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## THE EFFECTS OF OWNERSHIP STRUCTURE ON CONDITIONS AT THE TOP: THE CASE OF CEO PAY RAISES

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*We examine how ownership configuration affects the determination of CEO pay raises. Based on a sample of 188 firms over a 5-year period, it was found that pay raises were based on distinctly different factors, depending on the ownership profile of the firm. In management-controlled firms—where no single major owner exists—results suggest an overarching pay philosophy: maximize CEO pay, subject to demonstration of face legitimacy of that pay. In externally-controlled firms—where a major (nonmanager) owner exists—results suggest a very different philosophy: minimize CEO pay, subject to the ability to attract/retain a satisfactory CEO.*

Chief executive compensation has become a topic of great fascination not only for the general public, but for academic theorists as well. Widespread interest in CEO pay can be traced to a natural curiosity about extremes and excesses, but it also stems from a more substantive reason. Namely, to observe CEO pay is to observe in an indirect but very tangible way the fundamental governance processes in large corporations. Who has power? What are the bases of power? How and when do owners and managers exert their relative preferences? How vigilant are boards? Who is taking advantage of whom?

The answers to these questions depend on various moderating factors, perhaps chief among

them the ownership structure of the firm. In this paper, we distinguish between CEO pay in externally-controlled firms (in which a non-manager owns a significant portion of the stock) and management-controlled firms (in which no single party is a significant stockholder). While this distinction has been made in limited prior research on CEO pay (e.g., Gomez-Mejia, Tosi, and Hinkin, 1987; McEachern, 1975), we apply it in new directions.

In particular, we argue that externally-controlled and managerial-controlled firms differ fundamentally and pervasively in their governance processes, as well as in their logics regarding the remuneration of managerial talent. In externally-controlled firms, with their vigilant owners, economic considerations dominate in setting executive pay. In managerial-controlled firms, where oversight typi-

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cally is diffused and muted, social and institutional factors account for variations in executive pay. Beyond the tendency for externally-controlled firms to reward their CEOs more for profits and less for corporate size than do managerial-controlled firms (Gomez-Mejia *et al.*, 1987), these governance differences give rise to an array of contrasts in how CEO pay is set in these two types of firms: contrasts in (1) the effects of performance downturns on CEO pay, (2) the effects of competitors' pay practices, (3) pay adjustments for newly-appointed CEOs, and (4) pay adjustments as a function of the CEO's tenure. We develop and test hypotheses regarding these ideas. We also explore whether the externally-controlled vs. managerial-controlled categorization scheme, widely used in prior research, is as powerful a moderator as is a continuous measure of ownership dispersion for explaining CEO practices.

We examine annual percentage changes in CEO pay, much as any employee thinks of 'raises', rather than examining the absolute level of CEO pay in a given year. This approach is particularly suited to our focus on pay adjustments and has the added benefit of setting aside historic or long-institutionalized factors that affect the general scale of CEO pay in a given firm (Jensen and Murphy, 1990).

## THEORY AND HYPOTHESES

After many studies, no consensus exists about the determinants of CEO pay. For example, the effect of company size on CEO pay has been widely observed (Baumol, 1959; McGuire, Chiu, and Elbing, 1962; Ciscel and Carroll, 1980), but it has not been pervasive (Jensen and Murphy, 1990). Profits, or economic performance of the firm, has shown an even less consistent relationship with CEO pay (Lewellen and Huntsman, 1970; Deckop, 1988; Murphy, 1985), with results varying widely depending on sample selection (Finkelstein and Hambrick, 1989), econometric specifications (Ciscel and Carroll, 1980), the measurement of firm performance (Jensen and Murphy, 1990), and the measurement of CEO pay (Murphy, 1985). In the most exhaustive analysis of CEO pay-performance links to date, Jensen and Murphy found statistically significant but relatively slight associations

( $R^2$ 's under 0.10) between firm performance and CEO rewards.<sup>1</sup>

Jensen and Murphy argued that the weak effect of firm performance on CEO pay had to do with institutional pressures that cause pay to conform to norms created by external parties, such as regulators, consumer groups, and unions. Similarly, other research has indicated that CEO pay is based to some extent on social processes, with board members tending to set CEO pay in line with what they themselves earn in their own firms (O'Reilly, Main, and Crystal, 1988). Finkelstein and Hambrick (1988) also argued that institutional and internal political factors cause the pay of CEOs to deviate widely from their managerial contributions.

What is clear at this point is that CEO pay cannot be very fully explained by any single variable, or even a few variables. New understanding and clarification of the determinants of CEO pay will come from a wide array of theoretical, measurement, and analytic advances. We believe particularly great progress can be made by examining the fundamental context in which CEO pay decisions are made—specifically the ownership structure of the firm.

## EXTERNALLY-CONTROLLED VS. MANAGEMENT-CONTROLLED FIRMS: AN OVERVIEW

Ever since Berle and Means (1932) documented the increasing separation of ownership and managerial control of the large American corporation, theorists have examined the effect of ownership structure on the processes of firms (summarized in Walsh and Seward, 1990). In this paper we focus on the two contrasting ownership configurations most prevalent in prior research on large firms: (1) the externally-controlled firm, which has at least one major shareholder who is not a manager; in this firm, shareholder vigilance is presumed great; (2) the management-controlled firm, which has no single major shareholder; thus shareholder vigilance is presumed minimal.

<sup>1</sup> Jensen and Murphy (1990) did observe, understandably, a very strong association between the firm's return to shareholders and the change in value of company stock held by the CEO.

It should be noted that other configurations exist, although in relatively small proportions among large publicly-traded corporations (and among our sampled population): the owner-managed firm, in which the top executive is the only major shareholder; and the mixed-control firm in which both the CEO and a nonmanager own major portions of the firm. These latter possibilities, while potentially interesting, fall outside our focus and await later inquiry.

'Management-controlled' firms, when compared with externally-controlled firms, have been found (1) to engage in conglomerate diversification (Amihud and Lev, 1981), (2) to replace executives less readily when performance declines (Salancik and Pfeffer, 1980), and (3) to be more risk-averse (Palmer, 1973). Theorists have concluded that, without major shareholders who exert vigilance, executives tend to pursue their own interests—employment security, size and prestige of the firm, personal pay and emoluments—rather than strictly the owners' wealth-maximizing interests. That is, the relationship between owners and their agents, or 'the agency problem', is indeed problematic when ownership is widely dispersed (Jensen and Meckling, 1976; Fama, 1980).

The idea that CEO pay mechanisms would also differ according to ownership structure has been explored in a limited series of studies. Williamson (1963) found that the proportion of inside directors (his indicator of management control) was positively related to CEO pay. McEachern (1975), using stockholding data to measure ownership structure, found results contradicting Williamson's: CEOs in management-controlled firms earned less than those in which there was a major external shareholder. McEachern concluded that executives require more pay to work under the latter conditions.

More to the point of our project, McEachern also studied the determinants of CEO pay under different ownership conditions. He found that CEOs in externally-controlled firms were paid more for stockholder welfare variables (profitability and market value) and less for firm size (sales) than CEOs in management-controlled firms. However, his sample of only 36 firms (with smaller subsamples of three ownership categories) makes his results only suggestive.

More recent research by Gomez-Mejia *et al.* (1987) points to the same conclusion reached by

McEachern: CEOs in externally-controlled firms are paid more for profitability and less for scale than are CEOs in firms without dominant shareholders.<sup>2</sup> In another project, Tosi and Gomez-Mejia (1989) used survey data from compensation officers in 175 manufacturing firms to explore whether monitoring and incentive-alignment efforts were greater in owner-controlled (our externally-controlled) than in management-controlled firms. They found that management-controlled firms had less CEO monitoring, less at-risk CEO pay, and less board and shareholder involvement in CEO pay determination than externally-controlled firms.

The findings just discussed, when coupled with other research on corporate governance and agency theory (e.g., Fama, 1980; Walsh and Seward, 1990), suggest that these two ownership situations amount to two strikingly different arenas in which CEO pay decisions are made. With some simplification, the following descriptions seem apt.

In the externally-controlled firm, CEO pay is largely determined by the owners or their board representatives (Tosi and Gomez-Mejia, 1989). Owners want to maximize profits and hence structure the CEO's pay to reward profits, but

<sup>2</sup> However, the Gomez-Mejia *et al.* paper has its own important limitations, making it less than conclusive. First, the authors relied for their sample on a list of companies that separately reported CEO salary and bonus. Such a separation was not required by the Securities and Exchange Commission during that period, and, judging from proportions in Finkelstein and Hambrick's (1989) sample for the same period, about 45 percent of firms voluntarily reported the two items separately. Firms probably carefully considered whether to reveal such detail, and there may be distinct characteristics in those firms that chose to do so. Second, the paper has a quite limited sample size, particularly of externally-controlled (or 'owner-controlled') firms ( $n = 19$ ). With only 19 observations and regressions that include three independent variables, the results cannot be taken as definitive. Third, the tests for differences between management-controlled and owner-controlled firms were conducted by Chow tests for the overall regressions. There were no coefficient-by-coefficient comparisons. In several major instances, the biggest contrast by far—in turn yielding an overall significant Chow test—was for the (never discussed) control variable, 'External Hires'. If not for that variable, with the relatively small sample few of the cross-category comparisons may have been significant. Finally, the authors' findings do not all point to the same conclusions. For instance, they find that performance has a stronger association with amount of CEO pay in management-controlled than in owner-controlled firms, contrary to their summary portrayals. These limitations do not negate Gomez-Mejia *et al.*, but rather indicate that their project must be taken as suggestive, not as conclusive.

not other attainments such as size. The owners wish to avoid paying the CEO more than is absolutely required, since doing so diverts profits directly, as well as inflates pay expectations for other managers. The owners have a utilitarian, economic view of management, modelled around supply, demand, benefits, and costs: '... simply pay him the market wage for executives and fire him if he tries to divert profits to his own ends' (McEachern, 1975: 61).

In the management-controlled firm, on the other hand, the CEO has a substantial influence on his/her own pay (Baumol, 1959). This occurs both because board members (including compensation committee members) are often hand-picked, cordial appointees (Mace, 1971, Lorsch, 1989) and because the CEO influences the company's compensation consultants by the implicit promise of future engagements if their work is 'satisfactory' (Finkelstein and Hambrick, 1988; Tosi and Gomez-Mejia, 1989). And, naturally, the CEO wishes to maximize his earnings while minimizing the uncertainty of those earnings. The CEO's challenge is to achieve these ends without being blatantly abusive, for obvious self-seeking behavior will stir an otherwise benign board into action (Kimberly and Zajac, 1988) or even throw the firm into the external market for corporate control (Herman, 1981; Walsh and Seward, 1990). The CEO must turn to institutional, social, and administrative logics to construct and defend his or her pay (Meyer and Rowan, 1977; DiMaggio and Powell, 1983). As a result, CEO pay in the management-controlled firm often conveys a face legitimacy, a socially-constructed rationale and fairness, even though it may bear little relation to what the owners would have bestowed.

In sum, the processes of setting CEO pay in these two ownership situations are expected to differ widely. We now develop specific hypotheses as to how these differences may manifest themselves.

### **Size and performance effects**

As discussed, the central debate in the literature on CEO compensation has been over whether size or economic performance is the greater pay determinant. Conflicting results have been observed, and the ownership structure of the firm is no doubt an important moderating

variable for reconciling these competing findings (McEachern, 1975; Gomez-Mejia *et al.*, 1987).

Managers who have unchecked influence, such as in the management-controlled firm, will seek to maximize sales and will strive to tie their pay to size increases. Corporate size enhances the manager's prestige (Williamson, 1963) and has the added advantage for the manager of being a generally defensible way to justify pay. Size connotes responsibility, complexity, and is tied to the number of hierarchical levels of the firm (Agarwal, 1981; Simon, 1957). Since size does not vary as much as performance, it is a less risky basis for executive pay, and managers are drawn also to that feature.

Owners, on the other hand, have little interest in corporate size and instead seek economic performance—profits and/or shareholder returns. When owners are vigilant, such as in the externally-controlled firm, they will structure the CEO's pay to vary with economic returns. Following these arguments and the findings of Gomez-Mejia *et al.* (1987), we set forth the following hypotheses:

*Hypothesis 1: The relationship between change in sales and change in CEO pay will be more strongly positive in management-controlled firms than in externally-controlled firms.*

*Hypothesis 2: The relationship between change in economic returns and change in CEO pay will be more strongly positive in externally-controlled firms than in management-controlled firms.*

### *Asymmetric pay-performance links*

Hypothesis 2, while generally justifiable, may need to be examined with greater care. It has been observed that essentially all major firms—externally-controlled and management-controlled alike—have incentive pay programs for their executives (Larcker, 1983). Where the two types of firms may differ is in how they adjust CEO pay when company performance is poor. As Crystal (1988: 76) wrote:

The CEO's fortunes should rise and fall with the company's. But at many corporations the board has adopted only half the principle. The



CEO gets a terrific reward when the company does well—pay for performance, see—but he still gets a pretty good reward when it does badly.

That is, in firms without any strong, vigilant stockholders, managers may be able to install asymmetric pay plans in which they reap rewards for high profits but avoid penalties for low profits, all while claiming to 'pay for performance' and thus legitimating their pay plans.<sup>3</sup> In externally-controlled firms, conversely, pay and performance can be expected to covary over the full range of performance levels, with both rewards and penalties imposed.

*Hypothesis 2a: When economic performance declines, CEO pay in externally-controlled firms declines more than CEO pay in management-controlled firms.*

*Hypothesis 2b: When economic performance increases, CEO pay in externally-controlled and management-controlled firms increases equally.*

#### Mimetic effects

CEOs in management-controlled firms also may be likely to receive raises closely in line with industry tendencies. This, after all, is the basis for pay which requires the least executive effort, yet is eminently defensible on 'market' grounds. Imitative pay policies are abetted by compensation consultants, widely known to be beholden to the very executives whose pay they help set (Baker, Jensen, and Murphy, 1988).

Consultants may play a particularly prominent role in setting CEO pay in management-controlled firms (Tosi and Gomez-Mejia, 1989), with an accompanying tendency for executive pay to imitate industry trends (DiMaggio and Powell, 1983). However, in externally-controlled firms, greater independence of decision making is expected, as boards strive to avoid paying more than is required to secure and obtain a competent CEO, and to construct pay arrangements to

induce performance. Although the externally-controlled firm will not ignore industry pay figures, such a firm will not be inclined to automatically and instantaneously adjust to industry revisions.

*Hypothesis 3: The relationship between change in CEO pay in the industry and change in CEO pay in the focal firm will be more strongly positive in management-controlled than in externally-controlled firms.*

#### Arrival and tenure effects

Time plays an important role in all organizational phenomena, yet its inclusion in research on executive compensation has been limited. To the extent that an executive's power, mobility, and motives evolve over his or her tenure, a dynamic, time-based examination of CEO pay would seem essential. We envision certain pay adjustments for CEOs (1) upon their arrival to the top position, and then (2) over the subsequent course of their tenures.

##### *Arrival to the CEO position*

A new CEO's arrival to the job signifies the person's willingness to accept that job. The person will withhold his or her services until the compensation package, along with all other forms of reward, is sufficient to induce acceptance (March and Simon, 1958); conversely, the owners or principals have an interest in limiting remuneration only to what is absolutely required to gain the person's services. Clearly, this 'equilibrium' may be expected to vary widely, depending on whether the firm is externally-controlled or management-controlled, and on whether the new CEO is promoted from inside or hired from outside the firm.<sup>4</sup>

There are two ways of conceiving of pay adjustments for a new CEO: as a change relative to what he or she was paid prior to taking the job, or as a change relative to what the predecessor was paid in the prior year. In line

<sup>3</sup> As an example of how managers can avoid penalties for poor performance, Finkelstein and Hambrick (1988) note the case of the company in which executives were promised bonuses if return on equity was over 6 percent, even though the lowest return the company had recently experienced was 11 percent.

<sup>4</sup> The possibility of a 'management-controlled' firm hiring a CEO from the outside may seem an inconsistency. However, 'management-controlled', as adopted here and used by other researchers, refers strictly to an absence of any major owners. The boards of such firms still may occasionally feel reasons to turn outside for new leadership.

with our primary focus on CEO pay changes within a firm, and because of the difficulty of obtaining data on what outsiders were previously paid, we develop hypotheses in terms of the pay differential between the predecessor and the new CEO.

Studies have found that the ratio of CEO's pay to the pay of executives at the next level is generally 2.0 to 4.0 (with wide variance from firm to firm) (O'Reilly *et al.*, 1988; Hambrick and D'Aveni, 1992). However, it is unlikely to expect that an internally promoted CEO would receive a prompt 100–300 percent raise. Rather, the new CEO who is promoted from inside can be expected to require a minimal pay increase for accepting the job. The person has been socialized to aspire to higher posts (Donaldson and Lorsch, 1983; Vancil, 1987); through an internal promotion, that aspiration can be realized without any increase in career risk, since his or her fate is still tied to the same firm, and without any great personal or family disruption. Finkelstein and Hambrick suggest that 'insiders would accept a modest pay increase . . . in return for the status and power of being a CEO . . .' (1988: 547).

Our hypothesis, as all others we set forth, carries a *ceteris paribus* assumption:

*Hypothesis 4: New CEOs promoted from within the firm initially will be paid less than their predecessors.*

The board in an externally-controlled firm, recognizing that an internal candidate will accept the CEO job with a minimal raise, will be particularly aggressive in holding down the pay of such an individual.

*Hypothesis 4a: The initial pay decline (relative to predecessor pay) for internally promoted CEOs will be greater in externally-controlled firms than in management-controlled firms.*

Conversely, a significant premium may need to be paid to secure the services of an outsider as CEO. Outsiders face a disproportionate risk of failure in the CEO job (Allen, Panian, and Lotz, 1979; Vancil, 1987); they forsake well established affiliations and known terrain; and they often encounter significant personal and family cost in a move. For

all these risks and costs, they must be compensated. Not surprisingly, Deckop (1988) found that externally hired CEOs of large firms earned, on average, \$100,000 more in cash pay (in the late 1970s) than did internally-promoted CEOs.

*Hypothesis 5: New CEOs hired from outside the firm initially will be paid more than their predecessors.*

For the externally-controlled firm, the premium required to secure a CEO from outside may be particularly great. Such firms may be recognized by CEO candidates as vigilant and demanding (McEachern, 1975), where subsequent pay will be tied to performance, and where even the likelihood of dismissal is disproportionately high (Salancik and Pfeffer, 1980). Hence, externally-controlled firms may have to pay dearly when they turn to the outside executive labor market. With outside hires (unlike with internal candidates), the externally-controlled firm has no bargaining leverage.

*Hypothesis 5a: The initial pay increase for externally hired CEOs will be greater in externally-controlled firms than in management-controlled firms.*

#### *Tenure in the position*

Pay adjustments also may be expected over the fuller course of the CEO's tenure. One set of forces may cause a CEO's raises to increase over his or her time in office. With the passage of time, the CEO has an opportunity to accumulate a track record, and to establish initiatives which may be seen to require his or her continued service and motivation in order to reach fruition. These forces would tend to increase the CEO's bargaining position, at least up to some point in the tenure, both in externally-controlled and management-controlled firms (Hill and Phan, 1991).

In management-controlled firms, an additional factor may further extend the pecuniary benefits of a CEO's tenure. Namely, in such firms, the CEO tends to have a major voice in the selection of board members, filling seats with cordial individuals (Mace, 1971; Lorsch, 1989). In sum, for the CEO in a management-controlled firm, we expect mounting increases in pay over the full range of years in office:

*Hypothesis 6: After controlling for initial pay adjustments (Hypothesis 4 and 5), the relationship between CEO tenure and changes in CEO pay in management-controlled firms will be positive.*

In the externally-controlled firm, the forces pushing up the CEO's pay over time (noted above) are eventually offset by forces which diminish raises for the long-tenured CEO. At least two bases for reduced raises can be set forth. First, the long-tenured CEO may have reduced mobility which the board of the externally-controlled firm attempts to exploit. He or she may have developed a psychological and material attachment to the company (Donaldson and Lorsch, 1983), making it difficult to consider leaving; and, the CEO may have accumulated far more firm-specific than general human capital, thus limiting his or her attractiveness in the managerial labor market (Agarwal, 1981).

Second, the long-tenured CEO in the externally-controlled firm may experience downward pay pressure because the owners (and their board representatives) conclude that the CEO's marginal product, or value to the firm, is waning. If the long-tenured CEO becomes very committed to established policies and strategies (Romanelli and Tushman, 1988; Hambrick, Geletkanycz, and Fredrickson, 1993) and gives little consideration to new directions (Miller, 1990), then the person's worth to the organization is diminished. As long as the firm experiences 'satisfactory' performance, the executive will not be replaced, since to do so exposes the firm to substantial disruption and other 'transition costs' (Williamson, 1963). However, the CEO's pay may start resembling the figurehead role he or she may have evolved into (Hambrick and Finkelstein, 1987).

For these reasons—reduced mobility and reduced marginal product—the CEO of an externally-controlled firm may find early increases in raises followed by significantly smaller raises:

*Hypothesis 7: After controlling for initial pay adjustments (Hypotheses 4 and 5), the relationship between CEO tenure and CEO pay in externally-controlled firms will be curvilinear; pay raises will increase and then diminish.*

In sum, we expect CEO pay adjustments in

externally-controlled firms to be based on economic phenomena: profit maximization, supply and demand, and marginal products. In management-controlled firms, on the other hand, bureaucratic, institutional, and sociopolitical factors tend to dominate, with CEO raises tied to corporate size, pay trends in the industry, and power accumulation.

## OWNERSHIP CATEGORIES VS. CONTINUOUS CONCENTRATION MEASURES

The vast majority of research on ownership conditions has adopted the categoric approach, e.g., externally-controlled vs. management controlled. Although the labels and the cutoffs for categories have varied, researchers adopting this approach have been drawn by the logic established by Berle and Means (1932): control occurs at a threshold. Below the threshold, one does not have control; above the threshold, one has control, but further increases do not bring 'greater control'.

However, some researchers have argued that stock concentration should be considered in continuous terms (Cubbin and Leech, 1983). The most extensive such discussion was by Demsetz and Lehn (1985), who were primarily interested in exploring the *determinants* of stock concentration, less so its effects. Unfortunately, the research on ownership concentration has not been consistent in the types of concentration examined (focusing variously on concentration among all shareholders (Demsetz and Lehn, 1985), percent ownership by the board (Morck, Schleifer, and Vishny, 1988), and percent ownership by the board and all officers (McConnell and Servaes, 1990). Thus, results have been inconsistent as well.<sup>5</sup> Moreover, the most detailed data for such studies has been drawn from a one-time listing,

<sup>5</sup> Demsetz and Lehn found that their concentration measures had no associations with company profitability, in contrast to a number of studies observing profit differences between different ownership 'categories' (summarized in McEachern, 1975). Other prominent studies have used yet other measures of dispersion and obtained varying associations with firm performance (e.g., Morck *et al.*, 1988; McConnell and Servaes, 1990).

Morck *et al.* (1988) used a continuous measure of board members' ownership to explain market valuation (Tobin's Q) of firms. They found a nonmonotonic relationship:



available only for 1980, of all shareholders who owned 2 percent or more of 456 large U.S. firms.

Thus, the idea of conceiving of ownership concentration in continuous terms is provocative, but prior literature provides limited concrete guidance. We know of no such inquiries that have examined executive compensation in particular. Hence, it is not known whether conceiving of ownership concentration in continuous terms will lead to improved explanation of executive pay, compared with using a categoric approach.

As a partial exploration, limited by the data available, we examined the effects, on CEO pay, of a continuous measure of stock concentration: the percent of stock held by the single largest nonofficer shareholder. This is not the only potentially relevant concentration measure that could be used, but it is most analogous to our categoric scheme, simply without a cutoff.

In line with most prior research on ownership control, we believe the mechanism of chief importance is the large owner's vigilance. As Shleifer and Vishny (1986: 463) state, 'The large shareholder has a large enough stake that it pays for him to do some monitoring of the incumbent management'. Thus, an owner who owns, say, 5 percent of a large company, has tens or hundreds of millions of dollars at stake and is indeed vigilant (often with a designated representative on the board), to the point of shaping CEO pay arrangements to the owner's aims. If that owner owned another 5 percent, further increasing the concentration of ownership—would there be substantially *more* vigilance, particularly in a way that would have further bearing on CEO pay? We do not believe so. Along with most prior researchers of ownership patterns, we believe a

threshold effect exists: vigilant ownership occurs when some single owner owns above a threshold amount.

For the first time of which we are aware, we empirically examine the degree of explanatory power of a categoric ownership scheme relative to that of a continuous ownership measure. As argued, we believe that despite the discarding of a great deal of variance, the categoric approach will be at least as informative as a continuous measure. Thus:

*Hypothesis 8: A continuous measure of external stock concentration will not yield any greater effects (in moderating the relationships between the several independent variables we examine and changes in CEO pay) than will be observed with discrete ownership categories (i.e., externally-controlled vs. management-controlled).*

## METHODS

### Sample and sources

The firms listed under seven major industry categories in the 1982 *Forbes* and *Business Week* annual surveys of corporations were included in the study. Specifically, the sample consisted of 220 firms from the following industries: forest products (35 firms), computers (34), chemicals (35), airlines (17), electric utilities (35), natural gas distribution (28), and conglomerates (36 firms). The sampling strategy was to develop intensive data from a limited set of industries, but to have those industries vary widely in terms of product differentiability, growth, capital intensity, and technological intensity. (ANOVA and MANOVA tests of COMPUSTAT data indicate that the industries do differ widely on these dimensions).<sup>6</sup> This sampling approach, when coupled with explicit consideration of industry pay practice as a variable of interest,

Tobin's Q first increases, then declines, and finally rises slightly as ownership by the board increases. The authors used the same data source as Demsetz and Lehn—a one-time listing, available only for 1980, of all shareholders who owned 0.2% or more of 456 large U.S. firms. However, the two studies used different ownership measures—one overall ownership concentration, the other ownership concentration of the board (including both insiders and outsiders, making inferences about agency issues and board vigilance difficult). More recently, McConnell and Servaes (1990) did a study similar to that of Morck *et al.*, examining the association between a continuous measure of insider (officers and board members) ownership and Tobin's Q. They found the same upward sloping then downward sloping relationship as Morck *et al.*, but not the final upward turn as found previously.

<sup>6</sup> ANOVA results for differences in the sampled industries, using COMPUSTAT data (for 1982):

Technological intensity (R&D/Sales)	$F = 86.55$	$p < 0.001$
Differentiability (Advertising/Sales)	$F = 16.46$	$p < 0.001$
Capital Intensity (Net Fixed Assets/ Employee)	$F = 114.93$	$p < 0.001$
Sales Growth	$F = 11.01$	$p < 0.001$
MANOVA—Overall $F$	$F = 39.61$	$p < 0.001$

promotes internal as well as external validity. The sample consists of large, major firms and thus may not be representative of smaller firms.

Data for the years 1978–82 were collected. This 5-year period, in turn, allowed examination of four annual compensation changes (1978–79, etc.).

Data on CEO pay were obtained from company proxy statements. Data on firm size and performance were obtained from COMPUSTAT and CRSP (Center for Research on Securities Prices) tapes; data on CEO tenures were obtained from the *Dun and Bradstreet Reference Book of Corporate Management* and proxy reports. After eliminating cases due to missing data, and excluding firms with ownership structures outside our range of interest (to be discussed below), the eventual sample consisted of 188 firms, or 752 annual pay-changes.

### Ownership structure

For each year examined, the sample was divided into two major ownership groups: externally-controlled and management-controlled. There is some consensus in the literature that, for large publicly-traded firms, 5 per cent is an appropriate cutoff for attributing a strong, vigilant owner. This cutoff has been used to test differences between management- and externally-controlled firms, in terms of performance (Glassman and Rhoades, 1980), executive turnover (Salancik and Pfeffer, 1980), risk aversion (Palmer, 1973), as well as compensation practices (Tosi and Gomez-Meija, 1989; O'Reilly *et al.*, 1988). Hence, we designated a firm as externally-controlled if at least 5 percent of the stock was controlled by a single individual or organization not involved in management of the company. A firm was management-controlled when no single party controlled 5 per cent or more of the stock. Thus, we eliminated firms where top managers themselves held 5 percent or more of the stock, either alone or in addition to nonmanagers. Because of their relative rarity among large firms, these latter cases have not been the subject of much study. For us, too, they were relatively rare, accounting for less than 15 percent of the original sample of firms. The final sample consisted of 752 firm-years (188 distinct firms), 308 externally-controlled and 444 management-controlled.

### Changes in CEO compensation

In this study our emphasis is on CEO pay changes. Compensation was measured as the sum of cash pay (salary, bonus, and miscellaneous fringe benefits) plus the value of stock options granted during the year, with stock options valued by a modified version of the Black–Scholes option valuation model (Jensen and Murphy, 1990; Kerr and Kren, 1992) as outlined in Appendix 1.<sup>7</sup>

CEO compensation, along with other monetary variables, was expressed in 1983 dollars to adjust for CPI inflation.<sup>8</sup> Change in pay for year  $t$  ( $\Delta$  CEO Pay) was calculated by dividing the increase (or decrease) in CEO compensation from year  $t - 1$  to  $t$  by the level of pay for the year  $t - 1$ . We report results for this composite measure of  $\Delta$  CEO pay; however, results were essentially the same when change in cash pay (without options) was used as the dependent variable.

### Independent variables

Change in sales in year  $t$  (using net revenues as reported in COMPUSTAT) was calculated by dividing the increase (or decrease) in sales from year  $t - 1$  to  $t$  by firm sales for the year  $t - 1$ .

Firm performance was examined both through profitability and stock return measures. Profitability was assessed as return on equity (ROE), a measure used in several earlier studies of CEO pay (O'Reilly *et al.*, 1988; Finkelstein and Hambrick, 1989). Because ROE could be negative, change in ROE could not be computed as a proportion. Hence, the increase (or decrease) in ROE from year  $t - 1$  to  $t$  served as the measure.

Shareholder returns were computed by dividing the sum of the change in stock price and dividends paid during the year by the stock

<sup>7</sup> CEOs derive rewards in many forms—salary, bonus, options, deferred compensation, pensions, power, prestige, continued employment, and others. It is the rare study that can encompass several of these with analytic care. The selection of which forms of reward to study depends on the nature of the research question. We believe our interest in how governance processes are reflected in CEO reward adjustments is well served by examining cash pay and new stock option grants.

<sup>8</sup> Mean compensation for the sample (in 1983 dollars) was \$493,020, with a standard deviation of \$338,150.

price at the beginning of the year (Kerr and Kren, 1992). As with ROE, because this measure could be negative the increase (or decrease) from year  $t - 1$  to  $t$  was used to compute change scores.

Industry pay was determined by averaging the pay of all CEOs in each respective industry sample each year. Change in industry pay was calculated by dividing the increase (or decrease) in industry pay from year  $t - 1$  to  $t$  by the level of industry pay for year  $t - 1$ .

The origin of new CEOs was assessed as two dummy variables: New insider CEOs were CEOs for whom year  $t$  was their first year in the position, but not in the firm. New outsider CEOs were new to the firm entirely in year  $t$ . Finally, tenure as CEO was measured as the number of years an individual had been chief executive as of year  $t$ .

### Data analysis

The data included both cross-sectional (188 firms) and time series (4 years) components. As a result, we used a pooled design because it provides stable estimates and maximizes the degrees of freedom. Because all variables (except CEO tenure) were assessed as change scores, autocorrelation was not a problem, as judged by Durbin-Watson statistics. Hence, hypotheses were tested with OLS regressions. To control for time and firm effects, we added (1) three dummy variables to represent three of the four years of pooled data, and (2) prior year CEO pay. The latter is a firm-level variable that controls for company effects (Maddala, 1977), as well as for the base rate of pay in the prior year. We also attempted to add prior year average CEO pay in the industry to the regressions to control for industry effects, but this variable was highly correlated with prior year CEO pay ( $r = 0.55$ ). When we used prior year average CEO pay in the industry in place of prior year CEO pay, results did not change, supporting the reported results.

Differences between externally-controlled firms and managerially-controlled firms were evaluated by examining interaction terms in moderated regression analysis, and by comparing coefficients for the two subsamples using tests recommended by Chow (1960) and Arnold (1982).

## RESULTS

Table 1 presents the means, standard deviations, and correlations among all variables for the entire sample. As expected, change in CEO pay was positively associated with change in profitability ( $\Delta$  ROE), change in size ( $\Delta$  Size), and change in CEO pay in the firm's industry ( $\Delta$  Industry Pay). There was evidence that new outsider CEOs received significant pay increases relative to their predecessors, while new insiders did not receive significantly less than their predecessors. There was no simple relationship between change in pay and CEO tenure. Nor did shareholder returns show any association with CEO pay.

In fact, in subsequent multivariate analyses, shareholder returns never had a significant association with CEO pay, nor did the associations differ according to ownership categories. (In preliminary analyses a measure of abnormal returns similarly showed no significant results, so was dropped). Such a result is consistent with Jensen and Murphy's (1990) finding that accounting-based profits were more strongly associated with CEO pay than were shareholder returns. As well, Kerr and Bettis (1987) found no significant associations between changes in CEO pay and abnormal stock returns, for a sample of 129 large firms. For the sake of parsimony, we exclude shareholder returns from our tables of multivariate results, to which we now turn.

Table 2 presents, in the first column, multiple regression results, in which only the main effects of all independent variables in explaining  $\Delta$  CEO Pay are examined. Change in ROE, Change in Sales, and Change in Industry Pay were all positively and significantly associated with  $\Delta$  CEO Pay. Tenure as CEO had no relationship; nor did New Insider CEO, at odds with our hypothesis that new insiders would experience lower pay than their predecessors in the prior year. Our hypothesis that new outsider CEOs would be paid significantly more than their predecessors was borne out.

The second column of Table 2 presents results of a moderated regression, including interactions between the independent variables and ownership category. We used a dummy variable to represent the externally-controlled category; hence, management-controlled firms are the omitted com-

Table 1. Means, standard deviations, and correlations

	Mean	S.D.	1	2	3	4	5	6	7	8	9
1. $\Delta$ CEO Pay	4.92	35.50	—								
2. $\Delta$ ROE	-1.87	13.47	0.08*	—							
3. $\Delta$ Shareholder returns	3.39	53.40	0.06	0.03	—						
4. $\Delta$ Sales	3.76	16.24	0.16***	0.10**	-0.06	—					
5. $\Delta$ Industry pay	4.93	7.07	0.21***	-0.05	-0.08*	0.20***	—				
6. Tenure as CEO	6.37	5.40	-0.04	0.09*	-0.06	0.04	-0.03	—			
7. New insider CEO	0.17	0.38	-0.01	-0.03	0.04	0.01	-0.02	-0.46***	—		
8. New outsider CEO	0.02	0.10	0.25**	-0.06	0.06	-0.04	0.06	-0.10**	-0.05	—	
9. Prior year pay	486.97	323.53	-0.15***	-0.06	-0.05	-0.11*	0.09*	0.04	0.02	0.04	—

$n = 752$ , \*  $p < 0.05$ , \*\*  $p < 0.01$  \*\*\*  $p < 0.001$

Table 2. Multiple regressions with  $\Delta$  CEO Pay as dependent variable

	Total Sample, Main Effects ( $n = 752$ )	Total Sample, Moderated Regression (using ownership dummy) ( $n = 752$ )	Externally- Controlled ( $n = 308$ )	Management- Controlled ( $n = 444$ )
Intercept	3.54 (3.70)	2.33 (4.17)		
Prior year pay	-0.02*** (0.00)	-0.02*** (0.00)	1.59 (4.97)	4.23 (5.12)
$\Delta$ ROE	0.20* (0.09)	-0.03 (0.14)	-0.01* (0.00)	-0.02*** (0.00)
$\Delta$ Sales	0.20* (0.08)	0.39** (0.12)	0.32*** (0.09)	-0.05 (0.16)
$\Delta$ Industry pay	1.01*** (0.17)	1.35*** (0.24)	0.11 (0.08)	0.37*** (0.14)
Tenure as CEO	0.14 (0.25)	0.07 (0.37)	0.68*** (0.19)	1.37*** (0.27)
New insider CEO	1.76 (3.45)	2.91 (4.31)	0.09 (0.25)	0.07 (0.42)
New outsider CEO	66.35*** (11.50)	49.39*** (13.17)	-8.53* (4.49)	5.93 (4.87)
Externally-controlled (EC)	-3.03 (2.41)	3.60 (4.97)	120.53*** (17.92)	48.96*** (14.87)
EC $\times$ $\Delta$ ROE		0.34* (0.16)		
EC $\times$ $\Delta$ Sales		-0.32* (0.15)		
EC $\times$ $\Delta$ Industry pay		-0.70* (0.34)		
EC $\times$ Tenure as CEO		0.06 (0.50)		
EC $\times$ New insider CEO		-14.21* (7.20)		
EC $\times$ New outsider CEO		71.74** (26.40)		
$R^2$	0.13***	0.17***	0.26***	0.14***
Durbin-Watson	2.07	2.10	2.07	2.05

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Unstandardized coefficients reported with standard errors in parentheses. Not shown: coefficients for calendar year dummy variables.

parison category. The interactions indicate a moderating role for ownership condition in affecting CEO pay changes, results largely in line with hypotheses.

Namely, compared to management-controlled firms (the omitted category), changes in CEO pay in externally-controlled firms were (1) more positively associated with  $\Delta$  ROE, (2) less positively associated with  $\Delta$  Sales, (3) and less

positively associated with  $\Delta$  Industry Pay. New insider CEOs in externally-controlled firms received greater pay decrements, relative to their predecessors, than did new insider CEOs in management-controlled firms. And, new outsider CEOs in externally-controlled firms received a considerably greater pay increase over their predecessors than did those in management-controlled firms. CEO tenure showed no associ-



ations with CEO pay; nor did its squared term (not shown), so curvilinear effects were not evident.

As another way of examining the moderating effects of ownership category, allowing greater intuitive understanding, we conducted separate regression analyses for the two ownership subsamples. The results (in the third and fourth columns of Table 2) corroborate and clarify the findings from the moderated regression. The overall regressions differed significantly ( $p < 0.001$ , by Chow test) between the externally-controlled and management-controlled subsamples, indicating that the determinants of CEO raises were generally different in the two ownership situations. These results will be the primary basis for the following reporting of results.

### Profitability and size

The results indicate that CEO pay raises were significantly positively associated with sales changes only for the management-controlled category. As hypothesized, the relationship was significantly stronger in management-controlled than in externally-controlled firms (the difference in coefficients was significant at the 0.05 level, by the test indicated by Arnold, 1982: 158). In the management-controlled firms, CEOs received, on average, a 0.37 percent increase in total pay for every 1 percent increase in corporate sales, compared to a 0.11 percent increase in externally-controlled firms.

Conversely, and again as hypothesized, CEOs in the externally-controlled firms had their pay tied significantly more strongly to profitability (ROE) than did CEOs in management-controlled firms (coefficients differ at 0.05 level). Not only was the coefficient smaller for the management-controlled firms, but it was itself statistically insignificant. That is, there was no discernible association between CEO pay raises and changes in profitability in the management-controlled firms.

However, it is possible, as hypothesized, that the management-controlled firms install asymmetric pay-for-performance plans for their CEOs: no penalties for performance downturns but substantial rewards for performance increases. Table 3 indicates that such a phenomenon occurs. For the analysis in Table 3, each ownership category was subdivided into two

groups: (1) situations where ROE decreased from  $t - 1$  to  $t$ , and (2) situations where ROE increased from  $t - 1$  to  $t$ . As shown, in externally-controlled firms CEO pay was significantly positively associated with  $\Delta$  ROE under conditions of ROE decreases (coefficient of 0.51;  $p < 0.001$ ), and insignificantly positive under conditions of ROE increases (0.15); these coefficients differed significantly ( $p < 0.10$ ). Namely, in externally-controlled firms there was not a fully linear pay-for-performance arrangement. In the management-controlled firms, the opposite asymmetry existed: there was no association (actually a slight negative one) between pay changes and ROE changes under conditions of ROE decreases, but there was a very strong association (coefficient of 0.54;  $p < 0.01$ ) between pay changes and ROE changes under conditions of ROE increases. That is, CEOs in management-controlled firms were rewarded relatively abundantly for profit increases but were not penalized for profit declines.

Although not hypothesized, another noteworthy result in Table 3 is the very strong positive association between  $\Delta$  Sales and  $\Delta$  CEO Pay in those management controlled firms with profit declines. In line with our overall portrayal of management-controlled firms, the CEO must have some legitimate basis for increasing his pay. When profits are down, increasing size appears to provide that basis.

### Industry pay trends

It was hypothesized that the relationship between CEO pay adjustments in the industry and CEO pay adjustments in the firm would be stronger in management-controlled than in externally-controlled firms. Table 2 provides support for this hypothesis. There was a positive association between industry CEO pay changes and firm CEO pay changes for both ownership categories; however the coefficient was significantly greater ( $p < 0.05$ ) for the management-controlled firms. Indeed, in those firms, for every 1 percent increase in CEO pay in the industry, the focal CEO received a 1.37 percent increase. Thus, even though both types of firms were responsive to industry pay, management-controlled firms showed a very prompt and substantial mimetic pay effect, even a tendency to out-do competitors' CEO pay raises.



Table 3. Multiple regression with  $\Delta$  CEO pay as dependent variable, under conditions of ROE increases and decreases—externally controlled vs. management-controlled firms

	Externally-controlled		Management-controlled	
	ROE decreases ( <i>n</i> = 192)	ROE increases ( <i>n</i> = 116)	ROE decreases ( <i>n</i> = 236)	ROE increases ( <i>n</i> = 208)
Intercept	-0.26 (7.44)	4.73 (9.32)	18.22 (18.38)	-2.21 (8.82)
Prior year pay	-0.01* (0.01)	-0.01 (0.01)	-0.02*** (0.01)	-0.01* (0.01)
$\Delta$ ROE	0.51*** (0.13)	0.15 (0.13)	-0.18 (0.11)	0.54* (0.27)
$\Delta$ Sales	0.17* (0.09)	-0.04 (0.16)	0.75*** (0.24)	0.07 (0.16)
$\Delta$ Industry pay	0.50* (0.22)	0.96** (0.39)	1.39** (0.39)	0.94** (0.38)
Tenure as CEO	0.08 (0.12)	0.04 (0.21)	0.09 (0.27)	0.07 (0.31)
New insider CEO	-3.08 (6.37)	-16.47 (9.32)	8.02 (8.93)	1.94 (7.11)
New outsider CEO	127.54*** (17.35)	0.00 (0.00)	21.74* (24.41)	69.53 (17.33)
$R^2$	0.35***	0.17***	0.20***	0.14***
Durbin-Watson	1.97	1.98	2.05	2.02

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Unstandardized coefficients reported with standard errors in parentheses. Not shown: coefficients for calendar year dummy variables.

### CEO arrival and tenure

As Table 2 indicates, there was not a general tendency for internal arrivals to the CEO job to receive less pay than their predecessors received in the prior year. However, a downward adjustment of the new insider CEO's pay was evident for the externally-controlled firms; by Arnold's (1982) test, the coefficient for the externally-controlled firms was more negative than for the management-controlled firms ( $p < 0.05$ ). Therefore, as hypothesized, the initial pay decline (relative to predecessor pay) for internally promoted CEOs was greater in externally-controlled than in management-controlled firms.

Results indicate substantial premiums were paid, relative to predecessor pay, to new CEOs hired from the outside. Such premiums were paid both in management-controlled and externally-controlled firms, however they were significantly

greater in the latter firms (coefficients differ at 0.001 level). Indeed, in externally-controlled firms, the average externally-hired CEO received a considerable 120 percent premium over the predecessor's pay; in the management-controlled firms, the premium was 49 percent.

Expectations regarding the effects of the CEO's tenure on pay changes were not at all borne out. For management-controlled firms, it was hypothesized that the relationship between CEO tenure and pay changes would be positive—with raises getting larger as tenures advance. No such pattern was observed. When tenure and tenure squared were both included in the analysis (not shown), a weak U-shaped relationship appeared.

Overall, the results suggest that CEOs are rewarded quite differently in externally-controlled and management-controlled firms. We now turn to examination of whether a continuous ownership measure is more informative.

### Categoric vs. continuous ownership measure

We hypothesized that the ownership category approach would be no less powerful as a moderator (between the independent variables and  $\Delta$  CEO pay) than would a continuous measure of ownership dispersion. As a parsimonious way of testing for this comparison, we replicated the regression analysis, reported as Column 2 of Table 2, but using a continuous ownership measure, the percent of stock held by the single largest nonofficer, instead of the categoric dummy variable. Using the continuous ownership measure in the moderated regression yielded an  $R^2$  of 0.15, compared to an  $R^2$  of 0.17 when the categoric measure is used. Even though this is not a large difference in absolute terms, it is still a statistically significant difference ( $p < 0.01$ ; Cohen, 1968). Thus, the categoric measure appears to be actually a *stronger* moderator than the continuous measure, despite the fact that the categoric measure discards a great deal of variance. Thus, support is found for a 'threshold effect' of ownership control, at least for purposes of explaining CEO pay.<sup>9</sup>

## DISCUSSION

Earlier, we portrayed the contrasting governance arrangements of externally-controlled and management-controlled firms, arguing that those arrangements would bear on determination of CEO pay. In light of our empirical results, we are now able to extend and validate our descriptions of these two strikingly different corporate arenas. When there is not a significant external shareholder—when no one exerts enough vigilance or power to closely control the CEO—then the operative process for setting CEO pay can be described as follows: *maximize CEO pay*, subject to demonstration of face legitimacy of that pay. Conversely, when a major owner exists, an opposite philosophy seems to be at work: *minimize CEO pay*, subject to the ability to attract and/or retain a 'satisfactory' CEO. We

will draw upon our results as well as prior research to develop and explain these two characterizations.

### Management-controlled firms

Our empirical results support the portrayal of the management-controlled firm as one in which oversight of the CEO is diffuse and muted, where CEOs have considerable influence over their own pay (Baumol, 1959). However, CEOs must not be blatantly self-aggrandizing, since this would stir their boards into action or draw unwanted takeover bids (Walsh and Seward, 1990). Therefore, CEOs must be able to demonstrate a face legitimacy for their pay. Since performance rationales may be tenuous or not desirable for CEOs, they will rely on institutional and social logics to justify their compensation (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). That is, the operative philosophy of CEO pay in the management-controlled firm is as follows: maximize CEO pay, subject to the establishment of some face legitimacy for the pay.

Perhaps nothing provides greater legitimacy for a large pay increase than that counterparts in other firms are receiving the same. On this phenomenon, our data are clear. In the management-controlled firms, for every 1 percent increase in CEO pay in the industry, the focal CEO received a surpassing 1.37 percent increase. We reiterate that these figures are expressed in real dollars, so the increases are not driven by inflation but rather by a well-lubricated mimetic process within industries (DiMaggio and Powell, 1983). That is, a circle of CEOs tend to propel each other's pay upward, quite apart from their marginal contributions to their firms (Frank, 1985; O'Reilly *et al.*, 1988).

Another justification for a CEO pay increase is that the size of the firm has increased. Our data suggest that CEOs in management-controlled firms also rely on this logic. Even though the size of the firm may hold little relevance for shareholders, corporate size implies a level of difficulty and responsibility for the CEO. Thus, size provides a face legitimacy for pay.

As noted earlier, CEOs almost certainly prefer that their pay be tied to size rather than to profits. Sales are less volatile than profits, thus providing a more stable foundation for pay. And

<sup>9</sup> It is perhaps useful to point out that change in firm performance, when measured by a stockholder wealth measure, showed no association with  $\Delta$  CEO pay when a continuous measure of stock ownership was used as a moderator. As noted earlier, this absence of any effect from stockholder returns occurred in all analyses we conducted.

size holds inherent appeal for the CEO, since it confers status and challenge. If pay is also based on size, the CEO experiences no dissonance; corporate size holds all-around appeal. In the management-controlled firm, where a strong owner is lacking, the CEO reaps rewards from size increases.

Prior research has suggested that CEOs in management-controlled firms do not have their pay very tightly tied to profitability (McEachern, 1975; Gomez-Mejia *et al.*, 1987). At a basic level, our results suggest the same, with an insignificant association between change in ROE and change in CEO pay in management-controlled firms. But, in an era of widespread 'pay-for-performance' plans in American industry (Larcker, 1983), would not the absence of such arrangements be such a stark deviation from contemporary norms as to be essentially disallowed? Our results suggest that CEOs of such firms have found a creative resolution to this dilemma. They have installed asymmetric incentive plans which yield substantial pay increases when profits go up, but no change in pay when profits go down. As Crystal (1988: 76) cynically surmised, '... pay for performance, see?' This is a graphic indication of how CEOs in management-controlled firms strive to maximize their pay while appearing to abide by the basic conventions of contemporary business practice.

Our findings regarding pay adjustments for new CEOs in management-controlled firms suggest a somewhat inertial process. For example, new insider CEOs are paid about the same as their predecessors were in the prior year, even though the newly-promoted insider CEOs may have accepted the job for somewhat less pay. Conversely, outsiders, even though paid a premium relative to their predecessors, are not paid as much a premium as in the externally-controlled firm. Bureaucratic and institutional properties in management-controlled firms seem to require as much continuity in pay trendlines as possible. The CEO position, not the person or his/her contribution, is what is paid.

### Externally-controlled firms

If processes are aimed at maximizing CEO pay in the management-controlled firm, they are aligned to achieve the opposite, CEO pay minimization, in the externally-controlled firm.

The owners wish to avoid paying more than is absolutely required to retain the CEO, since 'excess pay' diverts profits directly, ratchets up the standard for CEO pay for future periods, and, perhaps most expensively, inflates pay expectations for all senior managers in the firm. The owners tend to have a strictly utilitarian view of the CEO, generally vigilant of benefits, costs, and bargaining positions.

Of all our results for externally-controlled firms, most emblematic are those on the effects of profitability on pay. In line with prior researchers, we found a significant association between changes in ROE and changes in CEO pay (McEachern, 1975; Gomez-Mejia *et al.*, 1987). However, on closer analysis, we found that that association was significantly stronger when ROE decreased than when ROE increased. That is, CEOs in these firms are somewhat (actually, negligibly) rewarded for profit increases but they are sharply penalized for profit decreases.

This pattern may reflect a philosophy of stern sanctions, but it may also reflect the attributions of major owners. It may be that a party holding a large stake in a firm has positive expectations for the firm. As Herman noted, '... dominant owners, likely to be especially well informed, may gradually divest themselves of stock in firms lacking promise; whereas [they] will maintain and build up their holdings in firms showing great promise' (1981: 107). When the firm performs well, the owner's interpretation is that the managers have done nothing exceptional; they have done their jobs. They have fulfilled their responsibilities as stewards of the inherently valuable assets of the firm. However, when performance is poor, at odds with expectations about the worth of the firm, management is seen as the problem (McEachern, 1975).

In externally-controlled firms, CEO pay is linked somewhat to changes in sales and industry-wide pay trends, but significantly less so than in the management-controlled firms. Thus, owners do not entirely ignore the managerial labor market when setting CEO pay, but they do not respond with the prompt and complete imitation of the market that is seen in management-controlled firms. They prefer instead to emphasize the CEO's productivity.

Our findings suggest that externally-controlled firms do not lapse into inertial patterns (above all, not gradual escalation) of CEO pay. For

instance, new insider CEOs are paid significantly less than their predecessors in the prior year (and significantly less so than in management-controlled firms). In line with Finkelstein and Hambrick's (1988) contention that an insider appointed to the CEO position requires a very modest pay increase in exchange for accepting the position and its attendant status, externally-controlled firms seem to take economic advantage of the inherent attractions of the CEO position to an insider.

If externally-controlled firms are unwilling to pay for sales increases, severely penalize CEOs for poor performance, and (as some prior research (Salancik and Pfeffer, 1980) has indicated) are relatively prone to dismissing their CEOs, what happens when these firms have to turn to the external labor market for a new CEO? The answer, from our results at least, is that they must pay a huge premium—certainly a far greater premium than the management-controlled firm must pay—in order to attract a qualified person into such an existence. Unlike when the company can turn to a satisfactory internal candidate, when hiring outside the externally-controlled firm has no leverage; it must overcome the candidate's inertia, and to do so requires a large up-front pay premium.

More generally, there may be a systematic, long-run tendency for externally-controlled firms to provide relatively harsh settings for executives—low pay, close surveillance, high likelihood of dismissal. These policies may restrict the pool of executives from which such firms can draw but may assure them of uniformly greater CEO effort (less shirking and fewer pecuniary diversions) than management-controlled firms obtain.

#### *A noteworthy nonresult*

Whereas accounting returns affected CEO pay in the externally-controlled firms, shareholder returns did not. Nor did they for management-controlled firms, where such an association would be less expected. The weak result for shareholder returns is consistent with findings by Jensen and Murphy (1990), Kerr and Bettis (1987), and Lambert and Larcker (1987). In addition, Joskow, Rose, and Shepard (1993), in a large sample of regulated companies over a 20-year period, found far stronger links between accounting returns

and CEO pay than between shareholder returns and CEO pay. Their interpretation was that accounting returns provide a more convenient benchmark for compensation committees. An additional possibility is that boards (even in companies with vigilant owners) conclude that share prices are affected by too many factors outside management's control to serve as a motivational target. Accounting returns, albeit open to various manipulations, may be seen as more fully under management control. A final possibility is that the apparent focus on accounting returns is an artifact of the date of our sample and that more recent samples (from an era of presumably greater attention to shareholder returns) might yield different results.

## CONCLUSIONS

This paper has extended our understanding of the different governance processes in externally-controlled and management-controlled firms, by focusing on the determinants of CEO pay raises in the two settings. The results suggest that conditions for CEOs differ widely depending on whether there is a significant shareholder or not. When no such owner exists—when the CEO has presumably substantial influence over his or her own pay—results suggests an underlying pay philosophy: maximize CEO pay, subject to demonstration of face legitimacy of that pay. In such firms, bureaucratic and institutional factors tend to dominate, with CEO raises tied to corporate size, pay trends in the industry, year-to-year gradual escalation, and asymmetric pay-for-performance *improvement*. Conversely, in the externally-controlled firms—where a strong, vigilant owner has direct or indirect influence over CEO pay—the results suggest a different pay philosophy: minimize CEO pay, subject to the ability to attract and retain a 'satisfactory' CEO. In these firms, CEOs were penalized sharply for performance declines, and their pay was based much less on corporate size and competitors' pay practices than in the management-controlled firms.

The most significant limitation of the study is that the data are several years old and may not fully reflect more recent trends in corporate governance and CEO pay. Our characterization of externally-controlled firms is very much in



line with the supposedly enhanced vigilance by outside shareholders in recent years. In fact, it would be interesting to conduct a follow-up study to see if externally-controlled firms have changed their monitoring behavior significantly in the last decade.

The ownership configuration of a firm can be expected to have a substantial effect on a broad array of processes, perspectives, and behaviors of senior management. Although some of these outcomes have been studied in prior research, ownership structure has not been examined as carefully or as extensively as it might, particularly for its implications on strategic and governance processes. We hope that this paper will prompt and direct more research on this front.

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## APPENDIX: VALUATION OF STOCK OPTIONS

Executive stock options were valued using the Black-Scholes model (Jensen and Murphy, 1990; Kerr and Kren, 1992):

$$\text{Option value} = \left( \text{Option price} \right) \times \left( \# \text{ of shares} \right) \times \left[ e^{-dt} \cdot \phi(z_t) - e^{-rt} \cdot \phi \left( z_t - s\sqrt{t} \right) \right]$$

Price = exercise price of an option

# of shares = number of shares granted

$d$  = dividend yield in the previous year defined as:

$$\ln \left[ 1 + \frac{\text{dividends per share in year } i - 1}{\text{closing stock price in year } i} \right] / 12$$

$t$  = time to the expiration of the option, either 60 months or 120 months

$s$  = estimated standard deviation of monthly stock returns over the previous 60-month period

$r$  = the risk-free interest rate, based on 5-year average yields on U.S. government securities

$$Z_t = \left( \frac{r - d + \frac{s^2}{2}}{s\sqrt{t}} \right) t$$

$\phi(\cdot)$  = the cumulative standard normal distribution function ( $0 \leq \phi(\cdot) \leq 1$ )