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Executive Careers and Compensation Surrounding Takeover Bids

ANUP AGRAWAL and RALPH A. WALKLING*

ABSTRACT

This article examines the impact of a takeover bid on the careers and compensation of chief executives of target firms. We find that acquisition attempts occur more frequently in industries where chief executive officers (CEO) have positive abnormal compensation. Target CEOs are more likely to be replaced when a bid succeeds, than when it fails. CEOs of target firms who lose their jobs generally fail to find another senior executive position in any public corporation within three years after the bid. Consistent with Fama's (1980) notion of "ex post settling up", postbid compensation changes of managers retained after an acquisition attempt are negatively related to several measures of their prebid abnormal compensation. This result is robust to a variety of specifications and does not seem to be caused by mean reversion or selection bias. These findings are consistent with the hypothesis that a takeover bid generates additional information that is used by labor markets to discipline managers.

THE SUBJECT OF EXECUTIVE compensation is currently a hot topic in the financial press. A recent Wall Street Journal featured an entire section on executive pay noting:

*"Presidential candidates and shareholder groups rail about too high chief executive pay. Congress ponders ways to limit it, or at least make it more expensive for companies to offer it. The outcry has corporate directors in 'full red alert'..."*¹

Nearly a decade earlier, Jensen and Ruback (1983) called for additional research on executive compensation following acquisition activity. In giving directions for future research, they state (p. 45),

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¹ *The Wall Street Journal*, "Executive pay: A little pain and a lot to gain," by Amanda Bennett, April 22, 1992, pages R1-R12.

“Examination of the costs and benefits to competing management teams of success or failure in the takeover market will aid in understanding the forces that determine when and why takeovers are initiated, and why target managers oppose or acquiesce to such proposals. Factual knowledge about the career paths and compensation experience of bidder and target management personnel will be valuable in such effort. For example: How does management turnover frequency in takeover situations compare with that in non-takeover conditions? Do target managers lose their jobs more frequently in unfriendly takeovers than in friendly or ‘white-knight’ acquisitions? What happens to the managers of targets who successfully avoid takeovers? When target managers remain with the merged firm, how do they fare in compensation, rank and rapidity of promotion in the merged firm? How do target managers who leave the merged entity fare in the external labor market?”

This article empirically addresses several of these issues. Despite its obvious importance, no prior academic study has empirically examined executive careers and compensation *after* takeover bids for their firms.² This is probably due to the difficulty in obtaining compensation data on target executives following a takeover. In this article, we examine the careers and compensation of chief executives of target firms around acquisition attempts. Our sample consists of *Forbes* 800 firms (defined in Section I) that became targets over the period 1980 to 1986. We examine all acquisition attempts on these firms, both successful and unsuccessful.

Our main findings are that: (1) Takeover bids occur more frequently in industries where chief executive officers (CEO) have significantly positive abnormal compensation (i.e., deviations from a model of normal compensation). The levels of abnormal compensation do not differ significantly between target firms and a random sample of nontarget firms in their industries. In addition, there is no significant difference between the abnormal compensation of CEOs of contested and uncontested targets, or between CEOs of successful and unsuccessful targets. (2) Target CEOs are more likely to be replaced when a bid succeeds than when it fails. In addition, we find that CEOs of target firms who lose their jobs generally fail to find another senior executive position in any public corporation within three years after the bid. (3) CEOs of target firms who remain employed subsequent to a bid experience increases in their salary and bonus and in total compensation from two years before to one year after a bid announcement. These gains are significant in real terms but differ insignificantly from the average increases for nontarget peers in their industries. The increases do not differ significantly by the outcome of the bid or by the target management's response to it. (4) Changes

² As discussed in the next section, Martin and McConnell (1991) examine executive turnover around successful tender offers. The section of our work that deals with turnover extends their research by tracing careers after an executive is replaced. In addition, we examine unsuccessful bids and mergers and also explore issues related to managerial compensation surrounding acquisition attempts.

in compensation for target CEOs retained after a takeover bid are negatively related to measures of their prebid excess compensation. We do not find a similar relation for a random sample of CEOs of industry-matched nontarget firms. The negative relation between postbid changes in compensation and measures of prebid excess compensation holds whether the bid succeeds or fails, and whether it is resisted by target managers or not. These findings are consistent with the hypothesis that a takeover bid generates additional information about managerial performance, which is used by labor markets to discipline managers.

The remainder of this article is organized as follows: Section I discusses compensation characteristics of target CEOs and an industry-matched sample of nontargets prior to acquisition attempts. Section II discusses employment and compensation following an acquisition bid. Section III examines the extent to which postbid adjustments in compensation are related to prebid abnormal compensation. Section IV concludes.

I. Prebid Compensation

This study focuses on the set of *Forbes* 800 firms. This set consists of all U.S. public corporations that appear in any of the four lists compiled by *Forbes* magazine of the 500 largest corporations in terms of sales, total assets, market value of equity, or profits.³ The four lists typically cover about 800 firms. Using the 1979 *Forbes* 800 list, we search the front page of the *Wall Street Journal* (*WSJ*) over the period from January 1, 1980 to December 31, 1986 for incidence of takeover attempts on these firms.⁴ All acquisition bids for each target are identified. A new, separate attempt for a given target is defined to be a bid following a three-month period in which no acquisition activity is reported in the *Wall Street Journal Index* (*WSJI*).

Over the period 1980 to 1986, we identify 189 *Forbes* 800 firms that became targets of 344 separate acquisition attempts. A single attempt was made on 103 firms, two attempts were made on 47 firms, and three attempts were made on 24 firms. Fifteen firms experienced four or more attempts.⁵ For each reported bid, the *WSJ* and its Index (*WSJI*) are used to identify the first public announcement date, target management's response to the bid, and the outcome of the bid. As discussed in Section II, we are able to obtain compensation data on 182 targets.

³ We focus on *Forbes* 800 firms because these are large firms that command considerable public interest. Their CEOs occupy visible positions, and there is substantial public information about them, including the compensation data necessary for this article.

⁴ Even though we did not check every page of the *WSJ*, this procedure should identify most of the takeover attempts on these firms. Since these are some of the largest firms in the economy, a takeover attempt on any of them is likely to be newsworthy enough to make it to the front page of the *WSJ* at some time during the bid's existence.

⁵ At the extreme, both ACF Industries and Revlon received six bids each and CBS received seven bids.

A control sample of nontarget firms is obtained using the following procedure. For each target firm that received a takeover bid in year T , we identify the set of all firms in the *Forbes* 800 list of year $T - 2$ that have the same 2-digit SIC industry code. From this set, one firm is drawn at random as a potential candidate for inclusion in the nontarget sample. The firm is included if it did not receive a takeover bid that was reported on the front page of the *WSJ* during the 4-year period from $T - 2$ to $T + 1$. If it received a bid, we repeat the procedure until a nontarget firm is obtained. This process yields an industry-matched random sample of 169 nontarget firms. For the remaining 13 target firms, we were unable to either find an industry-matched nontarget firm or all necessary data for the nontarget firm.

A. Financial and Operating Characteristics

Descriptive statistics on the target firms as of two years prior to the year of bid announcement are shown in Table I. Panel A reveals the distribution of firms according to industry classification. The industries with the largest number of firms are the manufacturing sector (77 firms), the finance, insurance, and real estate sector (39 firms), and the transportation, communication, and utility sector (26 firms).

As expected of *Forbes* 800 firms, the average firm is quite large; the market value of equity averages \$1.5 billion in inflation-adjusted 1987 dollars. Total assets average over \$5 billion. Median values are smaller: about a billion dollars for the market value of equity and about \$2.8 billion for total assets. The average debt ratio (book value of debt divided by total assets) is 0.19. Although the average target firm is profitable in year $T - 2$ as measured by its stock return or return on assets, its stock return is less than the market average.

B. Compensation and Tenure of CEOs of Target vs. Nontarget Firms

For CEOs of 172 of our target firms, we obtain data on annual salary, bonus, and total compensation from *Forbes* magazine's annual surveys of top executive compensation. Annual total compensation includes: salary and bonus; securities, properties, and benefits; and the aggregate of contingent and long-term compensation. We record these data for year $T - 2$, where T is the year of the announcement of a bid for the firm.⁶ We examine data for year $T - 2$ to avoid any compensation adjustments in year $T - 1$ that might take place in anticipation of the acquisition. For an additional 10 firms, data on CEO compensation is obtained from Disclosure CD-ROMs. This process yields a sample of prebid compensation data for CEOs of 182 target firms. Two firms are listed on the American Stock Exchange; the remaining firms are listed on the New York Stock Exchange (NYSE).

⁶ *Forbes* issues dated one year before the year of bid announcement are used to obtain these data.

Table I
**Descriptive Statistics for the Sample of All *Forbes* 800 Firms
that Became Targets of Takeover Bids Announced on the
Front Page of the Wall Street Journal over 1980 to 1986**

One hundred and eighty nine firms became targets over this period. The Table shows descriptive statistics for the 182 firms on which we could obtain compensation data.

Panel A: Industry—Distribution			
Industry ^a	No. of Firms		
Mining and construction (1)	16		
Manufacturing (2, 3)	77		
Transport, communication and utilities (4)	26		
Wholesale and retail trade (5)	13		
Finance, insurance and real estate (6)	39		
Services (7, 8)	11		
Total	182		
Panel B: Financial and Operating Characteristics			
	Mean	Median	Standard Deviation
Firm size ^b			
Market value of equity ^c	\$1,539.5	976.3	1,867.0
Market value of equity plus book value of debt ^d	\$2,155.0	1,519.8	1,909.9
Book value of total assets	\$5,361.6	2,806.9	12,607.1
Leverage ^b			
Book value of debt/(book value of debt plus market value of equity	0.33	0.31	0.22
Book value of debt/book value of total assets	0.19	0.19	0.14
Profitability ^e			
Stock return (R_i)	0.05	0.03	0.31
Market adjusted stock return ($R_i - R_m$) ^f	−0.03	−0.05	0.30
Return on equity ^g	0.09	0.13	0.24

^a One-digit SIC codes are in parentheses.

^b Measured at the beginning of year $T - 2$, where T is the year of announcement.

^c All dollar values are in millions of inflation adjusted 1987 dollars.

^d Book debt is the book value of long-term debt.

^e Measured for the year $T - 2$.

^f R_m is the return on the value-weighted index of all stocks on the New York Stock Exchange and American Stock Exchange.

^g Earnings after interest and taxes during year $T - 2$ divided by the book value of equity at the beginning of year $T - 2$.

Table II contrasts the compensation and tenure of target CEOs in year $T - 2$ with industry-matched nontarget CEOs. Both means and medians are shown. Dollar values are stated in 1987 dollars. Our discussion focuses on mean values. Where data are sensitive to extreme values, we also discuss medians. Unless explicitly stated, values for target and nontarget firms are insignificantly different.

Table II
CEO Compensation for Target and Nontarget Firms Around
Bid Announcement and CEO Tenure Two Years Before Bid
Announcement

Target firms are *Forbes* 800 firms that received a takeover bid, announced on the front page of *Wall Street Journal*, over 1980 to 1986. Nontarget firms are firms that are drawn at random from the same industry as the target firm but that did not receive takeover bids from two years before to one year after the year of the announcement of a bid for the matched target. All dollar values are in constant 1987 dollars. T denotes target. NT denotes nontarget.

Variable	T/NT	Mean	Median	N
Salary and Bonus (\$000)				
Two years before bid announcement	T	661.8	572	182
	NT	681.9	590	169
Total Compensation (\$000)				
Two years before bid announcement	T	815.3	661.5	172
	NT	989.0	715.0	169
CEO's tenure 2 years prior to the announcement (in years)				
With the firm	T	23.1	24	182
	NT	24.9	27	169
In the job	T	8.9	6	182
	NT	9.6	8	169

The mean salary and bonus for the target and nontarget CEOs 2 years prior to the bid are \$661.8 thousand and \$681.9 thousand. We were also able to obtain data on annual total compensation for 172 target executives and 169 nontarget executives as of 2 years before the acquisition. Mean and median values for target executives are \$815.3 thousand and \$661.5 thousand, respectively. Comparable figures for nontarget executives are \$989 thousand and \$715 thousand. As of 2 years prior to the acquisition announcement, the average target executive has been with his firm for 23.1 years and has been in his present job for 8.9 years. For nontarget firms, the comparable numbers are 24.9 and 9.6 years.

C. Are Target Executives Overpaid?

We next examine whether, and to what extent, CEOs were 'overpaid' or 'underpaid' before the bid, relative to a model of normal compensation. The procedure for doing this is explained in the Appendix. In short, we construct a model of normal compensation by regressing the log of CEO compensation on characteristics identified in the compensation literature (e.g., firm size, performance, and CEO age). As explained in the Appendix, the total number of executives involved in the estimation of this model includes executives of our target firms as well as 1,949 nontarget executives. We also allow the influence of these variables to vary across industries and over time (see Table AI for the estimates of these models). The residuals from these regressions represent unexplained or abnormal compensation.

Table III reveals the level of abnormal compensation (2 years before the bid) for our sample of targets and the random sample of industry-matched nontargets. We also examine abnormal compensation across different categories of acquisition targets. Results are shown using model (1) of the first-stage regressions. Similar results are obtained with model (2).

The average level of abnormal compensation across all target firms is 0.104 (in log dollars). This is significantly different from zero at the 1 percent level (t -statistic = 3.28). The percentage of targets with positive abnormal compen-

Table III
Unexplained Compensation of CEOs of Target and Nontarget Firms Two Years Before a Takeover Bid

Abnormal compensation is measured as the residual from the model:

$$LSALB_i = b_0 + b_1^* LEQUITY_i + b_2^* (R_i - R_m) + b_3 AGE_i + \varepsilon_i \quad (1)$$

where $LSALB$ is the (natural) log of annual salary and bonus, and $LEQUITY$ and AGE are the natural log of market value of equity and the age of firm i 's CEO at year-end respectively. All dollar values are measured in inflation-adjusted 1987 dollars. R_i and R_m are the annual holding period stock returns of firm i and the market (NYSE value-weighted index), respectively. Model 1 is estimated using the entire population of *Forbes* 800 firms in the same 2-digit SIC industry as the target firm. A separate regression is estimated based on the set of targets receiving takeover bids in each year from 1980 to 1987. Thus, we estimate one regression for each of the years 1978 to 1984. The total number of executives involved in the estimation of this model includes executives of our target firms as well as 1,949 nontarget executives.

	Mean	t -Statistic	% Positive	Z-Statistic	N
Targets (T)	0.104	3.28 ^a	61.2	2.87 ^a	165
Nontargets (NT)	0.072	2.68 ^a	59.8	2.52 ^b	169
t -Statistic for (T - NT)		0.77			
Targets categorized by bid outcome					
Successful (S)	0.083	2.14 ^b	59.2	1.75 ^c	98
Unsuccessful (U)	0.09	1.77 ^c	66.0	2.31 ^b	53
Rumored, but not made	0.291	1.81 ^c	57.1	0.27	14
t -Statistic for (S - U)		0.16			
Targets categorized by managerial response					
Contested (C)	0.087	1.61	63.2	1.93 ^c	57
Uncontested (UC)	0.112	2.86 ^a	60.2	2.07 ^b	108
t -Statistic for (C - UC)		-0.38			
Targets categorized by postbid managerial employment					
Employed (E)	0.174	3.55 ^a	67.5	3.22 ^a	80
Not Employed (NE)	0.038	0.96	55.3	0.87	85
t -Statistic for (E - NE)		2.16			

^a Denotes significance at the 1 percent level in 2-tailed tests.

^b Denotes significance at the 5 percent level in 2-tailed tests.

^c Denotes significance at the 10 percent level in 2-tailed tests.

sation is 61.2 percent, which differs significantly from one-half. The average compensation of CEOs in our sample (in inflation-adjusted 1987 dollars) is \$661.8 thousand (Table II). At this level, an excess log compensation of 0.104 translates into an excess compensation of \$65.4 thousand per year or roughly 10 percent of their compensation. Thus, on average, target firm managers seem to have been somewhat overpaid, at least according to our relatively simple model of executive compensation. But that is also true for their industry peers. The average abnormal compensation for the random sample of 169 industry-matched nontarget executives is 0.072, which is significantly greater than zero. About 60 percent of the executives in the nontarget sample have positive abnormal compensation. This proportion is also significantly greater than one-half.⁷ However, the level of abnormal compensation of target CEOs is insignificantly different from their industry peers (t -statistic = 0.77). This evidence lends itself to several different interpretations. At the most simplistic level, it is possible that takeover bids are caused by managerial overcompensation and that compensation tends to be correlated within industries. Thus, we observe a higher incidence of bids for firms in industries where overcompensation is prevalent. Alternatively, and more plausibly, overcompensation and takeover bids both may stem from other underlying causes (e.g., poor relative stock price performance). Of course, it is also possible that the compensation model is misspecified and that the apparent overcompensation contains a systematically spurious component that is correlated with industry membership.⁸

D. Abnormal Compensation Across Categories of Target Firms

When the acquisition bids are classified by outcome and managerial response, we find positive levels of abnormal compensation for targets of all types of bids. The average level of abnormal compensation in 98 successful and 53 unsuccessful bids is 0.08 and 0.09, respectively.⁹ These values are significantly different from zero but insignificantly different from each other. Fourteen bids were rumored, but not made. The average abnormal compensation for these bids is 0.29. This value is misleading, however, being driven by

⁷ By construction, the average abnormal compensation in the population of 2,114 firms of Table AI equals zero. The average abnormal compensation for the nontarget population of 1,949 firms measures -0.01 using model 1 and 0.003 using model 2. Neither of these figures is significantly different from zero. However, comparing the abnormal compensation of the target sample to that of the *population* of nontargets is misleading, because we find that the proportion of nontarget firms in the population is higher in industries with lower abnormal compensation. This is why we emphasize results for the random sample of industry-matched nontargets. This sample has the same industry weights as the target sample.

⁸ Section III presents evidence that is inconsistent with this latter interpretation. Since our nontarget sample is drawn from the same industries as the target firms, any misspecification with regard to the industry should affect both samples. To preview these results, we find evidence of adjustments in compensation for target CEOs but not for nontarget CEOs in the same industry.

⁹ Unless otherwise specified, compensation mentioned in the text is measured in log dollars. We use the simpler term compensation to avoid repetition.

two outliers. The proportion of these firms with positive values is insignificantly different from 50 percent. The average level of abnormal compensation is 0.09 for the 57 contested acquisitions and 0.11 for the 108 uncontested acquisitions. The latter is significantly greater than zero. The two groups do not differ significantly from each other.

The average abnormal compensation for CEOs retained following a bid is 0.174. This is significantly higher than the 0.038 level for executives dismissed. The sign of this difference seems somewhat counterintuitive. If compensation adjustments occur after an acquisition bid, one might expect those executives with the highest level of abnormal compensation to be replaced with greater frequency. In our sample, these executives are more likely to remain employed. We investigate several possible explanations for this puzzling result in the next subsection. These include: a) the result may be a statistical artifact, driven by a few outliers; b) the result is related to entrenched management, overpaid but powerful enough to remain employed; c) our measure of abnormal compensation measures firm-specific human capital instead of overpayment; d) executives retained have superior performance; and e) overpaid executives are more likely to accept renegotiated contracts.

E. Why Do Retained Executives Have Positive Abnormal Compensation?

E.1. Statistical Explanation

The significance of the difference between executives retained and not retained is, in fact, due to the inclusion of 14 cases where offers are rumored but not made. Note that the mean abnormal compensation for this group, 0.291, is more than 3 times that of the unsuccessful or successful groups. Executive turnover in these rumored cases is considerably lower (see Table IV, Panel B), and hence these cases have a strong influence on the excess compensation of retained executives. After excluding rumored bids, there is no statistically significant difference between abnormal compensation for executives retained and those not retained.

E.2. Managerial Entrenchment

Rumored bids may be abandoned when it becomes evident that target management is entrenched. Although we did find some evidence of government intervention, vigorous defensive posturing, and large block ownership, we are unable to conclude that CEOs of rumored targets come from firms that are significantly different in character from firms with definite bids. For example, we collected data on insider ownership from Value Line. Three of the targets of rumored bids have insider ownership levels exceeding 30 percent, yet the average level for the entire sample of rumored bids (10.8 percent) is not dramatically different from other values reported in the literature.¹⁰

¹⁰ Song and Walkling (1993), using the same definition of insider ownership, report mean values of 13.4 percent for successful offers, and 7.5 percent for unsuccessful offers.

Table IV
Distribution of Target Firms and Subsequent CEO
Unemployment Categorized by Year of Dismissal, Bid
Outcome and Management Response

The sample consists of all *Forbes* 800 firms that became targets of takeover bids announced on the front page of the *Wall Street Journal* over 1980 to 1986. Unemployment occurs when the person who is CEO of a firm two years before the takeover bid is not found one year after the year of the bid in our search of the top executive pool of the public corporations in the United States, using the following sources of data: *Reference Book of Corporate Managements*, *Standard & Poor's Register of Corporations, Directors and Executives*, *Moody's Manuals*, and proxy statements of companies. The date of the takeover bid of the matched target firm is used for the nontarget sample. Thus, unemployment refers to the lack of employment as a senior executive in any publicly traded firm. A bid is classified as successful if the target firm experiences some form of change in ownership, including a merger, tender offer, leveraged buyout, management buyout, selloff or investment. Otherwise it is classified as unsuccessful. Contested bids are those where the target management publicly opposes the bid.

Panel A: Postbid Employment Classified by Year of Dismissal		
	No.	%
Number of CEOs in the sample	182	100
Number of executives retained one year after the bid	81	45
Number of executives dismissed	101	55
Number of executives dismissed in		
The year prior to the bid	14	7.7
The year of the bid	23	12.7
The year after the bid	64	35.2
Panel B: Postbid Employment Classified by Bid Outcome and Managerial Response		
	No. of CEOs	% of CEOs Not Employed as Senior Executives in Any Public Corporation One Year After the Bid
Nontarget Sample	169	30
Total Target Sample	182	55
Successful Bids	107	65
Failed or Withdrawn Bids	59	44
Bid rumored but not made	16	38
Uncontested Bids	120	59
Contested Bids	62	48

E.3. Firm-specific Human Capital

Another possible explanation is that higher abnormal salary for the retained executives may be measuring their greater firm-specific human capital. If this is the case, these executives are not overpaid, but are earning rents on their accumulated experience. This explanation is not supported by the data. We find that tenure with the firm, a measure of firm-specific human capital, is actually lower for executives retained than for those dismissed. The mean tenure of executives with the firm in year $T - 2$ is 21.8 years for the

executives retained and 24.1 years for the subsequently unemployed executives. The difference between the two means is statistically insignificant.¹¹

E.4. Firm Performance

The higher prebid abnormal compensation of retained executives may be because of better performance by their firms. Two facts suggest that this is not the case. First, the measure of normal compensation already includes a measure of firm performance. Thus, the abnormal return is calculated conditional on performance. Second, levels of firm performance for retained and subsequently unemployed executives do not differ significantly, even over long time periods. For example, the size and market-adjusted abnormal stock returns over months (-60 , -13) relative to the month of bid announcement average -4.6 percent for firms that do not retain their CEOs and -2.9 percent for firms that do. These returns are insignificantly different from each other and from zero.

E.5. Overpaid Executives Have Less Attractive Alternatives

The retention of CEOs subsequent to an acquisition attempt indicates mutually agreeable recontracting on the part of the firm and the executive. By definition, overpaid executives face market alternatives less attractive than their current situation. It is not surprising that a greater proportion of these executives choose to remain employed. The extent to which compensation is revised for the remaining executives, and how these revisions relate to previous levels of abnormal compensation, is the focus of Section IV.¹²

II. Postbid Employment and Compensation

A. Executive Unemployment in Target and Nontarget Firms

We next provide evidence on the postbid employment and compensation of target and nontarget executives. Seven data sources are used for this purpose. These are 1) *Dun and Bradstreet's Reference Book of Corporate Managements*, 2) *Standard & Poor's Register of Corporations, Directors And Executives*, 3) *WSJ and WSJI*, 4) *Moody's Manuals*, 5) *Forbes* magazine, 6) Disclosure CD-ROMs for various years, and 7) proxy statements of the individual firms employing the executives after the bid. The first three sources are used to determine the postbid employer of the executive; the last four sources are used to identify the position and compensation of the

¹¹ The somewhat longer tenure for the unemployed executives reflects the fact that they are a little older than executives retained after the bid. The average ages of the two groups of executives are 59.3 and 57.1 years, respectively. This difference is also statistically insignificant.

¹² Related to this is the idea of partial adjustment of compensation. Compensation committees may be reluctant to make large reductions in compensation levels, but are less averse to smaller reductions. Therefore, executives overpaid by the largest amounts may still be overpaid following the bid and would want to remain employed, whereas executives who were only slightly overpaid to begin with become underpaid and leave the firm.

executive. We attempt to identify the location of the executive from the issue of these data sources dated 2 years after the year of the bid.¹³ This process reveals the location of 81 target CEOs and 119 nontarget CEOs one year after the bid.

Panel A of Table IV reports executive unemployment rates for the samples of target and nontarget firms. We define unemployment as loss of the CEO position and the subsequent lack of employment as a senior executive in *any* publicly traded firm. In contrast with previous research that analyzes turnover for specific firms, we attempt to trace subsequent careers and compensation for displaced executives. Nevertheless, we found only four cases where an executive left the CEO position in a target firm to assume a senior executive position at another public company by year $T + 1$ (where T is the year of bid announcement).¹⁴ Although the new employer and position of these four executives is reported in the *WSJ*, we are unable to find proxies for their new firms or obtain compensation data. Thus, it turns out that turnover (i.e., loss of the CEO position) is equivalent to unemployment for most of the executives in our sample.

For 81 of the 182 target executives, we are able to find compensation data after the bid. The remaining executives left their firms in either the year prior to the year of the acquisition attempt (14 executives), the year of the attempt (23 executives), or the year after the attempt (64 executives). The 55 percent unemployment rate for the target executives (over the 3-year period surrounding the bid) is similar to the turnover rate in Martin and McConnell (1991) who analyze targets of successful tender-offer bids. In contrast, the unemployment rate we find for the nontarget sample is only 30 percent over the same 3-year period. Furthermore, we do find a few instances of nontarget executives taking senior executive positions in other public companies. As noted earlier, target executives do not fare as well in the external labor market.

In Panel B of Table IV, unemployment rates for executives of acquisition attempts are classified by target managerial reaction (contested or uncontested) and bid outcome (successful, unsuccessful, or bid rumored but not made). These classifications are determined from the *WSJ* and *WSJI*. Among target CEOs, the unemployment rate is higher in successful acquisitions (65 percent) than in unsuccessful bids (44 percent). Unemployment is the smallest (38 percent) for cases where a bid was rumored but not made. The unemployment rate for contested offers (48 percent) appears low compared to that of uncontested offers (59 percent). This difference arises because uncontested offers have a higher success rate and unemployment is higher in

¹³ Occasionally, the *S&P Register* or the *D&B Reference Book* list an executive as remaining with the target firm, while the proxy statement reveals that the executive has left the firm. In such cases, we consider the proxy statement to be definitive.

¹⁴ We also checked the employment status in year $T + 3$ for a random sample (of approximately one-third) of the 101 executives who are unemployed in year $T + 1$. We found several cases where the executives held part-time directorships in public companies, but in no case did we find an executive holding a senior executive position in a public company.

successful acquisitions. Within the set of failed, withdrawn, or rumored bids, unemployment rates are substantially lower for contested bids than uncontested bids.¹⁵

B. Reasons for Executive Turnover

The principal reasons for executive turnover following an acquisition bid are listed in Table V. These classifications were determined from an analysis of *WSJ* articles describing the executive departures. Note that of the 68 cases where we could obtain reasons for executive turnover, only 9 explicitly cite disciplinary reasons: pressure by the board (3 cases), pressure by lenders (1 case), change initiated by blockholder (1 case), and policy differences (4 cases). Another 21 cases cited a normal change in control. Other explanations for turnover include normal retirement (21 cases), taking a position with the acquiring firm (4 cases), early retirement (6 cases), leaving for another firm (4 cases), and other interests (3 cases). This pattern appears consistent with Martin and McConnell's (1991) analysis of turnover in successful acquisitions. Change in control and normal retirement are the principal reasons for turnover in their sample.

C. Benefits Received Following Involuntary Termination

Table VI presents data on benefits received by executives following what appear to be involuntary departures (i.e., the categories of early retirement,

Table V
Principal Reason for Executive Turnover in 101 Cases
Where the Executive Is Replaced Between Year $T - 2$ and
Year $T + 1$

Reasons are obtained from *Wall Street Journal* articles about the executives or their companies.

Reason Cited	No. of Companies
No reason published	33
Normal retirement	21
Normal change in control	21
Took a position with the acquiring firm	4
Early retirement	6
Policy differences	4
Left for another firm	4
Left to pursue other interests	3
Pressure by board	3
Pressure by lenders	1
Change initiated by blockholder	1
Total	101

¹⁵ These results are available from the authors upon request.

Table VI
Benefits Received Following “Involuntary” Termination

The Table describes benefits listed in proxy statements or *Wall Street Journal* articles about executives who terminated employment in the face of acquisition attempts for what appear to be involuntary reasons.

Company	Name	PV_a^*	PV_b	Terms	Comments
Early retirement (total cases = 6, severance pay reported for 5 cases)					
St. Joe Minerals	John C. Duncan	\$1,025K	\$1,025K	\$1,025K (3 × annual salary)	\$1,025K from Golden Parachute
Bendix	William Agee	\$3,128K	\$3,128K	“termination benefit” \$825,004/year for 5 years + stock (Gross stock held is 47,055 shares at \$85/share but data on his cost is not available)	Golden Parachute, stock held before
Union Commerce	Lyman Treadway	\$722K	\$722K	\$186,324/year for 2 years + \$398,820 accrued bonus + an annuity (amount unspecified)	employment agreement, the rest earned
Diamond Shamrock	William Bricker	\$1,536K	\$2,129K	over \$250K/year (not specified)	previous retirement plan
Anderson, Clayton	Thomas Barlow	\$1,278K	\$1,477K	\$207,909/year for life	
Average		\$1,538K	\$1,696K		
Left to pursue other interests (total cases = 3, severance pay reported for 1 case)					
Eastern	Frank Borman	\$1,469K	\$1,469K	\$900K cash + \$150K/year for 5 years consulting + full benefits	
Policy differences (total cases = 4, severance pay reported for 2 cases)					
Beatrice	James Dutt	\$3,800K	\$3,800K	\$3.8M (includes \$750K base, \$472K bonus, \$122,250/year for 10 years consulting, and full retirement benefit)	
UAL	Richard Ferris	\$1,383K	\$1,383K	\$650K for 1 year + \$792,640 for stock rights + base benefits	
Average		\$2,592K	\$2,592K		

Table VI—Continued

Company	Name	PV_a^*	PV_b	Terms	Comments
Pressure by lenders or board or blockholder (total cases = 5, severance pay reported for 4 cases)					
Bank America	Sam Armacost	\$1,700K	\$1,700K	\$1.7M ($3 \times$ annual salary) + full retirement at 65	Severance pay
Braniff	Laurence Harding	\$2,224K	\$2,600K	\$338,153 + \$306,969 annuity for life	All from normal retirement benefits
Castle & Cooke	Ian Wilson	\$1,119K	\$1,119K	\$1.35M over 3 years + car, fees paid (sec. help, legal & admin.)	
CBS	Thomas Wyman	\$5,337K	\$6,160K	\$400K/year for life + \$3,781,248 over 10 years + \$555,756 lump sum bonus + insurance benefits	\$679K $\times$ 3 is from employment agreement
Average		\$2,595K	\$2,895K		
Normal change in control (total cases = 21, severance pay reported for 1 case)					
Hughes Tools	James Lesch	\$3,700K	\$3,700K	\$3.7M ($3 \times$ salary) including retirement, and consulting	At least part is normal retirement benefit
Overall average		\$2,186K	\$2,339K		

* We standardize amounts received by calculating two present values. In PV_a we calculate the present value of all dollar amounts assuming a 10 percent discount rate and (for lifetime annuities) a 10-year remaining life. PV_b assumes the life of the annuities is the difference between age 75 and the executive's age at the time employment ends.

policy differences, other interests, and pressure by the board, lenders, or blockholders). Data are obtained from proxy statements of the firm and from *WSJ*. We are able to find data on 13 of the 18 cases in these categories. We also searched for data on severance pay for the 21 cases labeled “normal change in control.” We only found severance pay listed for one executive, which is consistent with the majority of the cases in this category being normal changes.

Two points should be noted about these data. First, most of the executives had some form of severance plan (e.g., a golden parachute) in place prior to the current acquisition attempt. Second, a few cases include the phrase “bonus” or “accrued bonus,” and these amounts appear unrelated to severance. The data sources do not always provide enough detail for us to subtract this amount from the total benefit received. The same is true of “normal retirement benefits.” The data sometimes refer to normal retirement benefits without describing them in detail. In some cases, these amounts are imbedded in the benefits reported.

Table VI lists the executive, company, reason for departure, and terms of departure. We standardize amounts received by calculating two present values. First, we calculate the present value of all dollar amounts assuming a 10 percent discount rate and (for lifetime annuities) a 10-year life. The second present value assumes the life of the annuities is the difference between 75 and the executive’s age at the time employment ends. On average, a present value of approximately \$2.2 to \$2.3 million was received by the 13 executives. Although the average amount differs across categories, there is too little data in the individual groups for a meaningful statistical comparison. We do note several consistencies in the terms of the contracts. Many call for a formula of 3 times the executive’s salary, and many specify consulting contracts. Many also note that full retirement benefits are received.

All of our executives are listed as CEOs by *Forbes* two years prior to the acquisition attempt. The distribution of positions for the 81 executives remaining one year after the attempt is shown in Table VII. We find that 70 employed executives retain the title of CEO. Three executives become chairman of the board. Four executives assume subordinate positions: one as president and chief operating officer, one as executive vice president, and two as vice president. Three of these four cases involve successful uncontested offers; in one failed, contested offer, the executive assumed a position as vice president. Four other executives retired in the year subsequent to the bid.

D. Postbid Compensation for Executives Retained After the Bid

Data on postbid compensation of executives retained after a bid are presented in Table VIII. To begin the analysis of ex post adjustments in compensation, we calculate the percentage change in salary and bonus from two years before to one year after the year of bid announcement. For the 81 target executives who remain employed in year $T + 1$, we have complete salary and bonus data, both before and after the bid. The change in salary

Table VII
Distribution of Executive Positions One
Year After the Bid for the 81 Chief
Executive Officers (CEO) Who Remain
Employed with a Public Company

Executives	No.
Retaining the title of CEO	70
Not retaining the title of CEO	
Chairman	3
President and Chief Operating Officer	1
Executive VP	1
VP	2
Retired during year $T + 1$ (Mid-year retirement)	4
Total	81

Table VIII
CEO Compensation for Target and Nontarget Firms
Subsequent to Bid Announcement

Target firms are *Forbes* 800 firms that received a takeover bid, announced on the front page of *Wall Street Journal*, over 1980 to 1986. Nontarget firms are drawn at random from firms that are in the same industry as the target firm but that did not receive takeover bids from two years before to one year after the year of the announcement of a bid for the matched target. All dollar values are in constant 1987 dollars. T denotes target. NT denotes nontarget.

Variable	T/NT	Mean	Median	<i>N</i>	% Positive
Salary and bonus (\$)					
One year after bid announcement	T	842.3	672	81	
	NT	848.4	710	119	
% Change in salary and bonus from two years before to one year after bid announcement for executives remaining employed					
Nominal	T	49.1 ^a	22.0	81	81.5% ^d
	NT	44.9 ^a	32.8	119	85.7 ^d
Real	T	31.7 ^b	9.0	81	69.1 ^d
	NT	26.8 ^a	14.6	119	72.3 ^d
Total compensation					
One year after bid announcement	T	1067.8	741	43	
	NT	1415.3	1006	81	
% Change in total compensation from two years before to one year after bid announcement for executives remaining employed					
Nominal	T	54.1 ^a	31.0	43	76.7 ^d
	NT	71.9 ^a	45.4	81	88.9 ^d
Real	T	33.9 ^a	13.5	43	67.4 ^e
	NT	50.9 ^a	30.0	81	71.6 ^d

^a Denotes significant differences from zero at the 1 percent level in 2-tailed tests.

^b Denotes significant differences from zero at the 5 percent level in 2-tailed tests.

^c Denotes significant differences from zero at the 10 percent level in 2-tailed tests.

^d Denotes significant differences from 50 percent at the 1 percent level in 2-tailed tests.

^e Denotes significant differences from 50 percent at the 5 percent level in 2-tailed tests.

and bonus for these executives over the 3-year period from two years before to one year after the bid averages 49.1 percent. For the 119 nontarget executives who remain employed from year $T - 2$ to $T + 1$, changes in salary and bonus average 44.9 percent. Both of these changes are significantly different from zero at the 1 percent level. Median values are substantially lower, measuring 22.0 percent for targets and 32.8 percent for nontargets. Over 80 percent of the changes for each group are positive. Based on the nonparametric binomial test, the proportion of positive changes differs significantly from one-half (at the 1 percent level) for both target and nontarget executives.

The change in salary and bonus, after removing the effects of inflation, averages 31.7 percent for the target CEOs and 26.8 percent for the nontarget CEOs. These changes are significantly different from zero at the 5 and 1 percent levels, respectively. However, the difference between the mean changes for target and nontarget CEOs is statistically insignificant. Median values are 9 percent for target CEOs and 14.6 percent for nontarget CEOs. About 69 percent of the real changes for target CEOs and 72 percent of the real changes for nontarget CEOs are positive. Both of these figures differ from one-half at the 1 percent significance level.

We are able to find data on total compensation for 43 target executives and 81 nontarget executives who remain employed in year $T + 1$. The change in total compensation for target executives over the three-year period from two years before to one year after the bid averages 54.1 percent. For nontarget executives, changes in total compensation average 71.9 percent. Both of these changes are significantly different from zero at the 1 percent level. As with salary and bonus, median values for changes in total compensation are substantially lower than mean values, measuring 31.0 percent for targets and 45.4 percent for nontargets. The percentage of positive changes are 76.7 percent for the target executives and 88.9 percent for the nontarget executives. Based on the nonparametric, binomial test, these positive percentage changes are significantly different from one-half at the 1 percent level.

After removing the effects of inflation, the change in total compensation averages 33.9 percent for the target CEOs and 50.9 percent for the nontarget CEOs. These changes are significantly different from zero at the 1 percent level. Median values are 13.5 percent for target CEOs and 30.0 percent for nontarget CEOs.

III. The Relation Between Postbid Adjustments in Compensation and Prebid Abnormal Compensation

Effectively designed employment contracts and proper monitoring of managerial performance will result in adjustments to compensation. Acquisition attempts and the recontracting following them provide an opportunity to reassess managerial performance and adjust compensation accordingly. An acquisition attempt focuses intense scrutiny on target management. This scrutiny can lead to adjustments in managerial compensation by internal

monitors, even if the bid is unsuccessful. Boards of directors, for example, are likely to reassess managerial compensation and performance in light of the publicity an acquisition bid engenders. In addition, if the bid succeeds, there is a squeeze on managerial positions, especially at the top of the hierarchy. Often, a form of musical chairs takes place, with two or more executives competing for a single position. In this section, we examine compensation adjustments around acquisition attempts. A subsequent subsection contrasts compensation adjustments in acquisitions to a control sample of nontargets.

To determine if a relation exists between postbid compensation and prebid compensation, we estimate the following regression:

$$DSALB_i = b_0 + b_1 ESALB_i + \varepsilon_i.$$

$DSALB_i$ is the proportional change in salary and bonus of the individual who was CEO of firm i in year $(T - 2)$ over the next three years.^{16,17} We use two specifications of $DSALB$. The first adjusts for inflation by stating changes in constant 1987 dollars. Since CEO pay raises vary by industry, we also calculate the industry-adjusted change in an executive's compensation. We do this by subtracting the average percentage change in compensation for an executive's industry from the nominal percentage change for the executive. Data on average industry pay raises are obtained from the Conference Board's annual report on top executive compensation. The Conference Board reports the median change in the base salary of CEOs by industry sector (one-digit SIC code).¹⁸ $ESALB_i$, the residual from compensation models 1 or 2 of the first-stage regressions, is a measure of unexplained salary and bonus of the chief executive of company i in year $(T - 2)$. If executives are disciplined in the managerial labor market and through the effect of acquisition bids, we expect to find a negative relation between salary adjustments and the degree of abnormal compensation prior to the acquisition attempt.

Table IX presents the results of this regression for target executives who continue to be employed after an acquisition bid. The results indicate a significant negative relation between the abnormal salary and bonus of an executive and the subsequent adjustment in his salary and bonus. The t -statistic exceeds 3.3 in absolute value in each of the four regressions. The

¹⁶ Given the necessary data, we would have preferred to compute the abnormal compensation of the executives who are employed postbid. However, that would require compensation data for approximately 2,000 firms in year $T + 1$, a sample size similar to that in Table AI for year $T - 2$, for estimating a model of normal compensation. We have not attempted to do this because we don't have this data in machine-readable form. We use the percentage changes in compensation, instead. These percentage changes also have the advantage of being readily observable by the executives.

¹⁷ We also test the sensitivity of our results using total compensation. Although results are similar to those shown, we focus on salary and bonus in the text since the sample is nearly twice as large.

¹⁸ Over 1979 to 1981, the conference board reported the cumulative salary increases over two-year periods. For this period, we use the geometric average annual increases. For 1982 to 1985 and 1987, they report the actual raises on an annual basis. For 1986, they report an estimate.

Table IX
Second-Stage Regressions of the Postbid Change in Chief Executive Officer (CEO) Compensation on Prebid Abnormal Compensation

Estimated coefficients from regressing the adjusted change in CEO's salary and bonus from two years before to one year after bid announcement on measures of unexplained salary and bonus two years before bid announcement based on model 1 or model 2 of the first-stage regression. The sample consists of 80 *Forbes* 800 firms that became targets of takeover bids announced on the front page of the *Wall Street Journal* during 1980 to 1986. The estimated model is

$$DSALB_i = b_0 + b_1 ESALB_i + e_i$$

where $DSALB_i$ is the proportional change in salary and bonus of the CEO of firm i adjusted in two ways. The first method adjusts for inflation by using constant 1987 dollars. The second method adjusts for the industry-average change in CEO salaries over the period. $ESALB_i$ is a measure of unexplained salary and bonus based on models 1 or 2 of the first-stage regressions

$$LSALB_i = b_0 + b_1 LEQUITY_i + b_2(R_i - R_m) + b_3 AGE_i + \varepsilon_i \quad \text{Model (1)}$$

$$LSALB_i = b_0 + b_1 LEQUITY_i + b_2(R_i - R_m) + b_3 AGE_i + \sum_{j=1,n} b_{j+3} D_{ij} + \sum_{j=1,n} b_{j+n+3} D_{ij} LEQUITY_i + \varepsilon_i \quad \text{Model (2)}$$

See the Appendix for definition of the variables of these models. The t -statistics are shown in parentheses below the coefficient estimates.

Independent Variables	Dependent Variable			
	Inflation-Adjusted		Industry-Adjusted	
	Model 1	Model 2	Model 1	Model 2
Constant	0.48 (3.71) ^a	0.48 (3.75) ^a	0.43 (3.03) ^a	0.42 (3.05) ^a
Unexplained salary and bonus based on				
Model 1 of first-stage regression (based on size, performance, and executive age)	-0.92 (-3.32) ^a		-1.04 (-3.42) ^a	
Model 2 of first-stage regression (based on size, performance, and executive age; includes industry dummy and interaction terms)		-0.99 (-3.63) ^a		-1.12 (-3.73) ^a
Adjusted R^2	0.11	0.13	0.12	0.14
Probability value of F -test	0.001	0.001	0.001	<0.001

^a Denotes statistical significance at the 1 percent level in 2-tailed tests.

significance of this result is independent of the method of adjustment used for $DSALB$ (inflation-adjusted or industry-adjusted) and is also independent of the compensation model used in the first stage.¹⁹ These results are consistent with Fama's (1980) notion of ex post settling up: executives who had positive

¹⁹ Twelve of the eighty firms in Table IX received multiple bids. Excluding these firms from our analysis does not materially affect our results. We also tried to examine whether compensation adjustments differed for CEOs recently hired. However, only 4 target CEOs had been with their firms for less than five years at the time of the bid.

unexplained compensation prior to an acquisition bid experience relative declines in remuneration, and those with negative unexplained compensation prior to the bid have proportionately larger pay raises. This process of settling up may be facilitated by the increased scrutiny faced by target executives and additional information generated in conjunction with an acquisition bid.

A. Compensation Adjustments or Mean Reversion?

The results in Table IX are also consistent with mean reversion. That is, extreme values in one period may simply revert to more normal values in a subsequent period. To test this possibility, we reestimate the equations of Table IX using our random sample of industry-matched nontarget firms.²⁰ The results (not presented in a table) show that apart from the constant term, none of the coefficients are significant. That is, there is no evidence of adjustment or mean reversion for the sample of nontarget executives.

To test whether the coefficient of *ESALB* in the second-stage regression is different for targets and nontargets, we estimate the following equation for the combined sample:

$$DSALB_i = b_0 + b_1 ESALB_i + b_2 NT_i + b_3 NT_i^* ESALB_i + \varepsilon_i$$

where NT_i is a dummy variable that equals 1 if firm i is a nontarget and is equal to zero otherwise. The other variables are as defined earlier. The results of this estimation, presented in Table X, are consistent with the interpretation of compensation adjustments for executives of target firms. Adjustments to salary and bonus for target executives are significantly negatively related to the level of abnormal compensation for these executives prior to the bid. Coefficients of NT^*ESALB , which measures the *difference* between the slope term for nontargets and targets, are significantly positive.²¹ That is, the slope of the relation between adjustments to the salary and bonus of nontarget executives is significantly greater than the corresponding slope for target executives. Furthermore, the slope for nontargets, which equals the sum of the coefficients of *ESALB* and NT^*ESALB , (i.e., $b_1 + b_3$) does *not* significantly differ from zero. The t -statistics for this test (not shown in the table) range from -0.97 to -1.22 . These findings are consistent with the hypothesis that the compensation changes we observe for CEOs of takeover targets are due to ex post compensation adjustments rather than mean reversion.

B. Alternate Measures of Abnormal Compensation

We next examine the possibility that our measure of abnormal compensation in the second-stage regression is misspecified. Although it is unclear why

²⁰ We cannot estimate this equation for the entire population of 1949 nontargets shown in Table IV, because we do not have CEO compensation data for the year $T + 1$ for all of these firms.

²¹ Similar results are also obtained after deleting the extreme values of *ESALB*. Thus, our results do not appear to be driven by a few outliers.

any misspecification would produce different results for target firms than for nontarget firms, we reestimate our regressions using alternate measures of firm size and firm performance. Two alternative size measures are examined: (1) the book value of long-term debt plus the market value of equity, and (2) the book value of total assets. We also checked whether results are sensitive to the measurement of firm size at the beginning or end of the year. An alternative measure of performance, the accounting return on equity, is also used. The residuals from each of these alternative specifications of the first-stage compensation model are then used in the second-stage regressions of Tables IX and X. The results are similar in all cases to those reported above. Thus, our evidence of postbid compensation adjustments for target CEOs is robust to alternate measures of prebid normal compensation.

C. Selection Bias

We can only analyze the compensation changes of executives who remain visibly employed in a public company after the bid. This selection bias produces a censored sample since executives that become unemployed cannot be included. The problem is analogous to the omitted variable problem. Ordinary least squares estimates are biased, even asymptotically. To correct for this selection bias, we follow the two-step procedure suggested by Heckman (1976). The first step involves estimating a probit model for the probability of remaining employed

$$EMPLOYED = f(RETYEAR, LEQUITY, R_i - R_m)$$

where *EMPLOYED* is a dummy variable that equals one if an executive holds a senior executive position in a public company in year $(T + 1)$, and zero otherwise; *RETYEAR* is the number of years remaining until retirement, measured as 65 minus the executive's age in year $(T - 2)$; *LEQUITY* is the log of the market value of equity at the end of year $(T - 2)$; and R_i and R_m are the annual holding period stock returns of firm i and the market (NYSE value-weighted index), respectively, in year $T - 2$.

The results from the probit regression (see Table AII in the Appendix) reveal that the probability of remaining employed is significantly positively related to years to retirement and the size of the target firm but is unrelated to the prior performance of the target firm.²² These results hold for regressions based on both the pooled sample of target and nontarget firms as well as for the sample of target firms only.

The primary use of this probit regression is to check and control for selection bias in our sample related to the probability of remaining employed. The estimated probability from the probit model is included as an independent variable in the regressions of Tables IX and X. Significance of this variable in the regressions of Tables IX and X would indicate (and control for) a selection bias in our results.

²² We are unable to obtain data for this model for 2 of the target firms. Hence our sample sizes consist of 180 targets and 169 nontargets.

Table X
Second-Stage Regressions of the Postbid Change in Chief Executive Officer (CEO) Compensation on Prebid Abnormal Compensation

Estimated coefficients from regressing the adjusted change in CEO's salary and bonus from two years before to one year after bid announcement year on measures of unexplained salary and bonus two years before bid announcement year based on model 1 or model 2 of the first-stage regression. The sample consists of 199 *Forbes* 800 firms of which 80 are targets of takeover bids announced on the front page of the *Wall Street Journal* during 1980 to 1986. The remaining 119 firms are nontargets. The estimated model is

$$DSALB_i = b_0 + b_1 ESALB_i + b_2 NT_i + b_3 NT_i^* ESALB_i + \varepsilon_i$$

where $DSALB_i$ is the proportional change in salary and bonus of the CEO of firm i adjusted in two ways. The first method adjusts for inflation. The second method adjusts for the industry-average change in CEO salaries over the period. $ESALB_i$ is a measure of unexplained salary and bonus based on models (1) or (2) of the first-stage regressions reported in Table III. NT_i equals 1 if firm i is a nontarget and is equal to zero otherwise, b_1 is the slope term for targets, and $(b_1 + b_2)$ is the slope term for nontargets. The t -statistics are shown in parentheses below the coefficient estimates.

Independent Variables	Dependent Variable			
	Inflation-Adjusted		Industry-Adjusted	
	Model 1	Model 2	Model 1	Model 2
Constant	0.48 (4.57) ^a	0.48 (4.60) ^a	0.43 (3.72) ^a	0.43 (3.73) ^a
Unexplained salary and bonus ($ESALB$) based on				
Model 1 of first-stage regression	-0.92 (-4.09) ^a		-1.04 (-4.20) ^a	
Model 2 of first-stage regression		-0.99 (-4.44) ^a		-1.12 (-4.56) ^a
Dummy for nontargets (NT)	-0.20 (-1.53)	-0.20 (-1.51)	-0.22 (-1.50)	-0.21 (-1.48)
Dummy for nontargets times unexplained salary and bonus ($NT^* ESALB$)	0.75 (2.40) ^b	0.76 (2.35) ^b	0.84 (2.44) ^b	0.86 (2.40) ^b
Adjusted R^2	0.07	0.08	0.07	0.09
Probability value of F -test	0.001	<0.001	0.001	<0.001

^a Denotes statistical significance at the 1 percent level in 2-tailed tests.

^b Denotes statistical significance at the 5 percent level in 2-tailed tests.

Our results (not shown in the tables) reveal that the predicted probability of remaining employed is not significantly related to changes in compensation. Moreover, when we include this variable in the regressions, the remaining coefficients are nearly identical in sign, magnitude, and statistical significance to those reported in the tables.²³ Thus, selection bias does not seem to have a significant effect on the results presented.

²³ We also estimated the probit models after adding a dummy variable for target firms as an additional independent variable. The results are similar.

D. Compensation Adjustments and Bid Outcomes

The results of the preceding sections suggest that compensation adjustments occur following acquisition bids, but not in a matched sample of nontarget firms. Acquisition bids facilitate compensation adjustments, since they generate new information and invite reexamination of existing information on managerial performance. The process of compensation adjustments can differ in successful and unsuccessful acquisitions. In unsuccessful bids, compensation adjustments occur when internal monitors adjust compensation. In successful bids, compensation adjustments occur through recontracting with the new owners.

We test for differences in compensation adjustments across bid outcomes by estimating the following regression

$$DSALB_i = b_0 + b_1^*ESALB_i + b_2^*FAILED_i + b_3^*FAILED_i^*ESALB_i + e_i$$

where $DSALB_i$ is the proportional change in salary and bonus of the CEO of firm i . $ESALB_i$ is a measure of unexplained salary and bonus based on models 1 and 2 of the first-stage regressions reported in the Appendix. $FAILED$ is equal to 1 if the offer is unsuccessful, and 0 otherwise. Ten cases where a bid was rumored but never made are excluded from the regressions. Two methods are used to estimate $DSALB_i$. The first method adjusts for inflation by expressing changes in constant 1987 dollars. The second method adjusts for the industry-average change in CEO salaries over the period. The t -statistics on the coefficients of $FAILED$ are insignificant.²⁴ The coefficients on $FAILED^*ESALB$, an interactive variable that measures the difference in slope terms between unsuccessful bids and successful bids, are also insignificant. These results indicate that the degree of compensation adjustment does not differ significantly between successful and unsuccessful offers. All results are consistent for both industry-adjusted and inflation-adjusted models and hold for both measures of abnormal compensation. The results are consistent with compensation adjustments by external monitors (the acquiring firm) in the case of successful acquisitions and by internal monitors in the case of failed bids.

E. Compensation Adjustments and Managerial Response to the Bid

Morck, Shleifer, and Vishny (1988) argue that contested bids tend to be disciplinary and uncontested bids are more likely to be synergistic. If so, we should expect to see greater ex post compensation adjustments in contested acquisitions. To investigate this issue, we estimate a model similar in form to that of the previous section, but replacing $FAILED$ with $CONTEST$, a dummy variable set equal to one if target management contested the bid, and zero otherwise. The results, available upon request, indicate significant compensation adjustments for both contested and uncontested bids, with no significant differences between the groups. These results hold for both the

²⁴ These results are not shown in a table but are available upon request.

inflation-adjusted and industry-adjusted changes in salary and bonus and for both models of compensation. Overall, our findings are consistent with compensation adjustments for both contested and uncontested bids.

IV. Summary and Conclusions

This article empirically analyzes the changes in the careers and compensation of chief executives of firms that become acquisition targets. Our sample consists of *Forbes* 800 firms that became targets of takeover bids over the period 1980 to 1986 and an industry-matched sample of nontarget firms. We find that takeover bids occur with greater frequency in industries where CEOs have positive abnormal compensation. The levels of abnormal compensation do not differ significantly between target CEOs and a random sample of nontarget CEOs from the same industries. Abnormal compensation is also statistically indistinguishable between CEOs of contested and uncontested targets, and between CEOs of successful and unsuccessful targets. Target CEOs are more likely to be replaced when the bid succeeds than when it fails. In addition, we also find that CEOs of target firms who lose their jobs generally fail to find another senior executive position in any public corporation within one to three years after the bid.

Managers who do retain their jobs experience an increase in their real compensation following the bid. However, the increase is insignificantly different from that experienced by their nontarget peers in the industry. These increases for target CEOs do not differ significantly by the outcome of the bid or by the target management's response to it.

Consistent with Fama's (1980) notion of *ex post* settling up, changes in managers' compensation after a takeover bid are negatively related to measures of their prebid abnormal compensation. Our results are robust to several alternative measures of prebid excess compensation and do not seem to be an artifact of mean reversion in executive compensation. We do not find a similar relation for CEOs of a random sample of industry-matched nontargets. Moreover, our results hold regardless of bid outcome or managerial resistance. Of course, the compensation changes for the portion of target CEOs that become unemployed following a bid are unobservable. Nevertheless, statistical tests indicate that our results are unaffected by this selection bias. Overall, our findings are consistent with the hypothesis that a takeover bid generates additional information about managerial performance, that is used by labor markets to discipline managers.

Appendix

Measurement of Normal Compensation

To measure whether and to what extent managers have positive or negative unexplained compensation prior to a bid, we need a measure of normal compensation. In the literature, compensation is often modeled as a function

Table AI

**Average Estimated Coefficients from First-Stage Regression
Models of Chief Executive Officer (CEO) Compensation Two
Years Before the Takeover Bid Announcement**

Compensation is regressed on the market value of equity, abnormal stock returns, executive age, industry dummies, and interaction terms

$$LSALB_i = b_0 + b_1 LEQUITY_i + b_2(R_i - R_m) + b_3 AGE_i + \varepsilon_i \quad \text{Model (1)}$$

$$LSALB_i = b_0 + b_1 LEQUITY_i + b_2(R_i - R_m) + b_3 AGE_i + \sum_{j=1,n} b_{j+3} D_{ij} + \sum_{j=1,n} b_{j+n+3} D_{ij} LEQUITY_i + \varepsilon_i \quad \text{Model (2)}$$

where $LSALB$ is the (natural) log of annual salary and bonus, $LEQUITY$ is the log of market value of equity at year end, AGE is the CEO's age at year-end, and R_i and R_m are the annual holding period stock returns of firm i and the market (NYSE value-weighted index), respectively. D_1 to D_4 are binary dummy variables that equal 1 if a firm's industry is, respectively, mining and construction (SIC = 1), manufacturing (SIC = 2 or 3), transportation and utilities (SIC = 4), or trade (SIC = 5); they equal zero otherwise. The omitted industry is banking, insurance, and services (SIC = 6, 7, or 8). The t -statistics and the number of estimates that are significant at the 5 percent level (2-tailed test) are shown in parentheses below the coefficient estimates. Each model is estimated for the entire population of *Forbes* 800 firms in the same 2-digit industry as a target firm two years before the bid announcement. A separate regression is estimated for each year. The number of industries, n , varies from 1 to 4, depending on the distribution of targets in a given year. The sample of targets consists of 165 *Forbes* 800 firms that received takeover bids announced on the front page of the *Wall Street Journal* over 1980 to 1986. (Data on equity value and stock returns were unavailable for 17 of the 182 target firms in Table II.) Thus, the table summarizes the results of seven separate yearly regressions from 1978 to 1984. Data within the table show the average coefficient and t -statistic for the seven yearly regressions. The number of t -statistics significant at the 5 percent level in a 2-tailed test are shown below the t -values.

Independent Variables	Average Coefficient for the Seven Yearly Regressions/ (Average t -Value)/ No. of Coefficients Significant at 5 Percent Level (2-Tailed Tests)	
	Model 1	Model 2
Constant	4.38 (16.76) 7	4.21 (12.76) 7
$LEQUITY$	0.22 (9.46) 7	0.27 (6.48) 7
$(R_i - R_m)$	-0.03 (-0.22) 1 (pos)	-0.03 (-0.40) 0
AGE	0.01 (1.64) 3	0.01 (1.51) 2
Industry Dummies		
Mining and construction (D_1)		0.09 (-0.12) 0

Table AI—Continued

Independent Variables	Average Coefficient for the Seven Yearly Regressions/ (Average <i>t</i> -Value)/ No. of Coefficients Significant at 5 Percent Level (2-Tailed Tests)	
	Model 1	Model 2
Manufacturing (D_2)		0.64 (1.73) 4
Transport and Utilities (D_3)		0.10 (-0.28) 1
Wholesale and retail trade (D_4)		0.64 (1.06) 0
Interaction Terms		
$D_1*LEQUITY$		-0.06 (-0.30) 0
$D_2*LEQUITY$		-0.09 (-1.59) 3
$D_3*LEQUITY$		-0.06 (-0.38) 0
$D_4*LEQUITY$		-0.08 (-0.93) 0
Average adjusted R^2	0.25	0.38
Average probability value of F -test	< 0.001	< 0.001
Average sample size	302	302

of firm size and performance [e.g., Murphy (1985)]. We regress the natural log of compensation (salary and bonus) on the log of (year-end) market value of equity, the age of the firm's CEO and the market-adjusted return of the firm.

The rationale for use of these variables is as follows. Empirical evidence indicates that executives of larger firms are paid more. The market value of equity is used as a measure of firm size. Log values are used to normalize the distribution of both compensation and firm size, although results are similar without the transformation. Older executives are likely to have greater firm-specific human capital and receive higher compensation. Compensation is also expected to be positively related to firm performance. We use the difference between the 12-month return of the firm's stock prior to the acquisition attempt and the corresponding 12-month return on the market as a measure of firm performance. Sensitivity tests regarding model specification are discussed in Section III.

We also estimate a second model which includes dummy variables and interaction terms that permit the slope and intercept to vary by industry. The exact specifications of our models are

$$LSALB_i = b_0 + b_1 LEQUITY_i + b_2(R_i - R_m) + b_3 AGE_i + \varepsilon_i \quad \text{Model (1)}$$

$$LSALB_i = b_0 + b_1 LEQUITY_i + b_2(R_i - R_m) + b_3 AGE_i + \sum_{j=1,n} b_{j+3} D_{ij} + \sum_{j=1,n} b_{j+n+3} D_{ij} LEQUITY_i + \varepsilon_i \quad \text{Model (2)}$$

where $LSALB$ is the (natural) log of annual salary and bonus, AGE is the age of the firm's CEO at year end, and $LEQUITY$ is the log of market value of equity at year end. R_i and R_m are the annual holding period stock returns of target firm i and the market (NYSE value-weighted index), measured over year $T - 2$, where T is the year of the acquisition bid for the target firm. D_1 to D_4 are binary dummy variables that equal 1 if a firm's industry is, respectively, mining and construction (SIC = 1), manufacturing (SIC = 2 or 3), transportation and utilities (SIC = 4), or trade (SIC = 5); they equal zero otherwise. The omitted industry is banking, insurance, and services (SIC = 6, 7, or 8). For increased precision, we look beyond our samples of target and nontarget firms and estimate this model for the entire population of *Forbes* 800 firms in the same two-digit industry as a target firm two years before the bid announcement. A separate regression is estimated each year in order to capture any time variation in the parameters. Since the firms in our sample became targets from 1980 to 1986, we have one regression for each of the years 1978 to 1984. The number of industry dummies, n , in a given regression varies from one to four depending on the industry distribution of targets in a given year.²⁵

Table AI summarizes the results of the seven yearly regressions. Our focus is not on the significance of the individual coefficients, but on whether we have developed an adequate, *unbiased* model of compensation. Since the compensation model is reestimated each year using all firms in a target's industry, different numbers of firms and industries are included each year.²⁶ The sample size in the regressions averages 302 and ranges from a low of 137 in 1978 to a high of 426 in 1983 and 1988. The seven yearly regressions contain a total of 2,114 executive-years, of which 165 are targets and 1,949 are nontargets. For model 1, the adjusted R^2 averages 25 percent, which is typical of this literature. It ranges from a low of 19 percent to a high of 34 percent. The results from model 1 indicate that firm size is significantly related to salary and bonus in each of the seven regressions with an average

²⁵ These are the industry categories for which the Conference Board reports the CEO's average pay raises. Since we use this data later in the article to compute industry-adjusted pay raises, we also adopt this industry classification for the regression.

²⁶ We could estimate the compensation model for the entire set of *Forbes* 800 firms for each of the years of interest. However, this would require us to hand-collect seven years of compensation data for each of the 800 firms. For economy, we estimate the compensation model for each given year using all *Forbes* 800 firms in the 2-digit SIC industries of the target firms in year T .

Table AII
Results of Probit Regressions to Estimate the Probability of
Remaining Employed

The following regression is estimated

$$EMPLOYED = f(RETYEAR, LEQUITY, R_i - R_m)$$

where *EMPLOYED* is a dummy variable that equals one if an executive holds a senior executive position in a public company in year ($T + 1$), and zero otherwise; *RETYEAR* is the number of years remaining until retirement, measured as 65 minus the executive's age in the year ($T - 2$); *LEQUITY* is the log of the market value of equity at the end of year ($T - 2$); and R_i and R_m are the annual holding period stock returns of firm i and the market (NYSE value-weighted index), respectively, in year $T - 2$. The t -statistics are shown in parentheses. We are unable to obtain data for this model for 2 of the target firms. Hence our sample sizes consist of 180 targets and 169 nontargets.

	Constant	Years Until Retirement (<i>RETYEAR</i>)	Size (<i>LEQUITY</i>)	Performance ($R_i - R_m$)	<i>N</i> Chi-Squared
Targets and nontargets	-1.48 (-4.58) ^a	+0.04 (4.37) ^a	+0.20 (4.56) ^a	+0.29 (1.31)	349 44.9
Targets only	-1.66 (-3.99) ^a	0.32 (2.41) ^b	0.20 (3.44) ^a	0.76 (0.02)	180 20.0

^a Denotes statistical significance at the 1 percent level in 2-tailed tests.

^b Denotes statistical significance at the 5 percent level in 2-tailed tests.

t -statistic of 9.46. The market-adjusted return of the firm is insignificantly related to salary and bonus; although the average coefficient is negative, the only significant coefficient of the seven regressions is positive. CEO age is significantly and positively related to salary and bonus in three of the seven regressions, with an average t -statistic of 1.64.

Similar results for size, market-adjusted return, and age are recorded for model 2. The addition of industry dummies and interaction terms increases the adjusted R -squared to an average of 38 percent; it ranges from a low of 26 percent to a high of 50 percent. The constant term and the coefficients of *LEQUITY* are for the financial and services sector. The t -statistics of the industry dummies test for differences in the intercept term between a given industry sector and the financial and services sector. Compensation levels for the manufacturing sector are significantly higher than that of the financial and services sector in four of the seven years. Differences between the coefficients of *LEQUITY* for a given industry and the financial and services industry are captured by the appropriate interaction terms. With the exception of the manufacturing sector, these t -statistics are generally insignificant. For the manufacturing sector, the slope of firm size is significantly smaller than that for the financial and services sector in three of the seven years.

The first-stage regressions are estimated every year using the set of *Forbes* 800 firms in the same industries as that year's targets. The residual from the first-stage regressions measures the amount of abnormal salary and bonus in

year $T - 2$. By construction, the average residual in a given year for each regression is constrained to be zero. For any particular subgroup, however, it may deviate from zero.

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