DOES IT PAY TO PAY MORE TO NEW HIRES? THE COST AND EFFECTIVENESS OF NEW CEOS

***William Bosworth*[1,2]**
***Anil Gulati*[1]**
***Sharon Lee*[1]**

Abstract

Compensation and the post succession performance of 207 newly hired CEOs is examined to determine if there is any evidence that higher initial levels of compensation lead to superior firm performance. Using industry adjusted Tobin's q as a measure of firm performance this study finds that there is no evidence that either higher initial total compensation levels or greater portions of equity based pay lead to superior firm performance. Increases in levels of compensation do anticipate improvements in firm performance one year in advance. Improved performance leads to increased levels of compensation for up to two subsequent years.

Keywords: compensation, CEO, firm performance

[1] *Western New England College*
[2] *Corresponding Author*
wcbosworth@comcast.net
wboswort@wnec.edu
Western New England College, 1215 Wilbraham Road, Springfield Mass. 01119 U.S.A
413-782-1738
Fax 413-796-2068

Introduction

Current research in CEO compensation seeks to determine (1) whether executive compensation contracts can be written to eliminate or mitigate the Jensen - Meckling (1976) agency problem and (2) whether such contracts can be observed in practice. Empirically this amounts to a search for a statistically and an economically significant correlation between CEO compensation and firm performance. Bechuk and Fried (2004) document considerable evidence that contracts between CEOs and their firms are inconsistent with ones that would maximize the wealth of the shareholders. Garvey and Milbourn (2006), Morse, Nanda, and Seru (2005), Daines, Nair, and Kornhauser (2004) and others have uncovered rent seeking behavior unrelated to performance. Morse Nanda, and Seru (2006) find evidence of "rigging" where performance bench marks used in contracts are chosen ex post to maximize the compensation of the CEO. Yermack (1997) observes that options tend to be awarded prior to good announcements. In contrast Himmelberg and Hubbard (2000), Coles, Lemmon, and Meschke (2007), Core, Guay and Larker (2002) and others find that incentive pay contracts are consistent with the "relative performance hypothesis" that links incentive pay to performance.

Even when a correlation between compensation and performance is observed, the timing of the relationship is important. Increased executive compensation that anticipates improved firm performance indicates that contracts may be written to mitigate the agency problem. Improved performance that anticipates increased executive compensation is consistent with both the implicit contract hypothesis of Hayes and Schaefer (2000) and the rigging hypothesis of Morse et. al. (2006).

Studies of executive compensation are invariably complex for a number of reasons. Firm performance, however it is defined, is a function of many factors that lie outside the control of the CEO. CEO compensation packages are complicated and are not easily captured by a single number. CEO accumulation of equity exposure to the firm is a stock variable which may play a more important role in CEO behavior than the flows of periodic remuneration such as salary and bonus. Finally, the contracting environment varies among firms in terms of growth opportunities and inherent business risk.

There are four advantages in focusing on new hires in a search for a relationship between pay and performance. First, Daines, Nair, and Kornhauser (2004) reason that when there is a managerial succession ". . . a new CEO who is paid differently than the old CEO would perform differently as well." They study how firms jump/transition to performance

quintiles when there is a difference in the pay of the new CEO and the incumbent. While Danes et. al. focus on one-year lags this study uses a five year window of observations so that the long term consequences of decisions can be observed. Second, Core Larker and Guay (2002) argued that while CEO contracts are on average in equilibrium, changing contracting technology and the cost of recontracting will cause individual contracts to be temporarily out of equilibrium. Studying new hires with fresh contracts should mitigate against any problems regarding obsolete contracts. Third, many studies have found that CEOs with large equity holdings and large percentages of firm ownership are associated with high stock returns. But it is not clear what, if any, the causal relationship between CEO wealth and shareholder wealth actually is. By observing CEOs early in their tenure before a substantial ownership position is accumulated one can investigate whether equity-based contracts anticipate good performance. Finally, Bebchuck and Fried (2004) argue that executive compensation is, in part, a function of "managerial power" that emanates from the relationship between the board of directors and the CEOs. A newly hired CEO has had less time to establish the implicit relationships with board members that contribute to managerial power. Therefore his or her contract may be more closely aligned with the interests of the shareholders than that of an incumbent. In sum, a sample based solely on new hires is more likely to detect a relationship between high compensation and high equity based compensation and firm performance than a purely random sample.

There have been many studies that have focused on CEO turnover. Denis and Denis (1995) examine the relationship between turnover and subsequent performance and find evidence that forced turnovers lead to improved performance. Huson, Malatesta, and Parrino (2004) find that post turnover performance improves if there is a greater level of institutional shareholdings, an outsider dominated board, and if the new hire in an outsider. Unlike these two studies, the present study focuses on the effect of the level of compensation of the new CEO relative to the incumbent on subsequent firm performance.

Stammerjohan (2004) uses a two stage process that determines the expected level of compensation of 137 CEOs and observes the relationship between the unexplained residual and firm performance. He finds that while the stock option form of compensation is positively correlated to performance, the bonus form has the opposite effect. This study uses the transition year as an event year and normalizes the new hire's compensation by dividing it by that of the incumbent.

The central finding of this paper is that there is no relation between initial levels of total compensation or equity-based compensation and subsequent firm performance. Firms with initially high q ratios tend to pay more to new hires and performance tends to be persistent. There is weak evidence that after the first two years, high total compensation can anticipate good performance by one year. Good performance in any particular year is rewarded in the contemporaneous year and up to two subsequent years. These last two findings are consistent with the implicit contract theory of Hayes and Schafer (2000), the retention motive, and the rigging hypothesis of Morse et. al. (2006).

Methodology

The research design consists of testing eight closely related hypotheses:

H1: Firms that are under-performing will pay more to attract a new CEO. A highly skilled CEO can contribute more at the margin to a firm with a potential for a turn-around than she can to a firm that is already performing well (Maccoby, 2004).

H2: Firms that are under-performing will pay a greater portion of remuneration in the form of equity-based incentives in order to attract a CEO. Under-performing firms have a greater potential stock return that makes equity compensation more valuable to the CEO and more effective as an incentive tool.

The tests of these hypotheses are ordinary least squares regressions in the form of,

$$\Delta Cmp_1 = f(q_{-1}, \text{Control Variables})$$

$$eq_1 = f(q_{-1}, \text{Control Variables})$$

where ΔCmp_1 is the logged difference between the total compensation of the new hire in the year after the transition year and that of the incumbent in the year before the transition year, eq_1 is equity based portion of total compensation in the first year after the transition year, and q_{-1} is the four-digit SIC industry median adjusted Tobin's q ratio for the company in the year before the transition.

H3: CEOs whose initial total remuneration differential is high will improve the firm's industry adjusted q ratio over the course of the five years of the observation period.

H4: CEOs whose compensation is more equity based will improve the firm's industry adjusted q ratio over the course of the five years of the observation period.

The tests of these hypotheses are ordinary least squares regressions in the form of,

$$q_t = f(\Delta Cmp_1, \text{Control Variables}),\ t = 1, 2, 3, 4, 5$$

$$q_t = f(eq_1, \text{Control Variables}),\ t = 1, 2, 3, 4, 5\ .$$

Each of the two regressions is run five times, once for each of the five years.

H5: CEO compensation that increases at a high rate over the course of the five years will, anticipate (lead) changes in adjusted q because compensation committees have access to internal benchmarks consistent with the firm's strategic plan and anticipate an improved external assessment of the value of the company.

H6: The higher the equity-based compensation the greater the performance in subsequent years. That is, compensation with a high equity based component will lead good performance because of the incentive

effect. This is consistent with a number of contributions to the literature (Core, Guay, Larcker, 2002; Murphy, 1999, Stammerjohan, 2004).

The tests of these hypotheses are ordinary least squares regression in the form of,

$\Delta q_t = f(\Delta Cmp_{t-i}$, Control Variables; $t = 2, 3, 4, 5; i = 0, 1, 2, 3, 4; i<t.$

$\Delta q_t = f(eq_{t-i}$, Control Variables); $t = 2, 3, 4, 5; i = 0, 1, 2, 3, 4; i<t.$

where Δq_t is the difference between the industry median adjusted Tobin's q ratio in the year t and the year of the transition, $q_t - q_0$. The regressions are run fourteen times in total, five times for t = 5, four times for t = 4, etc.

H7: CEO total compensation growth will lag or be contemporaneous with good firm performance. This would be consistent with the implicit contract hypothesis of Hayes and Schafer (2000), the retention motive, and the rigging hypothesis of Morse et. al. (2006).

H8: CEO equity based compensation will lag or be contemporaneous with good performance. Equity based compensation awarded after good performance is consistent with the previous mentioned studies and the camouflage hypothesis of Bebchuk and Fried (2004).

The tests of these hypotheses are ordinary least squares regressions in the form of,

$\Delta Comp_{t-i} = f(q_{t-i}$, Control Variables); $t =2, 3, 4, 5; i = 0, 1, 2, 3, 4; i<t.$

$eq_{t-i} = f(q_{t-i}$, Control Variables; $t =2, 3, 4, 5; i = 0, 1, 2, 3, 4; i<t.$

The regressions are run fifteen times, once for each of the t – i years.

Data

The four Key variables in this study are,

1. ΔCmp_i, i = 1, 2, 3, 4, 5 which is the log difference between the compensation of the new hire in the i^{th} year after the transition year and the compensation of the incumbent one year before the transition year and the compensation i years after the transition year, $\Delta Cmp_i = Cmp_i - Cmp_{-1}$. Compensation is the sum of salary, bonus, other annual compensation, LTIPs, the market value of restricted stock granted, the Black Sholes value of options granted (as calculated in the ExecuComp data base), and other compensation reported in the proxy statements. Compensation does not include cash flows realized from the redemption of restricted stock or the exercise of options.
2. q_i, i = -1, 0, 1, 2, 3, 4, 5, which is four digit SIC median adjusted Tobin's q in the ith year after the transition year and q_{-1} is the adjusted q one year before the transition year. Garvey and Milbourn (2006) use industry wide measures to find that CEOs are paid for good luck. Normalizing q allows observation of performance changes unique to the firm. Consistent with Chung and Pruitt (1994) Tobin's q is calculated as (Market Value of Equity + Book Value of Debt) / Total Assets. Adjustment was made for amortization of goodwill. The data are from the Compustat data base and the adjustment medians are calculated each year from the universe of firms in each four-digit SIC category.
3. eq_i, i = 1, 2, 3, 4, 5, which is the portion of compensation that is equity based in the ith year after the transition year. It is the sum of the amount of restricted stock granted and the Black Sholes value of the option grants divided by the total compensation not including proceeds from the redemption of restricted stock or the exercise of options.
4. Δq_i, i = 1, 2, 3, 4, 5 which is the change in the median adjusted Tobin's q from its level in the year of the transition, $\Delta q_i = q_i - q_0$

Adjusting both q with the industry median and adjusting remuneration with the incumbent's remuneration controls for industry specific and firm specific features of the contracting environment. Additional controls include,

1. InsideH: A dummy variable equal to one if the new hire has been an employee of the firm for more than one year. This is to control for managerial power (Bebchcuk and Fried, 2004), and Husan et. al, (2004) finding that outside hires outperform inside hires.
2. Block: A dummy variable equal to one if there is at least one outside holder of 5% or more of the firm's shares to control for the monitoring effect of block holders (Shleifer and Vichny, 1986, Denis and Serrano, 1996, Denis et. al. 1997, Schiehll, 2006).
3. Depart: A dummy variable if the old CEO has completely left the firm within six months of the transition date. A complete departure of the old CEO may provide for an interference free decision making environment that enhances firm performance.
4. Instpc: The percentage of the firm's stock held by the officers and directors of the firm. Officers and the board members that hold a large percent of the firm's shares have a vested interest in the initial compensation contract and the subsequent performance of the new hire.
5. CNC: A dummy variable equal to one if it appears that there is a policy that the CEO can not also be a chair to control for dual position entrenchment effects (Koufopoulos, 2006, Goyal and Park, 2002).

6. Inbpc: The percentage of the directors that are insiders. Weisbach (1988), Borokhovich (1996), and Huson et. al. (2004) find that post transition performance is better in the presence of an outsider dominated board.
7. Oldage: The departure of an older incumbent may affect the pay differential and the departure of a younger incumbent may be an indication of dissatisfactory performance and a greater opportunity for improvement.
8. Newage: A younger new CEO will have less experience and less bargaining power and the pay differential will be lower.
9. OldStpc: The percentage of the firm's shares held by the incumbent may influence the compensation mix of the new hire and the initial level of the firm performance.
10. Dual: A dummy variable equal to one if there is an ownership structure created by two classes of stock that clearly insulates a block of shareholders from loss of control.
11. t: The year of the transition to control for any trends in CEO remuneration ($1992 \leq t \leq 2002$).
12. y: The number of years the CEO did not work under a chairmanship held by the previous CEO. ($0 \leq y \leq 5$).

Sample

The initial sample is a screen of the ExecuComp data base that filters out all CEO transitions where there is at least one year of compensation data for the incumbent and five years of subsequent data for the new hire during the period 1992 through 2002. That is, there must be at lest seven continuous years of CEO compensation data available with a transition in the second year. This yields 245 observations. Data on the governance variables are hand-gathered from proxy statements available through EDGAR, the SEC's on-line data repository. Missing proxy statements or complicated governance structures reduced the sample size to 221 observations. Data for the computation of Tobin's q ratio are taken from the Compustat data base. The data to calculate the four-digit median q are taken year by year from the universe on all the firm's in the four-digit category in the Compustat data base. If, in any of the seven years there is at least one year when a firm was the only firm operating within its four-digit industry, that firm is eliminated from the sample. The result is a sample of 207 firms. Table 1 gives the summary statistics. The most striking thing about this sample is 27% of the new CEOs were insiders (with more than a year of service to the firm while Huson et. al. (2004) construct a sample where 81% of the new hires were insiders. The difference reflects a well documented trend toward replacing outgoing CEOs with outsiders rather than insiders.

Table 1 About Here

Results

The first and second columns of Table 2 show that neither H1 nor H2 is supported by the data. Firms with poor performance do not pay more to attract a CEO with more skills and they do not award their new executives with a compensation package that is more equity-based. Not only are the nulls not rejected, the coefficient on q_{-1}, is *significantly positive* for both ΔCmp_1 and eq_1. These findings are consistent with Himmelberg and Hubbard (2000) and others who have found that high performing firms compensate their executives more. They are inconsistent with the conjecture of Maccoby (2004) that poorly performing firms seek a "savior" who can improve performance. The result reported here indicates that high performing firms pay more for new executives relative to the outgoing executive. One possible explanation for the high portion of equity-based compensation in higher relative q firms is that restricted stock and options appear to be less expensive in the proxy statements relative to their economic value for firms with high q ratios. This would be consistent with the "camouflage" hypothesis of Bebchuk and Fried (2004) who observe that executive compensation take forms that are not easily observed by shareholders.

Table 2 About Here

Columns 3 through 7 of Table 2 do not provide evidence in support of H3. Providing higher compensation to new executives does not affect subsequent performance. Of the five years observed, the coefficient on ΔCmp_1 is significant in only the second year. The most significant feature of these columns is the persistence of q_{-1}. Consistent with the findings of Huson et. al. (2004), the hypothesis of mean reversion is clearly rejected. Although the coefficient of q_{-1} is significantly below one in all the years except year 3, its role in determining the q_t is substantial, giving rise to the question of how much a new CEO can contribute in five years. Another factor that seems to be persistent is the portion of the company that was owned by the incumbent CEO at the time of his departure. The apparently benevolent affects of a CEO equity stake appear to carry forward for three years after his or her departure.

H4 was not supported and the tests are not reported. Including a large equity based portion on incentives to new CEOs has no effect on subsequent firm performance. A table providing the details of these tests would be almost identical in appearance to Table 2 except eq_{-1} would appear where Δcmp_1 does. The results are consistent with Konan and Matsumoto (2006) who find no effect of stock option awards on firm performance in Japan.

There is some evidence to support H5. The first column in Table 3 shows that increases in compensation are associated with contemporaneous good performance in each year. The first column

shows that good performance is anticipated by at least one year with high compensation. Performance only in year 5 was possibly affected by compensation two years prior.

Table 3 About Here

There is not much convincing evidence in support of H6. Higher levels of equity awards do not seem to anticipate high levels of performance. Column 1 of Table 4 shows that high portions of equity-based compensation and firm performance are contemporaneously correlated. Column 2 does give weak indication of equity awards anticipating next-year performance three years and four years after the transition year. But the fact that there are no significant relations in columns 3, 4, and 5 indicates that longer term benefits from equity-based compensation can not be detected. The results reported in Table 4 are consistent with the possibility that executive compensation committees recognize good performance before the financial markets do (Hayes and Shaefer, 2000) and the higher level is a consistent with an implicit contract. It is also possible that Chief Executive Officers are able to increase equity-based incentives when they anticipate an increase in the stock price of the firm (Yermack, 1997, Morse et. al., 2006).

There is ample evidence to support the notion that improved performance will, over time, lead to higher levels of compensation (H7). Consistent with Table 4, the first column of Table 5 shows that performance and compensation are contemporaneously related. Good performance anticipates high relative compensation with every possible lead except for year one as indicated in the bottom row. The bottom entry of each of Columns 3, 4, and 5 show that year 1 performance has no affect on subsequent compensation. It seems logical that compensation committees do not perceive any reason to re-contract so soon after the new contract and need to observe a second year of performance before recontracting.

Table 5 About Here

While H4 was rejected because there is no evidence that the equity portion of compensation predicts future performance, past performance does weakly predict equity mix. The first row in Table 6 shows the equity portion of the compensation package in the fifth year is a function of the increase in relative q in the contemporaneous and previous four years (H8). The second row shows that the equity mix in the fourth year is a function of the change in relative q as far back as the second year. The fact that the equity portion lags rather than leads performance is consistent with the camouflage view of equity compensation of Bebchuk and Fried (2004) and the rigging hypothesis of Morse et. al. But it is also consistent with Milbourne (2003) who finds evidence that equity compensation increases as the reputation of the CEO improves. Good firm performance may give rise to concerns about executive retention and option grants may be one way address those concerns without precipitating a reaction from shareholders. Equity awards, including option grants plays a role in rewarding good performance ex-post as well as providing incentives for future good performance.

Table 6 About Here

Summary and Conclusions

The relationship between firm performance and executive compensation, if any, has been difficult one to observe. To the extent that one exists, it is not always clear whether high rates of compensation anticipate good performance or vice versa. This paper examines the temporal relationship between performance and compensation by looking at relative compensation and the subsequent performances of new CEOs. There is no evidence to support the notion that paying high levels of compensation leads to improved performance. Indeed, firms with better performance tend to offer more compensation to new hires. While good performance is persistent, there is no evidence that highly paid CEO's have any affect on firm performance after they are hired.

Firms with superior performance also tend to use more equity-based incentives than other firms but there is no evidence that these awards influence subsequent performance. It is possible that the apparent cost of equity-based forms of compensation is lower for firms with high relative q ratios than for firms with low relative q ratios.

While paying more for a new CEO has no observable affect on firm performance, there is some evidence that increases in CEO pay later on may have a positive affect. But the data are also consistent with the more plausible notion that the compensation committees are able to observe good performance before it becomes manifest in the q ratios.

Although higher portions of equity-based pay anticipate better performance by one year there were no long term affects of equity-based performance found in this study.

There is ample evidence to support the notion that improved performance will, over time lead to higher levels of compensation. Executives are rewarded for good performance ex-post. Moreover, there is some evidence that good performance may increase the portion of compensation that is in the form of restricted stock or option grants. This may be a means by which executive committees can camouflage richer rewards needed for retention. Increases in equity based compensation in firms with better performance is also consistent with the "rigging," the substitution of external bench marks when external benchmarks are more likely to lead to higher pay (Morse et. al., 2006).

While it does not appear that there is a relation between the amount of compensation awarded to new hires, there is a relationship between subsequent performance and subsequent increases in compensation.

References

1. Bebchuk, Lucian, and J. M. Fried, 2004. *Pay Without Performance*, Harvard University Press, Cambridge, MA.
2. Borokhovich, Kenneth.A., Robert Parrino, and Teresa Trapani. 1996. Outside Directors and CEO Selection *Journal of Financial and Quantitative Analysis* 31: 337-355.
3. Chung, Kee H. Stephen W. Pruitt. 1994. A Simple Approximation of Tobin's q *Financial Management* 23: 70-74.
4. Coles, Jeffrey, Michael Lemmon, and J. Felix Meschke. 2007. Structural Models and Engogeneity in Corporate Finance: The Link Between Managerial Ownership and Corporate Performance Working paper.
5. Core, John E. Guay, Wayne, and David Larker. 2002. Executive Equity Compensation and Incentives: A Survey Working Paper.
6. Daines, Robert, Vinay B. Nair, and Lewis Kornhauser. 2004. The Good, The Bad, and The Lucky: CEO Pay and Skill Working Paper.
7. Denis, David J. and Diane K. Denis. 1995. Firm Performance Changes Following Top Management Dismissals Journal of Finance 50: 1029-1057.
8. Denis, David J. and Jan.M Serano. 1996. Active Investors and Management Turnover Following Unsuccessful Control Contests Journal of Financial Economics 40: 239 – 266.
9. Denis, David J. and Diane K. Denis and Atulya Sarin. 1997. Ownership Structure and Top Executive Turnove *Journal of Finance* 45: 193-221.
10. Garvey, Gerald, and Todd Milbourn. 2006. Asymmetric Benchmarking in Compensation: Executives are Paid for Good Luck But Not For Bad *Journal of Financial Economics* 82: 197 – 225.
11. Hayes, Rachel M. and Scott Schaefer. 2000. Implicit Contract and the Explanatory Power of Top Executive Compensation for Future Performance *Rand Journal of Economics*, 31: 273-294
12. Himmelberg, Charles, and R. Glenn Hubbard. 2000. Incentive Pay and the Market for CEOs: An Analysis of Pay-for-Performance Sensitivity Working Paper.
13. Huson, Mark R. Paul H. Malastesta, and Robert Parrino. 2004. Managerial Succession and Firm Performance *Journal of Financial Economics* 74: 237-275.
14. Goyal, Vidhan K. and Chul W. Park. 2002. Board Leadership Structure and CEO Turnover *Journal of Corporate Finance* 8: 49 - 66
15. Konan, Uchida and Mamora Matsumoto. 2006/2007. Ownership Structure and Operating Performance Changes Surrounding Stock Option Adoptions: Evidence from Japan *Corporate Ownership and Control* 4: 10 – 23.
16. Koufopoulos, Dimitrios N. and Maria-Elisavet N. Balta. 2006. Board Configuration And Performance In Greece: An Empirical Investigation. *Corporate Ownership and Control* 3: 9-23.
17. Maccoby, Michael. 2004. Searching for a Corporate Savior: The Irrational Quest for Charismatic CEOs *Academy of Management Review* 29: 306-307.
18. Milbourn, Judd T. 2003. CEO Reputation and Stock Based Compensation *Journal of Financial Economics* 68: 233-262.
19. Morse, Adair, Vikram Nanda, and Amit Seru. 2005. Are Incentive Contracts Rigged By Powerful CEOs? Working Paper.
20. Schiell, Eduardo. 2006. Ownership Structure Large Inside/Outside Shareholders, and Firm Performance. *Corporate Ownership and Control* 3: 96-112.
21. Shleifer, Andrei. and Robert.W. Vishny. 1986. Large Shareholders and Corporate Control. *Journal of Political Economy* 94: 461 – 492.
22. Stammerjohan, William. 2004. CEO Compensation and Subsequent Firm Performance: An Empirical Investigation. *Corporate Ownership and Control* 2: 86 – 103.
23. Weisbach Michael S. 1988. Outside Directors and CEO Turnover *Journal of Financial Economics* 20: 431 – 461.
24. Yermack D. 1997. Good Timing: CEO Stock Options Awards and Company News Announcements *Journal of Finance* 52: 449-476.

Appendices

Table 1

Variable	Mean	Std. Dev	Min	Max
block	0.66	0.48	0.00	1.00
bsize	10.84	3.24	0.00	29.00
cnc	0.07	0.26	0.00	1.00
Δcmp_1	0.37	0.71	-1.35	2.81
Δcmp_2	0.56	0.80	-1.16	3.45
Δcmp_3	0.70	0.78	-0.99	3.33
Δcmp_4	0.82	0.83	-1.58	4.40
Δcmp_5	0.84	0.87	-1.70	4.01
depart	0.59	0.49	0.00	1.00
dual	0.04	0.20	0.00	1.00
$eqpc_1$	0.46	0.24	0.00	0.94

Table 1 continued

$eqpc_2$	0.48	0.25	0.00	0.97
$eqpc_3$	0.53	0.25	0.00	0.97
$eqpc_4$	0.54	0.25	0.00	0.99
$eqpc_5$	0.54	0.25	0.00	1.00
insibp	0.25	0.13	0.00	0.74
insih	0.27	0.45	0.00	1.00
insistpc	7.51	12.79	0.00	80.00
newage	51.73	5.82	34.00	72.00
oldage	61.62	6.46	39.00	79.00
oldspc	2.23	5.29	0.00	32.70
q_{-1}	1.15	0.46	0.35	4.70
q_1	1.32	0.55	0.33	2.57
q_2	1.40	0.69	0.06	2.96
q_3	1.50	0.89	0.22	3.62
q_4	1.51	0.83	0.49	3.37
q_5	1.43	0.74	0.22	3.05
t	1996	1	1993	1999
y_1	0.35	0.44	0.00	1.00
y_2	0.87	0.87	0.00	2.00
y_3	1.49	1.28	0.00	3.00
y_4	2.15	1.70	0.00	4.00
y_5	2.84	2.11	0.00	5.00

Table 2

	Dependent Variable						
Ind. Var	$\Delta comp_1$	eq_1	q_1	q_2	q_3	q_4	q_5
Const.	65.604	-48.112	-83.732	-77.778	-24.835	-1.957	97.004
	(0.900)	(1.96)	(2.31)	(1.63)	(0.41)	(0.03)	(1.63)
Δcmp_1			0.048	0.108	0.063	0.038	0.037
			(1.35)	(2.31)	(1.07)	(0.62)	(0.64)
q_{-1}	0.401	0.108	0.719	0.848	1.002	0.848	0.653
	(3.31)***	(2.66)***	(11.59)***	(10.36)***	(9.60)***	(7.94)***	(6.44)***
oldage	-0.015	-0.001	0.003	0.005	-0.002	-0.005	0.004
	(1.87)**	(0.48)	(0.68)	(1.06)	(0.30)	(0.82)	(0.59)
newage	-0.009	0.003	-0.003	0.005	0.007	0.014	0.006
	(1.08)	(1.07)	(0.77)	(0.79)	(0.90)	(1.84)*	(0.81)
insih	0.282	-0.003	-0.064	-0.056	-0.110	-0.083	-0.045
	(2.59)**	(0.09)	(1.17)	(0.78)	(1.20)	(0.88)	(0.51)
insibpc	-0.754	-0.154	0.023	-0.168	0.007	0.144	0.585
	(1.81)**	(1.10)	(0.11)	(0.61)	(0.02)	(0.40)	(1.70)
block	0.095	0.000	-0.012	0.086	0.046	0.018	-0.007
	(0.92)	(0.01)	(0.22)	(1.26)	(0.53)	(0.20)	(0.08)
dual	0.157	-0.028	-0.102	-0.068	-0.128	0.182	0.105
	(0.58)	(0.30)	(0.75)	(0.39)	(0.56)	(0.79)	(0.48)
oldspc	0.008	-0.009	0.008	0.016	0.021	0.011	0.003
	(0.68)	(2.51)**	(1.47)*	(2.18)**	(2.28)**	(1.14)	(0.30)

Table 2 continued

insistpc	-0.007	-0.001	0.000	0.001	0.002	0.001	-0.001
	(1.69)**	(0.54)	(0.22)	(0.34)	(0.47)	(0.38)	(0.23)
t	-0.032	0.024	0.042	0.039	0.012	0.001	-0.049
	(-0.87)	(1.97)*	(2.32)**	(1.62)	(0.40)	(0.03)	(1.63)
depart	-0.205	-0.069					
	(1.83)*	(1.85)*					
cnc	-0.126	-0.086					
	(0.63)	(1.28)					
y_i			-0.002	-0.004	0.035	0.009	0.004
			(0.04)	(0.09)	(0.99)	(0.32)	(0.19)
p>F	0.002	0.0041	0.000	0.000	0.000	0.000	0.000
AdjRsq	0.09	0.08	0.46	0.40	0.35	0.25	0.2

*, **, *** significant at 10%, 5%, and 1% levels. Poorly performing firms do not pay more or use more equity incentives to recruit new executives, higher levels of compensation do not promote superior q ratios in subsequent years.

Table 3
Do Bigger Packages Lead to Better Firm Performance?

	Explanatory Variable Δcmp_{t-I} I = 0, 1, 2, 3 ,4				
Dep Var.	t	t-1	t-2	t-3	t-4
q_5	0.13	0.121	0.082	0.016	0.34
	(2.72)***	(2.61)***	(1.60)**	(0.32)	(0.59)
q_4	0.184	0.156	0.046	0.046	
	(3.82)***	(2.91)***	(0.86)	(0.76)	
q_3	0.171	0.0951	0.071		
	(3.13)***	(1.81)**	(1.19)		
q_2	0.109	1.06			
	(2.63)***	(2.26)***			

The results of 14 OLS regressions with the constant term and the control variables not reported. Student t ratios are in parentheses. *,**,and *** indicate significance at the 10% 5% and 1% level respectively. Δcmp_i is the increase in executive compensation from the incumbent's i+1 years after the transition, and q_i is the industry adjusted q ratio in year i. Increased compensation is contemporaneous with, and leads, performance by one year.

Table 4
Does Greater Equity Incentive Lead to Better Firm Performance?

	Explanatory Variable eq_{t-I} I = 0, 1, 2, 3 ,4				
Dep Var.	t	t-1	t-2	t-3	t-4
q_5	0.013	0.010	0.18	0.003	0.021
	(1.74)*	(1.57)*	(1.47)	(0.30)	(0.80)
q_4	0.027	0.033	0.005	0.21	
	(4.34)***	(2.52)***	(0.40)	(0.70)	
q_3	0.034	0.008	0.17		

Table 4 continued

	(2.53)***	(0.77)	(0.65)
q_2	0.022	0.17	
	(2.47)***	(0.81)	

The results of 14 OLS regressions with the constant term and the control variables not reported. Student t ratios are in parentheses. *,**,and *** indicate significance at the 10% 5% and 1% level respectively. eq_i is the portion of compensation that is equity based and q_i is the industry adjusted q ratio in year i. High equity portions of compensation are mostly contemporaneous with performance;

Table 5
Does Improved Firm Performance Lead to Greater Total Compensation?

	Explanatory Variable: Δq_{t-I} I = 0, 1, 2, 3 ,4				
Dep Var.					
	t	t-1	t-2	t-3	t-4
Δcmp_5	0.307	0.302	0.361	0.294	0.121
	(2.56)***	(2.67)***	(3.41)***	(2.15)**	(0.53)
Δcmp_4	0.381	0.414	0.426	0.215	
	(3.68)***	(4.31)***	(3.36)***	(1.04)	
Δcmp_3	0.281	0.342	0.280		
	(3.14)***	(2.93)***	(1.50)		
Δcmp_2	0.351	0.19			
	(2.87)***	(0.960)			

The results of 14 OLS regressions with the constant term and the control variables not reported. Student t ratios are in parentheses. *,**,and *** indicate significance at the 10% 5% and 1% level respectively. Δcmp_i is the increase in executive compensation from the incumbent's i+1 years after the transition, and Δq_i is the change on the industry adjusted q ratio in year i from that prevailing one year before the transition. Improved performance is contemporaneous with, and leads increases in compensation by up to two years;.

Table 6
Does Improved Performance Lead to Greater Equity Incentives?

	Explanatory Variable Δq_{t-I} I = 0, 1, 2, 3 ,4				
Dep Var.					
	t	t-1	t-2	t-3	t-4
eq_5	0.056	0.052	0.067	0.066	0.0998
	(1.59)*	(1.56)*	(2.16)**	(1.66)*	(1.51)*
eq_4	0.057	0.758	0.096	0.80	
	(1.79)**	(2.57)***	(2.50)***	(1.29)	
eq_3	0.011	0.33	0.56		
	(0.37)	(0.86)	(0.94)		
eq_2	0.043	0.041			
	(1.14)	(0.69)			

The results of 14 OLS regressions with the constant term and the control variables not reported. Student t ratios are in parentheses. *,**,and *** indicate significance at the 10% 5% and 1% level respectively. eq_i is the portion of compensation that is equity based change and Δq_i is the change on the industry adjusted q ratio in year i from that prevailing one year before the transition. The equity portion of compensation in years 4 and 5 are influenced by prior performance.