. Results are presented in Table 4.

11. The event analyses were performed using a standard one-factor market model. To estimate the market model, we used the 119 trading days prior to a window that included 7 days on either side of the event.

Table 4. Determinants of Gains in Outside Directorships and Increases in Compensation—Includes Event Responses to Acquisitions

	Dependent Variable		
	GAIN (Probit Specification)		$\Delta \log COMP_{85\text{-}91}$ (OLS Specification)
Independent Variable	Coefficient (1)	Implied Probability Change (2)	(3)
$\Delta \log SALES_{85.91}$	0.032	0 016	0.180
	(0.067)		(0.099)
$MKRET_{85:91}$	0.011	0.018	0.048
	(0 016)		(0.019)
$\Delta ROE_{85:91}$	0.031	0.015	0.552
	(0.069)		(0.295)
$\log SALES_{85}$	0.065	0.074	
	(0.024)		
ABNRET	0 004	0 0001	−0.215
	(0.832)		(0.782)
ACQ	0.111	0.111	0.002
	(0.054)		(0.055)
$ACQ * \Delta SAL$	0.061	0 015	−0.036
	(0.115)		(0.138)
Constant			0.327
			(0 055)
N	346		158

Standard errors in parentheses. Implied probability change is the change in the probability that *GAIN* = 1 when the explanatory variable increases by one standard deviation, holding all other variables at their means. For dummy variables, the implied probability change is the change in the probability that *GAIN* = 1 when the dummy variable changes from zero to one. OLS standard errors in column 3 are heteroskedastic consistent.

Event responses appear to have little explanatory effect for either compensation or board seat gains. Neither the probit estimates in column 1 nor the OLS estimates in column 3 permit us to reject the hypothesis that the coefficients on *ABNRET* are zero.[12]

Puzzlingly, the OLS coefficients in Column 3 suggest that CEOs who make value-increasing acquisitions receive smaller increases in compensation than CEOs who make value-reducing acquisitions. These estimates, however, are not statistically significant.

While our compensation estimates suggest that a manager's *salary and bonus* are not sensitive to characteristics of acquisitions made by the manager, this does not imply that acquisitions have no consequences for executive wealth. As we noted earlier, stock and stock options can comprise a substantial share of executive remuneration. Clearly a manager whose wealth is significantly tied to the share price of the manager's employer will partially internalize the

12. Similar results are obtained when we replace the acquisition dummy with dummy variables *GOOD* (defined to take the value one if $ACQ = 1$ and $ABNRET > 0$) and *BAD* (defined to take the value one if $ACQ = 1$ and $ABNRET \leq 0$). We are unable to reject the hypothesis that the good and bad acquisition dummies have the same coefficient.

effects his or her decisions have on the firm's shareholders. While we do not have data on stock or stock option holdings, this does not place a serious limitation on our study. As discussed in the introduction, we are searching for evidence of an agency problem regarding acquisitions. Hence we are interested only in dimensions along which the CEO's interests differ from those of the shareholders. Incorporating information on shareholdings by CEOs into the analysis would not help our efforts to uncover evidence of agency conflicts.

We also apply our sample of acquisitions to examine Rose and Shepard's (1997) finding that increases in a measure of diversification lead to a reduction in compensation. We define an acquisition to be diversifying if the target firm's two-digit SIC code does not match that of any of the acquirer's self-reported business segments.[13] The variable *DIV* takes the value one if the firm undertook a diversifying acquisition between 1986 and 1988. *NDIV* takes value one if the firm undertook only nondiversifying acquisitions.

We insert the dummy variables (*DIV, NDIV*) and interaction terms with the mean of change in log sales into the specifications of Equations (1) and (2). We report results in Table 5. Column 1 shows that a manager is expected to gain outside board seats if the manager makes either a diversifying or a nondiversifying acquisition. The coefficients for both acquisition dummies are positive. While the coefficient is slightly larger for nondiversifying acquisitions, we cannot reject the hypothesis that the two coefficients are equal. Again, the acquisition change in sales interactions are not statistically different from zero. Consider a manager with the otherwise mean characteristics, who undertakes an acquisition that increases sales by 20%. At standard confidence levels, we cannot reject the hypothesis that a manager with these characteristics who undertakes a diversifying acquisition has the same increase in probability of gaining board seats as a manager who undertakes a nondiversifying acquisition. Thus the market for outside directorships appears to reward both diversifying and nondiversifying acquisitions.

Unlike Rose and Shepard, we find no evidence that diversification is penalized by compensation committees. None of the individual diversification coefficients is different from zero at conventional significance levels and we cannot reject the hypothesis that all four coefficients are zero. The coefficient estimates suggest that a manager who is at the mean in all characteristics and undertakes a diversifying acquisition that increases the firm's sales by 20% can expect his or her compensation to increase by 4.8 percentage points more than that of the mean manager who does not undertake an acquisition. If this acquisition had been nondiversifying, the manager could expect his or her compensation change to be lower by 2.5 percentage points compared to the nonacquiring

13. We experimented with various definitions of diversifying acquisitions. We conducted, but do not report, an analysis in which we defined acquisitions to be diversifying if the primary two-digit SIC code of the target does not match the primary two-digit SIC code of the acquirer. We also conducted analyses in which we matched SIC codes at the three-digit level and controlled for the pre-1986 level of diversification. The results we present here are not altered meaningfully by these adjustments.

Table 5. Determinants of Gains in Outside Directorships and Increases in Compensation—Diversifying Versus Nondiversifying Acquisitions

	Dependent Variable		
	GAIN (Probit Specification)		$\Delta \log COMP_{85\text{-}91}$ (OLS Specification)
Independent Variable	Coefficient (1)	Implied Probability Change (2)	(3)
$\Delta \log SALES_{85\ 91}$	0.092	0.017	0.180
	(0 189)		(0 099)
$MKRET_{85\ 91}$	0.031	0 019	0.049
	(0.046)		(0.019)
$\Delta ROE_{85\ 91}$	0.081	0 014	0.545
	(0.193)		(0.293)
$\log SALES_{85}$	0.185	0.075	
	(0 069)		
DIV	0.186	0.068	0 028
	(0.212)		(0.087)
NDIV	0 377	0.139	−0.009
	(0.171)		(0.060)
$DIV * \Delta SAL$	0.248	0.088	0 101
	(0 487)		(0 221)
$NDIV * \Delta SAL$	0.118	0.042	−0.088
	(0 386)		(0.149)
Constant	−2.118		0 326
	(0 564)		(0 055)
N	346		158

Standard errors in parentheses Implied probability change is the change in the probability that *GAIN* = 1 when the explanatory variable increases by one standard deviation, holding all other variables at their means For dummy variables, the implied probability change is the change in the probability that *GAIN* = 1 when the dummy variable changes from zero to one OLS standard errors in column 3 are heteroskedastic consistent

manager. Neither of these changes are significantly different from zero, nor are they significantly different from each other.

What are possible explanations for the difference between our findings and Rose and Shepard's results? Since the two studies use nearly identical datasets, the difference must arise from the definition of a diversifying event. Rose and Shepard do not examine acquisitions; their primary measure of diversification is based on changes in the relative sales of the firm's self-reported segments. They define the variable *DIVERSE* as one minus the Herfindahl index for the firm's self-reported business segments:

$$DIVERSE = 1 - \sum_{i=1}^{K} \left(\frac{\text{segment sales}}{\text{company sales}} \right)^2,$$

where K is the number of business segments a firm reports. This measure differs from our measure of diversification in that this measure includes diversification via internal growth *and* diversification by acquisition. For both sets of results to be true, it must be the case that managers are punished for *internal*

diversification, but not diversification via acquisition.

Another distinction between our diversification measure and that of Rose and Shepard is that Rose and Shephard examine changes in the business segments reported by firms over time. We examine whether the primary SIC code of the acquired firm is the same as any of the acquirers reported segments. Thus we avoid examining *changes* in the firm's self-reported segment data over time.[14] This measurement difference is potentially important because the Financial Accounting Standards Board permits firms a great deal of latitude in determining how many segments to report and in determining whether to change the segment designations over time.[15] Recent work in accounting suggests that segment choices may be affected by a firm's desire to avoid disclosing information to potential competitors as to which of its operations are most lucrative.[16] Thus we might be particularly concerned about examining changes in reported segments since the accounting literature suggests that segment reporting changes may be due to a variety of factors other than diversification, and that these factors may be related to the firm's profitability or prospects.

4. Robustness Checks

In this section we report the results of several additional specifications showing that our main result—that the likelihood of obtaining outside directorships is sensitive to acquisitions, whereas compensation is not—is robust to these changes.

While our analysis above relates the likelihood that a CEO on net *gains* board seats on the CEO's acquisitiveness, one might also ask whether acquisitions reduce the likelihood that the CEO *loses* board seats on net. To examine this hypothesis we employ the dummy variable *LOSE* in a probit model like that in Equation (1). Because a CEO who does not have any board seats in 1986 cannot lose board seats, we restrict our sample to the set of CEOs who hold at least one seat on an outside board in 1986 ($N = 259$). We might expect that losses of board seats are not as sensitive to the actions of the CEO as gains in board seats, because firms may be powerless or reluctant to oust outside directors with whom the firm's management or other directors are dissatisfied. Indeed, in Kaplan and Reishus' study of dividend cuts, they found only a weak relationship between dividend cuts and losses in board seats.

We report results in columns 1 and 2 of Table 6. As expected, the performance variables for the most part have negative signs. A CEO is less likely to lose board seats if the firm has large positive sales growth or accounting returns. These results are not statistically significant at standard confidence

14. A third distinction between the two studies is that Rose and Shepard analyze year-by-year changes in compensation, whereas we examine the change in compensation between 1985 and 1991. We estimated, but do not report, a series of models in which we mimic the specifications employed by Rose and Shepard. This analysis yields similar results to those presented.

15. See Pacter (1993) for a discussion of accounting standards regarding segmental disclosure.

16. Hayes and Lundholm (1996) present a model of a firm's choice of segment definitions in the presence of a rival.

Table 6. Robustness Checks

	Dependent Variable			
	LOSE (Probit Specification)		*SURVIVE* (Heckman Specification)	$\Delta \log COMP_{85\text{-}91}$ (Heckman Specification)
Independent Variable	Coefficient (1)	Implied Probability Change (2)	(3)	(4)
$\Delta \log SALES_{85\text{-}91}$	−0.283	−0.050	0.074	0.205
	(0.224)		(0.186)	(0.071)
$MKRET_{85\text{-}91}$	0.023	0.014	0 074	0 055
	(0.055)		(0.051)	(0.017)
$\Delta ROE_{85\text{-}91}$	−0.252	−0.026	0.292	0.616
	(0.289)		(0.245)	(0.198)
$\log SALES_{85}$	−0.016	−0.007		
	(0.081)			
ACQ	−0.492	−0.176	0.341	0.036
	(0.175)		(0 155)	(0.061)
$ACQ * \Delta SAL$	0 201	0.001	0.321	0.044
	(0.404)		(0 367)	(0.130)
AGE			−0.096	
			(0 013)	
TENURE			0.051	
			(0.011)	
FOUNDER			0 215	
			(0 248)	
Constant			5 123	0.144
			(0.797)	(0.082)
N	259		346	158

Columns 1 and 2 assess determinants of losses of board seats Columns 3 and 4 correct compensation regressions for possible selection bias using the method suggested by Heckman Column 3 reports the coefficients for first-stage survival probit Column 4 reports the compensation change coefficients

Standard errors in parentheses Implied probability change is the change in the probability that *LOSE* = 1 when the explanatory variable increases by one standard deviation, holding all other variables at their means For dummy variables, the implied probability change is the change in the probability that *LOSE* = 1 when the dummy variable changes from zero to one

levels. Inexplicably the results show that a large positive stock return increases the probability that the CEO will lose board seats, although this effect is extremely small and is statistically insignificant. The basic specification also shows that CEOs of larger firms are less likely to lose board seats, although this effect is also statistically insignificant.

The results for board seat losses are consistent with those for board seat gains. The probability that a CEO will lose a board seat on net falls by 17.6% if the CEO has undertaken an acquisition with no effect on sales ($p < 0.01$). For an acquisition that increases sales by 20%, the probability that the CEO will lose a board seat falls by 18.2 percentage points, which is different from zero at less than the 1% level. Even if the acquisition were to decrease the market and accounting returns by 10%, the probability of losing a board seat would fall by 17.4 percentage points, which is significantly different from zero at less than the 1% confidence level.

One potential source of concern regarding our compensation regressions is survivorship bias. We have eliminated one potential source of survivorship bias by gathering proxy data on compensation for CEOs who remain in their positions, but who have been dropped from the *Forbes* sample. However, a second possible source of survivorship bias is the possibility that CEOs who undertake acquisitions may be more likely to remain CEO in 1991 than CEOs who have not undertaken acquisitions.[17] If CEOs tend to buy assets which they are good at managing in order to render themselves irreplaceable (as in Shleifer and Vishny) or diversify to reduce employment risk (as in Amihud and Lev), then CEOs who undertake acquisitions will be more likely to remain with their firms than those who do not.

Econometric methods, developed in Heckman (1979), allow us to control for this possibility. Heckman proposes a two-stage procedure: the first stage is a probit assessing the determinants of the CEO remaining CEO in 1991, while the second stage estimates the determinants of changes in compensation adjusting for the selection process. To run the first stage we define the indicator variable *SURVIVE* to take value one for managers who appear in both our directorship and compensation samples and zero for those managers who appear only in the directorship sample. We hypothesize that the performance variables described above, including the acquisition variables, are determinants of the CEO's survival probability. We include three additional variables in the first-stage specification: the CEO's age in 1986, a dummy variable which equals one if the CEO was the firm founder or a member of the founding family, and a variable measuring the CEO's tenure as CEO in 1986 (in years). We include these variables because age is clearly related to retirement probability, and because CEOs who are founders, are members of the founding family, or have been in their positions a long time may be more entrenched.[18]

The results from the Heckman specification do support the Shleifer and Vishny hypothesis that managers entrench themselves by undertaking acquisitions. Column 3 of Table 6 shows that the coefficient for the acquisition dummy is significantly positive in the survival equation. The probability that a 1986 CEO is still CEO in 1991 rises by approximately 13% if the CEO undertakes an acquisition. In the survivorship-corrected compensation equation, presented in column 4 of Table 6, the compensation of the CEO is shown to increase insignificantly if an acquisition is undertaken. The estimates suggest that a CEO who undertakes an acquisition that increases the firm's sales by 20% can expect an increase in compensation of 4.5%, although this increase is significantly different from zero at only the 16.1% level. In further unreported estimations, we confirm that compensation changes are not significantly different for diversifying versus nondiversifying acquisitions (although the point estimates continue to suggest higher compensation for diversifying acquisitions).

17. Note that our analysis of gains in directorships does not suffer from this problem, since we obtain data on directorships even for executives who no longer hold the CEO position.

18. These variables have been excluded from the compensation change specifications above because it is unlikely that they would affect *changes* in CEO compensation.

One final test that we are unable to perform is a check of the robustness of our findings to other time periods. In particular, we have compared compensation and directorship responses to diversifying and nondiversifying. While many studies show generally negative abnormal return responses to announcements of diversifying acquisitions in the 1980s, Matsusaka (1993) shows that return responses to announcements of diversifying acquisitions were positive during the conglomerate merger wave of the 1980s. Since market responses to diversification have changed over time, it is reasonable to suspect that compensation committees and nominators of board members may have changed their views of diversification over time as well.

5. Conclusion

It is widely believed that managers routinely attempt to use acquisitions as a means of increasing the size of the firm beyond its value-maximizing level. However, very few authors have considered the question of why managers might want to do something that reduces shareholder value. In this article, we explore two leading explanations for empire building. First, we test the hypothesis that managers can increase their salaries by undertaking acquisitions. Second, we examine the hypothesis that managers can gain power, prestige, and standing in the business community by undertaking acquisitions. We find evidence that CEOs who undertake acquisitions obtain more outside directorships than their peers. Perhaps, in undertaking an acquisition, the CEO gains connections, skills, and experience, or the acquisition may serve as a signal that the CEO has the skills required to manage a large, diverse enterprise. Either of these may increase the CEO's desirability as a board member. In any case, this evidence is suggestive that CEOs can increase their prestige and standing in the business community by undertaking acquisitions. However, we find no evidence that a CEO can increase his or her salary or bonus by undertaking an acquisition.

The results contradict the view that corporate compensation committees are so unsavvy, or so completely controlled by the management, that they would reward activities that are not in the best interest of shareholders. This leaves the puzzle: why do CEOs who undertake acquisitions gain a disproportionate number of board seats? One possible answer is that the CEO invests in his or her human capital by undertaking an acquisition. Perhaps the acquisition serves to prove that the CEO has the skills required to manage a larger, more diverse enterprise. This may render the CEO's services more valuable as a board member.

The results in this article strongly suggest that it would be beneficial to learn more about the outside directorship selection process. Further research should focus on how outside directors are chosen, how much CEOs value outside directorships, and what actions, other than acquisitions, individuals take to increase their probability of gaining board seats.

References

Amihud, Y., and B. Lev. 1981. "Risk Reduction as a Managerial Motive for Conglomerate Mergers," 12 *Bell Journal of Economics* 605–617.

Fama, E. 1980. "Agency Problems and the Theory of the Firm," 88 *Journal of Political Economy* 288–307.

———, and M. C. Jensen. 1983. "Separation of Ownership and Control," 26 *Journal of Law and Economics* 310–325.

Firth, M. 1991. "Corporate Takeovers, Stockholder Returns and Executive Rewards," 12 *Managerial and Decision Economics* 421–428.

Hayes, R. M., and R. Lundholm. 1996. "Segment Reporting to the Capital Market in the Presence of a Competitor," 34 *Journal of Accounting Research* 261–279.

Heckman, J. 1979. "Sample Selection Bias as a Specification Error," 47 *Econometrica* 153–161.

Jensen, M. C. 1989. "The Eclipse of the Public Corporation," 67 *Harvard Business Review* 61–74.

Kaplan, S. N., and D. Reishus. 1990. "Outside Directorships and Corporate Performance," 27 *Journal of Financial Economics* 398–410.

Lambert, R. A., and D. F. Larcker. 1987. "Executive Compensation Effects of Large Corporate Acquisitions," 6 *Journal of Accounting and Public Policy* 231–243.

Linden, D. W., R. Lenzner, and F. Wolfe. 1995. "The Cosseted Director," 155 *Forbes* 168–173.

Mace, M. L. 1971. *Directors: Myth and Reality.* Boston: Harvard Business School Press.

Matsusaka, J. G. 1993. "Takeover Motives During the Conglomerate Merger Wave," 24 *Rand Journal of Economics* 357–379.

Morck, R., A. Shleifer, and R. W. Vishny. 1990. "Do Managerial Objectives Drive Bad Acquisitions," 45 *Journal of Finance* 31–48.

Pacter, P. 1993. *Reporting Disaggregated Information.* Technical Report 123-A. Stamford, Conn.: Financial Accounting Standards Board.

Reich, R. B. 1983. *The Next American Frontier.* New York: Times Books.

Rose, N. L., and A. Shepard. 1997. "Firm Diversification and CEO Compensation: Managerial Ability or Executive Entrenchment?," 28 *Rand Journal of Economics* 489–514.

Rosen, S. 1992. "Contracts and the Market for Executives," in L. Werin and H. Wijkander, eds., *Contract Economics.* Cambridge, Mass.: Blackwell.

Shleifer, A., and R. W. Vishny. 1989. "Management Entrenchment: The Case of Manager-Specific Investments." 25 *Journal of Financial Economics* 123–140.