

## ORGANIZATIONAL DIFFERENCES IN MANAGERIAL COMPENSATION AND FINANCIAL PERFORMANCE

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**This study had two general focuses. First, after reviewing the literature on compensation strategy, we examined the extent to which organizations facing similar conditions make different managerial compensation decisions regarding base pay, bonus pay, and eligibility for long-term incentives. Second, working from expectancy and agency theory perspectives, we explored the consequences of those decisions for organizational performance. Using longitudinal data on about 14,000 top- and middle-level managers and 200 organizations, we found significant differences between organizations. Our results suggest that organizations tend to make different decisions about pay contingency, or variability, rather than about base pay. Findings indicate that contingent pay was associated with financial performance but base pay was not.**

A fundamental assumption of much of the literature on compensation is that organizations have considerable discretion in the design of pay policies and that the choices made have consequences for organizational performance (Foulkes, 1980; Gomez-Mejia & Welbourne, 1988; Lawler, 1981; Milkovich, 1988; Milkovich & Newman, 1987). Organizations that are similar in terms of types of employees and jobs, product market, size, and so on may choose compensation system designs that differ in their effectiveness for attaining similar goals. Little is known, however, about the extent, nature, determinants, and performance implications of differences in compensation system designs (Ehrenberg & Milkovich, 1987).

Our study provides evidence on those issues by examining both the determinants and consequences of organizational differences in pay level and pay mix among a nationwide group of top- and middle-level managers. We measured pay mix, or the extent of variable pay, in terms of the relative amounts of short-term bonuses, long-term incentives, and base salary in an individuals' pay. Taken together, these three components determine the level of cash compensation.

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## DETERMINANTS OF COMPENSATION

### Employee and Job Characteristics

Our focus was on identifying and explaining organizational effects on compensation. It was, however, first necessary to incorporate in our model the compensation determinants that previous research has most strongly emphasized—employee and job characteristics—to assure that any organizational effects found would not actually reflect differences in types of employees and jobs.

Human capital theory (Becker, 1975) identifies several employee attributes associated with lifetime earnings. Some of the most important of those attributes reflect investments in training, such as formal education and on-the-job training. Consistent with the theory, there is empirical evidence that the number of years of education and labor market experience individuals have explains much of the variance in their pay levels (e.g., Mincer, 1974). The theory also specifies that cognitive ability, a strong predictor of job performance (e.g., Hunter & Hunter, 1984), increases pay because the more capable acquire training at less cost.

Despite the importance of personal characteristics, organizations also devote much effort to attaching pay rates to jobs, as evidenced by the focus on jobs in the administrative literature (Belcher & Atchinson, 1987; Livernash, 1957; Milkovich & Newman, 1987; Schwab, 1980) and in theoretical models of job competition (Thurow, 1975) and internal labor markets (Doreringer & Piore, 1971; Williamson, Wachter, & Harris, 1975). In a previous study of a large number of exempt employees (Gerhart & Milkovich, 1989), for example, we found that the  $R^2$  for base pay increased from .30 to .80 when we added job level as a variable.

Although much less theory on the determinants of pay mix is available, we suggest that the higher in an organizational hierarchy a job is the greater potential impact on organizational performance its incumbent is likely to have. In expectancy theory terms, there is also more likely to be a perceived link between the employee's effort and organizational performance. This stronger link may offer organizations more opportunity to use bonuses and long-term incentives among high-level managers than among other employees. Agency theory would also predict greater use of contingent compensation at high levels where jobs are less programmable, or where it is more difficult to specify desired behaviors.

Hierarchical level is likely to be an important but imperfect indicator of both impact and programmability. For example, a research scientist may have few, if any, people directly reporting to him or her from lower hierarchical levels. However, such work is often low in programmability and high in potential consequences for organizational performance. In this example and others, a key factor is the amount of training investment in an employee. High human capital investments in the form of education and experience are likely to be associated with low programmability and high potential impact on performance and therefore positively associated with the use of contingent pay.

On the basis of the preceding discussion, we propose that

*Hypothesis 1a: Level of base pay is positively related to an employee's human capital investment and level of job responsibility.*

*Hypothesis 1b: Pay mix is positively related to an employee's human capital investment and level of job responsibility.*

### **Organizational Variables**

After organizational differences in employee and job characteristics are accounted for, do organizations differ in pay level and pay mix? According to such standard economic theories of competitive markets as human capital theory (Becker, 1975) and compensating wage differentials theory (Smith, 1937), the answer is no, at least with respect to pay level. Employers are seen as price-takers who must pay the going rate if they are to be competitive. If they pay less, they will not be able to attract enough qualified employees. If they pay more, their higher costs will drive them out of business. Competitive forces dictate that any deviations from a going rate must be transitory. From this theoretical perspective, there is little room for employer differences in compensation policies.

Case studies by "post-institutional" (Segal, 1986: 383) economists during the 1940s and 1950s, however, suggested that there was no single going rate of pay across organizations for most occupations and that employee and job differences could not entirely explain organizational differences (Dunlop, 1957; Lester, 1946; Reynolds, 1946). For example, Dunlop reported substantial pay differentials across employers for a single job (truck driving) in a single geographic area (Boston). Explanations for such organizational differences have typically centered on historical precedent and ability to pay (Segal, 1986). For example, an employer who expands during a tight labor market might choose to raise pay levels to attract enough good employees. Later, high pay levels may no longer be necessary for attraction and retention but may have become accepted as the organizational norm. The employer might therefore choose not to attempt to change the organization's relative pay level—its position in Dunlop's "wage contour" (1957: 107)—especially if its ability to pay is high. The important implication of the post-institutionalists' work is that market forces do not completely eliminate employer discretion in setting pay level policies.

More recent examinations of organizational differences in pay levels have sought to improve on the early case studies by more systematically estimating the relative influences of organization, job, and employee on pay. Somewhat conflicting findings have emerged. For example, Leonard, using findings from a single group of businesses (California electronics firms), concluded that "firms that deviate from the average (market) wage, tend to return towards the market wage" (1988: 28). His view that organizational differences in pay levels are transitory and random is consistent with classical economic theory and inconsistent with the idea of sustained differ-

ences in organizations' pay strategies. In contrast, Groshen (1988) found that organizational differences in pay level were both important and highly stable over time, suggesting differences in pay level strategies existed across firms.

Leonard's and Groshen's studies, however, have limitations. First and perhaps most important, neither examined pay mix. Although market forces compel a degree of uniformity in pay levels, it is not clear that market forces have an analogous effect on pay mix, and organizations may have considerable discretion in setting pay mix policies and strategies. As we will discuss later, expectancy theory and agency theory clearly predict that some pay mix policies will be more effective than others.

Second, neither study cited controlled for employee characteristics, leaving open the possibility that pay level differences between organizations were a result of different levels of human capital investment. Third, both studies focused largely on lower-level occupations, mostly blue-collar and nonsupervisory white-collar jobs.

Despite these limitations, the two studies suggested that there may be important pay level differences between organizations. Such organizational effects may arise, for example, because of differences in industry, size, financial performance, or strategy. However, before we considered those explanations in more depth, we thought it useful to test first for net organizational effects on base pay. Following previous theory and research, we hypothesized that

*Hypothesis 2a: Organizations exhibit differences in levels of base pay with employees' personal and job characteristics controlled.*

Although there does not appear to have been any comprehensive theoretical or empirical research regarding differences in pay mix across organizations, evidence from various sources suggests such differences may be substantial. For example, surveys have shown that the use of profit sharing, lump sum bonuses, gain sharing, and other practices related to pay mix vary across organizations, industries, and occupations (Conference Board, 1989; O'Dell, 1987). Although organizational conditions matter, researchers have usually argued that managers have discretion in designing their pay mix (Lawler, 1981; Milkovich & Newman, 1987). As with pay level, we wished to test first for organizational effects on pay mix before considering possible explanations in more depth.

*Hypothesis 2b: Organizations exhibit differences in pay mix with employees' personal and job characteristics controlled.*

If organizational differences in pay level and pay mix remain after the effects of employee and job factors have been removed, the implication is that theories focusing only on employee and job attributes are insufficient. Our next step was to examine how well the general organizational effect could be explained by specific organizational factors such as industry, size, and financial performance, important factors identified in previous research in economics and in contingency theory.

**Industry.** Economic research by Krueger and Summers (1986, 1988) demonstrated significant industry effects on pay level that were stable over time. In line with Dunlop's (1957) research, Mahoney has explained such effects as a consequence of the fact that organizations in a particular industry "encounter similar constraints of technology, raw materials, product demand, and pricing" (1979: 122) that provide a constraint on ability to pay.

As for pay mix, in industries with a high variation in product demand and a high ratio of labor costs to revenues, a high percentage of variable pay may be likely. Also, industry may act as a proxy for other organizational characteristics, like union power and the extent of a research and development focus, that are potentially related to pay mix.

**Organizational size.** Sales volume and number of employees have been positively related to pay level (Mellow, 1982). One explanation is that large firms have both a higher ability to pay and a greater need for high-quality employees than small firms. According to "efficiency wage" theories (Shapiro & Stiglitz, 1984), for example, worker shirking is more of a problem in large firms because it is more difficult to monitor each worker's performance. Thus, large firms may use high pay levels to permit stringent hiring standards. One hypothesis is that a high pay level reduces shirking because employees realize they would be unlikely to find another job that pays as well (Shapiro & Stiglitz, 1984). Brown and Medoff (1989) found that the higher quality of labor in large firms did help explain why the firms paid more (cf. Evans & Leighton, 1989), but their findings did not support the monitoring explanation. Thus, the question of why large firms hire better-quality employees remains to be answered.

Fixed costs of any kind introduce financial risk (Brealey & Myers, 1981). For small firms, which tend to have fewer slack resources than large ones, fixed costs are of special concern. Small firms may therefore pay lower base salaries than large firms. In addition, if growth is a major objective of a small firm, capital investments are likely to be a top priority, one that places heavy demands on cash flow in the near term, again limiting base salary. However, such firms may use long-term incentives with substantial potential payoffs if growth is achieved (Ellig, 1981).

**Financial performance.** Research has found that firms with high accounting profits (Deckop, 1988), sales growth (Baker, Jensen, & Murphy, 1988), and shareholder wealth growth (Baker et al., 1988; Murphy, 1985) pay their chief executive officers (CEOs) more. But the magnitude of such relations has sometimes seemed small. Baker and colleagues reported that a \$1,000 change in shareholder wealth corresponded to a \$0.02 change in CEO salary plus bonus. Kerr and Bettis (1987) found no relation between organizational performance and CEO pay. Bonuses would be expected to account for much of the relation between performance and pay. Thus, increases in financial performance should be associated with higher ratios of bonus to base pay. In addition, Jensen and Murphy (1990) estimated that a \$1,000 increase in shareholder wealth is associated with a \$2.50 increase in the value of the stock owned by the CEO. This again suggests a relation between organizational performance and pay mix.

*Hypothesis 3a: Organizational effects on base pay are related to differences in industry, size, and financial performance.*

*Hypothesis 3b: Organizational effects on pay mix are related to differences in industry, size, and financial performance.*

## **Strategy**

If compensation differences between organizations remain after differences in employees, jobs, industry, size, and financial performance are accounted for, the implication would be that even similar organizations may engage in different compensation practices. Are these different practices largely a result of chance or do they indicate differences in compensation strategies?

Pearce and Robinson (1982) described strategic decisions as those that require top management involvement, entail allocation of large amounts of company resources, have major consequences for multiple businesses or functions, are future-oriented, require consideration of external environment factors, and affect the long-term performance of an organization. Because compensation typically accounts for 20 to 50 percent of total operating expenses (Milkovich & Newman, 1987) and has implications for attraction, retention, and performance motivation across business units and functional areas, and thus perhaps for organizational performance, certain compensation decisions are likely to have strategic properties.

The literature on compensation strategy suggests that decisions regarding pay level and pay mix are strategic because they meet many of Pearce and Robinson's criteria. In contrast, other compensation decisions are less likely to be strategic. For example, decisions concerning relatively narrow tactical questions, such as the choice of a job evaluation system or performance appraisal instrument, are less likely to be strategic (Gomez-Mejia & Welbourne, 1988; Milkovich, 1988).

In measuring strategy, both intentions and actions are relevant, but the correspondence between the two is not necessarily high (Mintzberg, 1978, 1987; Snow & Hambrick, 1980). Actions, not intentions or plans, are likely to have the greater consequences for the costs and behaviors related to compensation. Thus, following approaches to measuring strategy that focus on the outcomes of the strategy process (e.g., Chrisman, Hofer, & Boulton, 1988; Hofer & Schendel, 1978), we focused on "realized" pay strategies, those in which "a sequence of decisions in some area exhibits consistency over time" (Mintzberg, 1978: 935; cf. Miles & Snow, 1978). In other words, for organizational effects to have strategic properties, they should be stable over time.

As was discussed, a common theme in the compensation literature is that organizations have considerable discretion in designing pay policies (Foulkes, 1980; Gomez-Mejia & Welbourne, 1988; Lawler, 1981; Milkovich, 1988). With longitudinal data, it is possible to test whether differences in

compensation practices are transitory chance deviations or stable organizational differences. Under Mintzberg's definition, such stability would be consistent with organizational differences in compensation strategies.

*Hypothesis 4a: Organizational differences in base pay not explained by personal and job characteristics are stable over time, suggesting that organizations have different base-pay-level strategies.*

*Hypothesis 4b: Organizational differences in pay mix not explained by personal and job characteristics are stable over time, suggesting that organizations have different pay mix strategies.*

An important question that previous research has overlooked is the relative magnitude of organizational effects on pay level and pay mix. Baker and colleagues argued that "widely accepted compensation surveys are ultimately self-perpetuating [and] inherently counterproductive" because the reporting of only pay levels tends to "encourage . . . compensation schemes that are independent of performance" (1988: 610). If that is so, base pay levels should be more consistent across organizations than other aspects of compensation such as bonuses and long-term incentives.

Another reason to expect larger organizational differences in pay mix than in pay level practices is that large changes in pay mix need not affect costs. In contrast, although increases in pay level may have positive consequences, their most immediate and visible consequence is an increase in costs. Organizations may therefore feel more pressure to conform to their competitors in pay level practices than in pay mix practices.

A recent survey of so-called leading edge firms (Hewitt Associates, 1989) found greater consistency in articulated policies concerning pay level than in those on pay mix. In the popular literature on business strategy (Kanter, 1989; Peters, 1987), many recommendations on compensation have focused on making pay variable and contingent on performance. The implication is that pay mix is "where the action is" in differentiating organizations.

In summary, we expected larger organizational effects on pay mix than on pay level. In addition, size, industry, and financial performance seemed likely to explain less of the organizational effect on pay mix than on pay level because even highly similar organizations may have different strategies regarding the basis on which they pay their employees.

*Hypothesis 5: Organizational effects on pay mix are larger and less attributable to industry, size, and financial performance than organizational effects on base pay.*

Although we focused on realized strategy, we considered corroborative evidence about intentions to be useful. Organizations often state policies about both pay level and pay mix. Foulkes reported the following stated pay level policies as typical of those found in large, nonunion firms: "To be above the market; to be in the top 10%; . . . to be in the 65th percentile

nationally" (1980: 150–151). In addition, Weber and Rynes (1991), using a policy-capturing design, found that compensation managers who reported that their organizations followed a strategy of market pay leadership assigned higher pay rates to hypothetical jobs than other compensation managers did. Pay mix would seem just as likely to result from conscious decisions, given the administrative demands and lack of employee acceptance sometimes encountered with changes in such programs. Although data limitations prevented us from examining stated pay mix policies, we could examine stated pay level policies. We expected differences in the latter to demonstrate convergent validity with the stable patterns of pay level practices identified.

*Hypothesis 6: Organizational differences in pay level not explained by personal, job, or specific organizational characteristics correlate with stated pay level policies.*

### CONSEQUENCES FOR ORGANIZATIONAL PERFORMANCE

Although empirical evidence is scanty, researchers generally believe that pay practices have implications for organizational performance (Ehrenberg & Milkovich, 1987). In fact, in line with Pearce and Robinson's (1982) general description of strategic decisions, researchers have seen compensation decisions as strategic to the extent they have consequences for organizational success (e.g., Gomez-Mejia & Welbourne, 1988; Milkovich, 1988). Such consequences may result from the effects of pay practices on behavioral and cost objectives. Pay level and pay mix may influence those objectives in different ways.

#### Pay Level

Pay level may have its most direct effect on employee attraction and retention. Large companies may choose to follow a high-pay-level strategy to attract applicants and ensure their ability to be selective in hiring and retention decisions (Bronfenbrenner, 1956; Rynes & Barber, 1990). Expectancy theory suggests that the probability of receiving outcomes such as pay influences applicants' choices, and employees' decisions about whether to remain with an employer can be explained in a similar fashion. In addition, pay level plays an important role in both equity and discrepancy theory models of pay satisfaction. Perceived inequity and low pay satisfaction are associated with employees' leaving jobs voluntarily (Heneman, 1985).

In terms of cost objectives, perhaps the most visible impact of a high-pay-level strategy is the increase in short-run labor costs it entails. However, determining cost effectiveness or longer-run consequences for firm performance requires also considering whether a high pay level directly reduces other costs, such as the costs of search or of required staffing levels, or increases benefits through its impact on behavioral objectives like attraction and retention.

In summary, the theoretical effect of pay level strategy is unclear be-

cause many trade-offs are involved. However, because our study focused on the highest job levels—and thus on crucial employees—the positive effects of high pay levels on managerial quality should have important consequences for organizational performance. Thus,

*Hypothesis 7: High pay level is positively associated with organizational performance.*

### **Pay Mix**

Research in both psychology and finance has specified important motivational, and thus behavioral, consequences of pay mix. Expectancy theory predicts that motivation increases to the extent that a behavior is highly instrumental in achieving valent outcomes. A key question concerns the direction of the motivation desired. Compensation managers design compensation practices in the belief that different degrees of emphasis on individual, group, and organizational objectives will affect employee behaviors differentially. Advocates of expectancy theory argue that making pay contingent on attaining an objective increases its instrumentality and thus the motivation to achieve it. Merit pay plans and individual, group, and organizational incentives are ways of moving away from a strategy of regular increments to base salary toward a strategy in which pay varies as a function of achieving objectives. The goal of organizational and unit incentive plans is to encourage cooperation and communication between interdependent employees and groups (Lawler, 1981).

In the economics and finance literatures, agency theory starts with the assumption that the interests of principals (owners) and agents (managers) are not ordinarily the same. For jobs with low programmability (Eisenhardt, 1988), a principal may have difficulty determining whether an agent is pursuing the principal's goals. According to the theory, making managers' compensation contingent on firm performance will better align the agent's goals, and presumably, behaviors, with the owner's (Eaton & Rosen, 1983). Thus, both expectancy and agency theory emphasize the importance of making pay contingent on desired outcomes. Research on executive compensation (Baker et al., 1988; Murphy, 1985) has provided some support for this link. Moreover, firms with dominant stockholders seem to exhibit stronger links between compensation and financial returns than firms in which managers are dominant (Gomez-Mejia, Tosi, & Hinkin, 1987; Tosi & Gomez-Mejia, 1989).

Organizational and unit incentive plans are often seen as a means of making labor more a variable than a fixed cost. Fixed costs increase with base salary. But if a portion of employee pay is tied to firm performance, labor costs will be lower when the firm has less ability to pay and higher when ability to pay is higher and the organization may wish to recognize employees for their role in its success. Over time, the use of variable pay does not necessarily affect pay level.

In summary, expectancy theory and agency theory point to the positive effects of variable pay on behavioral objectives. Similarly, variable pay is

well-suited to achieving the cost objective of reducing fixed labor costs, especially important during periods of low product demand. Thus,

*Hypothesis 8: The proportion of pay that is variable is positively associated with organizational performance.*

## METHODS

### Data

A large, well-known compensation consulting firm provided survey data collected from 1981 to 1985 on over 20,000 top- and middle-level executives and managers in over 300 business units and firms in each year. Roughly 95 percent of the companies designated themselves as freestanding. The consulting firm collected the data by sending an annual questionnaire to each organization requesting data on representative jobs, managerial levels, and business units. Each organization was encouraged to report data on at least 75 incumbents, and most did so.

The job families surveyed covered a broad range. Job incumbents included top executives, profit center heads, legal workers, and people in employee relations, manufacturing, marketing, finance, government relations, information systems, research and development and engineering, planning and acquisitions, general management, and materials handling. To give an example of the range of positions within the job families, in employee relations, data were collected on individuals ranging from top personnel executives with an average pay of \$96,704 in 1985 to personnel managers, generalists under the direct supervision of top personnel executives, whose 1985 average pay was \$60,821.

### Analyses and Measures

**Organizational effects on individual pay.** To be included, an organization had to report data for at least three of the five years surveyed. In addition, only organizations in industries represented by three or more firms were included. These restrictions left data on about 14,000 individuals per year, for a total of 70,684 observations from 219 organizations over a five-year period.

Dependent variables were *base pay*, eligibility for *long-term incentives* (1 = yes, 0 = no),<sup>1</sup> and the *ratio of bonus to base pay*. We designed the last two measures to capture important aspects of pay mix. All monetary variables were scaled in 1980 dollars using the Consumer Price Index.

*Human capital variables* included years of education, years of potential

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<sup>1</sup> Information on the use of specific types of long-term incentive plans was not available. However, in a separate survey to which we did not have access, the survey company asked many of the same respondents to provide information on incentive stock options, nonqualified stock options, stock appreciation plans, performance plans, restricted stock, and phantom stock. Thus, respondents probably answered the question on which our dichotomous measure was based with such standard programs in mind.

labor market experience (age - years of education - 6),<sup>2</sup> length of firm tenure, and length of job tenure. We also used squared terms for the last three variables to test the human capital theory prediction that returns will diminish as experience increases, yielding negative signs on the squared terms.

*Job characteristics measures* were the number of reporting levels between a company's board of directors and a job and the number of management levels the job's incumbent supervised.

*Organizational effects* were measured using a dummy variable for each firm. Specific organizational characteristics were size, measured as firm sales, business unit sales, and total employees; return on assets (ROA);<sup>3</sup> and industry membership, measured as a company's two-digit Standard Industrial Classification (SIC) code. As noted, we only used data from industries represented by at least three firms. However, internal diversity in several two-digit industries and a sufficient number of firms within each of their three-digit industries allowed a further breakdown in some categories.<sup>4</sup>

The following equations were estimated:

$$Y_{it} = Z_{it}A + e_{it}, \quad (1)$$

$$Y_{it} = Z_{it}A + X_{it}B + e_{it}, \quad (2)$$

and

$$Y_{it} = Z_{it}A + W_{it}C + e_{it}, \quad (3)$$

where

$Y$  = a vector of observations on a dependent variable measuring compensation for  $i$  persons at time  $t$ , indicating that data are pooled across years,

$Z$  = a matrix of observations on individual and job control variables,

$X$  = a vector of dummy variables representing organizations,

$W$  = a matrix of three organizational characteristics, industry, size, and financial performance,

$A$ ,  $B$ , and  $C$  = coefficient vectors,

and

$e$  = an error term that includes unmeasured causes of  $Y$ .

<sup>2</sup> When a direct measure of years in the labor force is not available, economics researchers have used this formula to estimate the number of years a person could have participated in the labor force.

<sup>3</sup> We defined ROA as net income divided by assets. Other definitions are also possible, for example, earnings before interest, but after taxes, divided by assets (Brealey & Myers, 1981). To the extent that a bias is stable over time, the fixed effects model we used (described below) should eliminate the biasing effect of a particular definition. Moreover, as will also be noted, our formula yielded an average ROA for the companies studied that was the same as the 1985 *Fortune* 500's average ROA.

<sup>4</sup> The industry distribution is available from the authors.

Our approach was to take the increment in  $R^2$  occurring between Equations 1 and 2 as indicating the general organizational effect. Then, by comparing this increment with that obtained by moving from Equation 1 to Equation 3, we were able to determine the extent to which the overall organizational effect was due to industry, size, and financial performance.

**Stability and convergent validity.** Because the data covered a five-year period, we looked for the first important evidence of stability in pay practices in the form of a significant effect in Equation 1 for the dummy variables representing organizations. Then, taking a second approach, we estimated Equation 1 for both 1981 and 1985 for the 137 companies for which we had data for both years. We averaged individual employees' pay outcome residuals for each organization in each year and took these adjusted averages as indicating an organization's relative position regarding base pay, the ratio of bonus to base pay, and eligibility for long-term incentives. If, for example, the average residual from the base pay equation was positive for a particular organization in a given year, we viewed the company as being above the market level defined by the organizations surveyed that year. Stability was examined by correlating these 1981 and 1985 adjusted averages.

Convergent validity was examined by correlating the average residual based on Equation 3, with base pay plus bonus as the dependent variable, with self-reported pay level policy. We obtained that information from the survey question "How do you define your target pay level?" (below the median, at the median, between the median and the 75th percentile, at the 75th percentile, above the 75th percentile). Because not all organizations provided these self-reports, and the survey did not elicit them before 1983, data from only 124 organizations were available for this analysis.

**Consequences for organizational performance.** Because short-term bonuses are designed to have their most direct impact on short-term performance, we examined the relation of ROA in year  $t$  with (1) the ratio of bonus to base pay and (2) base pay in year  $t - 1$ . We used average residuals based on Equation 1 for both compensation variables. The model was:

$$ROA_{it} = Z_{it}F + Base_{it-1}C + (Bonus_{it-1}/Base_{it-1})D + e_{it}, \quad (4)$$

where

$t$  = a year,

$Z$  = a matrix of control variables (industry or prior ROA),

$C$ ,  $D$ , and  $F$  = coefficient vectors,

and

$e$  = an error term.

If high use of contingent pay has the effects expectancy and agency theories hypothesize,  $D$  should be positive and statistically significant. By including both base pay and bonus payments, we controlled for overall pay level, and the coefficients on each variable indicate the relative effects of money allocated to base pay and bonuses.

Different specifications of  $Z$  were used to address different questions.

For example, to estimate the relation between ROA and compensation practices within an industry, we employed dummies for the latter. To examine the relation controlling for prior profitability, we included ROA for year  $t - 1$  in the matrix. However, controlling for prior ROA may have been unwise if, as our literature review implied, prior compensation practices influence prior firm performance.

To control omitted organization-specific causes of financial performance that remain stable in the short term, such as product demand, technology, legal framework, and employee attributes, we estimated a fixed-effects, or within-groups, model (Hausman & Taylor, 1981; cf. Gerhart, 1988) by including dummy variables for organization in the equation.

Finally, because long-term incentives are designed to improve business performance over the long run, we used average ROA over three years or more as the dependent variable, again with average residuals based on Equation 1 for the compensation variables. We included only organizations for which we had at least two observations ( $\bar{x} = 3.7$ ) over three years beginning with 1981 or 1982 ( $N = 159$ ). The model used was  $ROA_{it} = Incentive_{it-1}G + Z_{it-1}H + e_{it}$ , where  $\bar{\cdot}$  indicates an average over the relevant time period.

## RESULTS

### Organizational Effects on Individual Pay

Table 1 reports descriptive statistics using individual employees as the units of analysis. For several variables exhibiting nonnormal distributions, we used a natural logarithmic transformation. The means for these variables in raw 1980 dollars were \$4.9 billion for corporate sales, \$1.8 billion for unit sales, and \$71,155 for base salary. The mean number of employees per organization was 34,378. In 1985 dollars, the average corporation studied would place about 105th in the 1985 *Fortune* 500, and the average ROA for the group (6.1%) was the same as the average for the 1985 *Fortune* 500. Thus, although the companies we studied were not randomly selected, they appear typical of the *Fortune* 500 in some key respects.

Hypotheses 1a and 1b state that base pay and pay mix are related to human capital investment and job responsibility. Table 2, which provides results that explain differences in pay between employees across organizations during the study period, shows that human capital and job attributes explain statistically significant amounts of variance in base pay ( $R^2 = .690$ ), the ratio of bonus to base pay ( $R^2 = .238$ ), and long-term incentive eligibility ( $R^2 = .205$ ). Thus, findings support Hypothesis 1a and 1b.

According to Hypotheses 2a and 2b, organizations should differ in base pay and pay mix, even after human capital and job factors are controlled. We added organizational dummy variables to the equation that already included the human capital and job attributes and again found significant total organizational effects on base pay level ( $\Delta R^2 = .138$ ), the ratio of bonus to base

**TABLE 1**  
**Descriptive Statistics<sup>a</sup>**

Variables	Means	s.d.	Correlations																						
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
1. ROA	6.13	5.07																							
2. Firm sales <sup>b</sup>	14.33	1.29	-05																						
3. Unit sales <sup>b</sup>	12.63	2.01	-02	55																					
4. Number of employees <sup>b</sup>	9.82	1.26	-07	85	41																				
5. Base pay <sup>b</sup>	11.03	0.49	-01	41	42	35																			
6. Ratio of bonus to base pay	0.18	0.18	14	17	13	18	49																		
7. Long-term incentive eligibility	0.60	0.49	05	19	18	21	50	34																	
8. Education	16.41	1.89	01	14	25	14	27	12	18																
9. Potential experience	25.34	9.03	-05	13	08	12	32	16	11	-30															
10. Potential experience squared	723.77	469.46	-05	11	08	10	29	15	09	-31	98														
11. Firm tenure	15.10	10.47	-04	18	11	14	22	13	06	-23	63	63													
12. Firm tenure squared	337.66	393.06	-04	17	11	13	22	11	06	-23	63	65	96												
13. Job tenure	4.22	4.09	-01	-03	03	-03	03	02	-06	-07	39	40	36	33											
14. Job tenure squared	34.39	97.87	-01	-03	00	-03	02	01	-03	-04	24	26	23	22	78										
15. Management levels supervised	2.29	2.02	-01	21	11	20	71	43	36	05	25	23	21	21	-04	-01									
16. One level from board of directors	0.01	0.10	-00	-01	08	-02	33	15	06	04	11	12	08	09	06	32									
17. Two levels from board of directors	0.06	0.24	-01	-05	13	-06	35	20	14	09	09	09	03	03	02	01	23	-03							
18. Three levels from board of directors	0.20	0.40	-02	-07	14	-07	20	12	14	11	04	04	-02	-02	01	11	-05	-13							
19. Four levels from board of directors	0.31	0.46	00	-06	02	-06	-04	-02	04	03	-03	-03	-03	-03	-01	-00	-04	-07	-18	-34					
20. Five levels from board of directors	0.25	0.43	02	03	-11	04	-19	-11	-07	-07	-06	-05	-01	-02	-02	-02	-06	-15	-29	-39					
21. Six levels from board of directors	0.12	0.33	01	10	-11	10	-20	-13	-16	-10	-04	-03	01	01	-01	-00	-12	-04	-10	-19	-25	-21			
22. Seven levels from board of directors	0.04	0.21	-01	10	-10	10	-15	-10	-15	-12	-01	-00	03	02	01	-09	-02	-06	-11	-15	-12	-08			

<sup>a</sup> N = 70,684; we adjusted dollar values using the Consumer Price Index to obtain 1980 dollars. Decimal points are omitted for correlation coefficients.

<sup>b</sup> This variable was measured as a natural logarithm.

**TABLE 2**  
**Organizational Effects on Compensation Outcomes<sup>a</sup>**

Models	R <sup>2</sup>	ΔR <sup>2</sup> <sup>b</sup>	ΔR <sup>2</sup> for Model C/ ΔR <sup>2</sup> for Model B <sup>c</sup>
Base pay			
A. Human capital and job attributes	.690		
B. Human capital, job attributes, and organizational dummy variables	.828	.138	
C. Human capital, job attributes, and organizational characteristics <sup>d</sup>	.784	.094	68.1
Ratio of bonus to base pay			
A. Human capital and job attributes	.238		
B. Human capital, job attributes, and organizational dummy variables	.452	.214	
C. Human capital, job attributes, and organizational characteristics	.318	.080	37.4
Long-term incentive eligibility			
A. Human capital and job attributes	.205		
B. Human capital, job attributes, and organizational dummy variables	.547	.342	
C. Human capital, job attributes, and organizational characteristics	.322	.117	34.2

<sup>a</sup> All R<sup>2</sup>s and ΔR<sup>2</sup>s are statistically significant at  $p < .001$ .

<sup>b</sup> Values shown are for the change in R<sup>2</sup> from Model A.

<sup>c</sup> Values are percentages.

<sup>d</sup> Organizational characteristics include firm sales, unit sales, total employees, ROA, and industry.

pay ( $\Delta R^2 = .214$ ), and long-term incentive eligibility ( $R^2 = .342$ ). Thus, there is support for Hypotheses 2a and 2b.

Hypotheses 3a and 3b state that specific organizational differences in industry, size, and financial performance can in part explain an organizational effect on employee pay. Table 2 also reports the incremental R<sup>2</sup>s obtained with the organizational dummy variables removed and specific organizational characteristics added to the equation controlling for human capital and job attributes. The last column of Table 2 reports the percentage of the total organizational effect the specific organizational characteristics explain. For both base pay and pay mix, industry, size, and financial performance explain an important portion of the general effect, consistent with Hypotheses 3a and 3b.

Table 3 reports regression coefficients for the equation containing all the independent variables except the dummy variables for organizations. It is notable that base pay is positively related to size and, consistent with Deckop's (1988) findings, profitability. A one-point increase in ROA was associated with a .2 percent increase in base pay (\$142), a .5 percentage point increase in the ratio of bonus to base pay (\$355), and a .006 higher probability of long-term incentive eligibility. A 1 percent increase in firm sales was associated with a .1 percent (\$71) higher base salary, a 1.6 percentage

TABLE 3  
Model of Individual Pay Outcomes<sup>a</sup>

Variables <sup>b</sup>	Base Pay		Bonus-to-base Ratio		Long-term Incentive Eligibility	
	b	t	b	t	b	t
Intercept	7.740	413.6	-0.451	-37.6	-1.074	-32.5
Education	0.041	77.0	0.006	18.4	0.026	28.1
Experience	0.023	43.9	0.001	2.7	0.012	13.6
Experience squared	-0.0003	-24.9	0.000	0.4	-0.0002	-9.3
Firm tenure	-0.003	-9.2	0.004	18.0	0.001	1.3
Firm tenure squared	0.0001	9.2	-0.0001	-15.0	0.000	-0.7
Job tenure	-0.003	-9.0	0.001	4.8	-0.008	-12.8
Job tenure squared	0.0001	3.6	-0.0001	-5.1	0.0001	4.4
Management levels supervised	0.105	198.2	0.026	76.0	0.055	58.9
Level 1	1.049	99.4	0.151	22.4	0.221	11.8
Level 2	0.667	110.2	0.164	42.1	0.442	41.4
Level 3	0.386	77.6	0.106	33.2	0.402	45.7
Level 4	0.242	52.1	0.067	22.5	0.327	39.8
Level 5	0.147	32.2	0.039	13.3	0.249	30.8
Level 6	0.063	13.1	0.013	4.2	0.100	11.8
ROA	0.002	9.2	0.005	42.6	0.006	19.5
Firm employees	0.005	2.3	0.010	6.5	0.086	21.1
Firm sales	0.100	40.8	0.016	10.0	-0.031	-7.1
Unit sales	0.019	31.5	-0.003	-7.5	0.003	2.5
R <sup>2</sup>		.784		.318		.322

<sup>a</sup> Each equation also included dummy variables for year and industry.

<sup>b</sup> "Level 1" indicates a job one level from a corporation's board of directors. The other variables with "level" have parallel import. The last three named variables used logarithms.

point (\$1,138) higher bonus-to-base ratio, and a .031 lower probability of long-term incentive eligibility.<sup>5</sup>

The lower probability of incentive eligibility in the firms that were large in terms of sales is consistent with Balkin and Gomez-Mejia's (1987) results and also perhaps with the idea that incentives play more of a role in new firms than in declining firms (Ellig, 1981). On the other hand, values for the other measure of pay mix, the bonus-to-base ratio, were actually lower in smaller firms. One explanation is that small firms more often have growth as a primary objective. An adequate short-term cash flow and incentives that encourage a long-term perspective enhance long-term investments to achieve growth. Although use of long-term incentives is consistent with these needs, short-run (typically annual) bonuses, in contrast, would not be helpful in protecting short-term cash flow or encouraging a long-term orientation.

### Stability and Convergent Validity

Hypotheses 4a and 4b state that organizational differences are stable over time. Our finding (Table 2) that organization had significant effects on base pay and pay mix over a five-year period provides important support for this hypothesized stability. Taking another approach, in Table 4 we report stability estimates for the compensation outcomes using firm averages in 1981 and 1985. A key finding is the fairly high stability of organizational effects over the period for base pay ( $r = .85$ ) and long-term incentive eligibility ( $r = .70$ ). The bonus-to-base ratio is a partial exception to the general pattern of stability with its somewhat lower correlation ( $r = .52$ ). As results in the second column of Table 4 indicate, controlling for human capital and job attributes left results largely unchanged. The stability we saw is all the more striking in view of the fact that fewer than 50 percent of the employees in the survey in 1981 were also included in the 1985 survey. Therefore, there is strong evidence of stability in at least two key aspects of compensation that is due to stability in policies and practices, not to stability in employees,<sup>6</sup> supporting Hypothesis 4.

It is not surprising that the bonus-to-base ratio exhibited less stability than the other measures. As Table 3 indicated, bonus payouts are closely linked to ROA, which was not very stable over the five-year period ( $r = .09$ ). Given the instability in this key determinant (and perhaps in other determinants) of bonus payments, it would be surprising and even troubling to find much greater stability in the bonus-to-base ratio. After all, organizations use bonuses to make pay a variable rather than a fixed cost. Bonus payments that

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<sup>5</sup> In a "log linear" specification, multiplying a coefficient by 100 gives the percent change in the dependent variable associated with a unit change in the independent variable. In a "log-log" specification, the coefficient gives the percent change in the dependent variable for a 1 percent change in the independent variable.

<sup>6</sup> Although the same employees may not be present, stability in such human resource practices as hiring criteria may result in employees' having similar attributes.

**TABLE 4**  
**Stability of Compensation Outcomes<sup>a</sup>**

Variables	Correlations Between 1981 and 1985 Average Individual Pay	
	Unadjusted	Adjusted for Human Capital and Job Characteristics
Base pay	.85	.85
Bonus-to-base ratio	.52	.31
Long-term incentive eligibility	.70	.68

<sup>a</sup> N = 137.

do not change from year to year with changes in performance are, in effect, nothing more than base pay.<sup>7</sup>

Hypothesis 5 states that compensation strategy differences will be most pronounced in the area of pay mix. As Table 2 shows, two relevant findings emerged. First, although it is clear that the organizational effect is smallest for base pay ( $\Delta R^2 = .138$ ), organizational characteristics are best able to account for this effect ( $\Delta R^2 = .094$ ), explaining 68 percent of it. In contrast, the larger organizational effects for the dependent variables measuring pay mix appear to be less attributable to industry, size, and financial performance, with 37 and 34 percent of the organization effects for the bonus-to-base ratio and incentive eligibility respectively explained. These findings, which suggest that the most significant differences in firm compensation decisions have to do with pay mix, rather than pay level, are consistent with Hypothesis 5. Even similar organizations appear to follow very different pay mix strategies.

According to Hypothesis 6, actual compensation outcomes should converge with reported policies. The correlation between average residuals for pay level—base pay plus bonuses—and reported pay level policies was .504, indicating that firms with pay levels leading or following those other firms used tended to report a parallel policy. Our empirically derived measure of pay level demonstrates convergent validity with the self-reported measure, providing direct support for Hypothesis 6 and thus for the existence of intended pay level strategies.<sup>8</sup>

<sup>7</sup> Long-term incentive eligibility is more stable because it does not measure actual payments. Also, recall that Table 2 showed significant organizational effects on the bonus-to-base ratio. Perhaps real organizational differences in bonus usage can be more accurately measured over long observation periods because fluctuations in performance tend to cancel each other out. In contrast, susceptibility to fluctuations is likely to constrain correlations between single-year observations.

<sup>8</sup> Because the self-reported measure is based on a single respondent from each company and a single item, its reliability may be low, and therefore our reported correlation of .504 may underestimate the true convergence.

## Consequences for Organizational Performance

The results reported in Tables 5, 6, and 7 use organizations as the units of analysis, allowing an examination of the breadth and diversity of pay practices across organizations. As Table 5 indicates, the mean of the bonus-to-base ratio was .20, with a range of .00 to .67. Supplemental data not fully analyzed for the present report indicated that about 95 percent of the organizations studied used either division performance or a combination of division and individual performance as the basis for bonus payouts. The mean organizational base pay in 1980 dollars was \$70,235, with a range of \$28,000 to \$254,000. Finally, most employees included in the survey were eligible for long-term incentives ( $\bar{x} = .58$ ), although the organizations ranged from having none of their surveyed employees on long-term incentives plans to having all of them on such plans. Finally, the 25th and 75th percentile values for the three compensation variables indicated fairly normal distributions.

The estimates for the model of yearly ROA appear in Table 6. In no case is the coefficient for base pay statistically significant, refuting Hypothesis 7, which states that base pay level and organizational performance are positively related. In contrast, the coefficient for the bonus-to-base ratio is statistically significant in the first three specifications. Even with the within-organization fixed effects model including a dummy variable for each organization, the coefficient indicates that an increase in the bonus-to-base ratio of 10 percentage points is associated with an approximately 0.48 percent higher return on assets. These findings provide tentative support for Hypothesis 8, which states that a high proportion of variable pay is associated with good organizational performance.

However, controlling for prior ROA reduces the values and statistical significance of the coefficients. It is not clear how to interpret this result. It may suggest that the use of bonuses is spuriously related to subsequent performance because performance measures are correlated over time. But one reason for such correlation in the short term may be the effectiveness of the bonus payouts, or of contingent pay. If that is true, controlling for prior financial performance is misleading. Because the fixed effects model con-

**TABLE 5**  
**Descriptive Statistics for Compensation Variables, Organization Level<sup>a</sup>**

Variables	Means	s.d.	25th Percentile	75th Percentile	Minimum	Maximum
Base pay	\$70,235	\$26,155	\$51,000	\$84,000	\$28,000	\$254,000
Bonus-to-base ratio	0.20	0.14	0.10	0.28	.00	0.67
Long-term incentive eligibility	0.58	0.36	0.23	0.92	.00	1.00

<sup>a</sup> N = 728 (on 219 firms).

TABLE 6  
Models of Yearly ROA, Adjusted Compensation Variables<sup>a</sup>

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Bonus-to-base ratio	9.470 <sup>++</sup> (5.3)	6.825 <sup>++</sup> (3.7)	4.795 <sup>+</sup> (1.9)	2.101 (1.3)	3.723 (1.4)
Base pay	0.586 (0.6)	.022 (0.0)	2.933 (1.1)	.186 (0.2)	2.605 (1.0)
Lagged ROA <sup>b</sup>				.451 <sup>**</sup> (13.4)	.066 <sup>*</sup> (1.7)
Industry	No	Yes	No	Yes	No
Organization	No	No	Yes	No	Yes
Intercept	5.779 <sup>**</sup> (31.9)	7.196 <sup>**</sup> (12.0)	4.989 <sup>**</sup> (2.8)	3.448 <sup>**</sup> (5.7)	4.574 <sup>*</sup> (2.5)
R <sup>2</sup>	.039	.214	.659	.376	.661

<sup>a</sup> N = 728 (on 219 firms); t-values are in parentheses.

<sup>b</sup> Variable was measured one year prior to dependent variable.

<sup>+</sup> p < .05, one-tailed test

<sup>++</sup> p < .01, one-tailed test

<sup>\*</sup> p < .05, two-tailed test

<sup>\*\*</sup> p < .01, two-tailed test

trols for any factor that is stable over time, any stable organizational differences in profitability are accounted for,<sup>9</sup> even without explicit inclusion of lagged ROA. Thus, care must be taken not to overcontrol. We are inclined to lend greater weight to the equations that exclude prior ROA.

The results for long-term incentive eligibility appear in Table 7. Using mean ROA over the study period, a measure appropriate to a long-term focus, we obtained fairly consistent support across models for a positive association between use of long-term incentives at the beginning of the period and subsequent mean ROA. Specifically, an increase of 10 percentage points in the number of eligible executives was associated with a 0.17 to 0.20 percent higher mean return on assets. These results provide further support for the prediction that a strategy of high variable pay is associated with good organizational performance (Hypothesis 8).

### DISCUSSION

We focused on the determinants and consequences of organizations' compensation practices. Using research on compensation strategy, we identified pay level and pay mix as key aspects of compensation. On the determinants side, we began by comparing two basic models. In the first, a model based on classical economic theory, human capital theory, and job-oriented theories (e.g., Thurow, 1975), compensation, particularly base pay, was a function of employee and job characteristics. Although the theoretical and empirical literatures on pay mix determinants are comparatively thin, we used a similar model as a starting point for assessing pay mix.

The second general model was based largely on research in compensation strategy and contingency theory, which has emphasized that environmental factors like industry membership, size, and financial performance may influence the design of pay systems but that considerable discretion also exists in such decisions. Thus, although we incorporated employee and job factors and the just-mentioned environmental factors in this second model, we additionally hypothesized that knowing the organization an employee worked for would significantly increase our ability to explain the individual's pay level and pay mix. Results supported this second model, suggesting that theories focusing only on individual, job, and environmental factors are not sufficient for explaining organizational differences in compensation practices.

Several types of evidence led us to interpret these unexplained organizational differences as indicating strategic differences. First, organizational effects on compensation were significant over a five-year period, suggesting that organizational differences were persistent. Second, test-retest correlations generally yielded a similar picture of stability, although the bonus-to-base ratio was less stable than either base pay or long-term incentive eligibility. The lower stability of bonus payments makes sense, however,

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<sup>9</sup> The correlation between ROA in adjacent years ranges from .48 to .70.

**TABLE 7**  
**Models of Mean ROA, Adjusted Compensation Variables<sup>a</sup>**

Variables	Model 1	Model 2	Model 3	Model 4
Long-term incentive eligibility	1.896† (1.8)	1.657 (1.6)	1.996† (1.9)	1.838† (1.8)
Lagged ROA <sup>b</sup>		.164** (3.1)		.093 (1.6)
Industry	No	No	Yes	Yes
Intercept	5.536** (16.6)	4.355** (8.7)	6.748** (6.6)	5.739** (4.8)
R <sup>2</sup>	.021	.079	.311	.325

<sup>a</sup> N = 156; t-values are in parentheses.

<sup>b</sup> Variable was measured one year prior to beginning of mean ROA period.

† p < .05, one-tailed test

†† p < .01, one-tailed test

\* p < .05, two-tailed test

\*\* p < .01, two-tailed test

because unlike base pay, bonuses are designed to be variable from year to year. As noted, repeated observations over an extended period did bear out persistent organizational differences in using bonuses.

Third, where data were available, as they were for pay level, we found evidence of significant convergence of pay strategy measures. A lower level of convergence would not necessarily be of great concern because the two measures may be appropriate for different purposes. However, it seems reasonable to assume that it is actual compensation outcomes, rather than management perceptions, that determine costs and effects on employee attitudes and behaviors. Given this focus, differences in actual compensation outcomes would seem to be the more appropriate indicators of differences in compensation strategy.

Fourth, pay mix, but not pay level, was positively related to subsequent financial performance. Researchers studying both compensation and general strategy have argued that a defining characteristic of strategic decisions is that they have consequences for firm performance. In this sense, we found pay mix to be a more strategic aspect of compensation than pay level. In summary, the four types of evidence that emerged suggest that even highly similar organizations may follow different pay strategies having different degrees of success.

Our work builds on previous research in several ways. For example, the beneficial effect of contingent pay on organizational performance that we found is consistent with experimental research on the effects of individual incentives on individual performance in predominantly manual activities<sup>10</sup> and with a recent single-firm study of managers (Kahn & Sherer, 1990). Our findings also extend the research on executive pay, which has tended to focus on a few top executives in each organization, usually only those for whom pay information is publicly available in a prospectus. In addition,

<sup>10</sup> Lawler (1981) and Dyer and Schwab (1982) contain reviews.

although most of the research on executive pay has examined whether pay was related to previous firm performance, our findings also bear on compensation decisions' consequences for subsequent performance. Our finding that the use of short-term bonuses is linked to subsequent performance is consistent with the findings of recent studies (Abowd, 1990; Leonard, 1990). In addition, our work suggests that making many employees eligible for long-term incentives is associated with high organizational performance in the long run.

Although the economics literature has tended to focus on individual characteristics and to some degree industry differences, we found that organization made a substantial difference in pay level determination (cf. Groshen, 1988). Thus, as with much previous work (e.g., Brown, 1980), our research provides little support for compensating wage differentials theory. Further, consistent with arguments by Rynes and Milkovich (1986), our findings also suggest that economists' traditional focus on industry differences in pay level is also not sufficient for explaining organizational differences within industries.<sup>11</sup> In the case of pay mix, comparisons with previous research are difficult because important studies (e.g., Groshen, 1988) have not included it.

In fact, despite the heavy focus on pay level in previous field research on compensation, at least two of our findings suggest that pay mix deserves at least as much attention as pay level. First, organizational differences in pay mix were not only larger than those for base pay but also less well explained by industry, size, and financial performance. Second, pay mix was related to subsequent financial performance, whereas base pay level was not.

The finding that organizations differentiated themselves more in respect to pay mix than base pay level fits the argument that organizations have less flexibility in pay level decisions. Standard economic theories of competitive markets have suggested that strong forces work to limit discretion in the setting of pay levels. Increases in pay level lead, *ceteris paribus*, to product price increases, and thus to reduced competitiveness. Decreases in pay level may result in difficulties such as poor employee attraction and retention (and thus perhaps poor employee quality), and union activity. In contrast, although pay mix changes may also produce costs and roadblocks, such as increased administrative burdens and resistance to change, substantial changes in pay mix without dramatic changes in monetary or behavioral costs may be possible.

In answering the question of why pay mix, but not base pay level, was related to subsequent financial performance, two factors seem relevant. First, the variation in organizations' pay levels may simply be insufficient to establish such a link. For the reasons just discussed, the consequences associated with paying too little or too much may be so serious that organizations avoid risking experimentation with pay level strategies. In contrast, the

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<sup>11</sup> Dickens and Katz (1987) reviewed industry wage studies.

risks associated with changes in pay mix are less obvious and the potential benefits have been widely discussed. Both expectancy theory and agency theory suggest that making pay variable and dependent on the achievement of specific individual and organizational goals makes it more likely those goals will be realized.

Similarly, books on business strategy have recommended that companies consider changes to their pay mix, usually in the direction of increasing variable pay, to become more competitive (e.g., Kanter, 1989; Peters, 1987). According to Kanter, "There is a movement afoot in many companies to both control costs and motivate performance targeted to strategic objectives by changing the pay system to one with lower fixed wages and salaries but higher variable earnings opportunities" (1989: 264).

Several caveats should be kept in mind in interpreting our findings. First, although our results suggest the use of discretion in the design of compensation plans, it is difficult to separate differences for which intended strategy, organizational culture, coalition bargaining, and historical accident are variously accountable. Our focus on realized strategies (Mintzberg, 1978) was not conducive to measuring the relative role of each. However, our estimates of the net effect of organizational differences on pay decisions are probably on the conservative side because in controlling for different distributions of jobs and personal attributes we ignored the possibility that these distributions might themselves be outcomes of conscious human resource strategies. Our estimates of strategy effects may be similarly conservative.

Second, the positive relation between variable pay and subsequent ROA needs to be interpreted with caution. After some point, greater pay variability may have diminishing returns or even adverse effects. In addition, recall that the individuals studied were fairly high-level employees, people with relatively large amounts of decision-making power and potential impact on organizational performance. Even among such employees, pay was often partly contingent on individual performance rather than completely dependent on organizational performance. Employees lower in an organizational hierarchy have less potential impact on organizational performance than those higher in the hierarchy. Thus, although making pay contingent on general performance may help achieve short-run cost objectives, such a plan is less likely to achieve behavioral objectives at lower job levels. Gain-sharing plans, which focus on the performance of smaller organizational units, might be a more viable option for achieving behavioral objectives (Schuster, 1986).

Finally, although the point estimates of the relation between ROA and compensation outcomes could be described as small, it is necessary to keep in mind that many factors determine an organization's ROA. It is not clear that any single factor is likely to have a large effect on ROA. Even small effects, however, may be substantial monetarily.

### **Future Research**

At this stage of our work, we were able to examine financial performance using ROA, but not shareholder wealth. Although the two measures

are likely to be related, future research using shareholder wealth (e.g., Abowd, 1990) with other measures of financial performance would be useful. More broadly, researchers could define organizational effectiveness in terms of many other dimensions, such as survival, adaptability, and stakeholder satisfaction.

Future compensation research should also keep in mind that compensation decisions are only one, albeit an important, aspect of general human resource strategy (Dyer & Holder, 1989). It would be of interest to determine whether certain types of compensation strategies tend to be associated with particular types of selection, development, and employment stability systems. Further, it would be useful to know which combinations work best under different conditions. For instance, does a high pay level work best when combined with an effective external staffing and performance management system? Hiring mistakes would be especially costly with a high pay level. On the other hand, a high pay level can drive down selection ratios, and combined with a good selection system, may be an effective means of creaming an applicant pool (e.g., Bronfenbrenner, 1956; Rynes & Barber, 1990). Holzer's (1990) model may provide a starting point for comparing the costs and benefits of different pay level policies.

Although our study examined both change and stability in compensation decisions, a deeper examination of the reasons for each would be of value. Even though our fixed effects model provided valuable information on the role of changes in compensation variables, future research examining in more detail the reasons for such changes and investigating whether changes in other human resource practices typically accompany them would be of interest.

It would also be useful to examine cases in which compensation strategies remain the same even when environmental changes suggest that compensation changes might be advisable. In investigations of that sort, institutional theory might provide a useful framework. In essence, proponents of institutional theory have argued that "organizations are influenced by normative pressures" (Zucker, 1987: 443) arising from either their internal or external environment that "lead the organization to be guided by legitimated elements" (Zucker, 1987: 443) such as standard operating procedures and professional certifications. Legitimated ways of doing things may, however, persist long after the reason for their implementation is gone. In fact, resistance to change may be a consequence of institutionalization. But as Eisenhardt (1988) demonstrated examining retail compensation practices, it can be difficult to show that institutionalization is the reason for a lack of change. In her study, agency theory accounted for many findings as well as institutional theory did. Nevertheless, there may be additional applications of the latter in studying compensation.<sup>12</sup>

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<sup>12</sup> Of course, the idea that certain customs and practices become institutionalized is not new in the study of compensation but was a central theme in the work of the so-called post-institutional economists of the 1940s and 1950s (Segal, 1986).

For instance, businesses can choose to emphasize internal consistency or market pricing. One view is that many organizations give great weight to internal consistency despite changes in their business environment that argue against such an emphasis (e.g., Kanter, 1989; Lawler, 1986; Levine, 1989). Kanter has suggested that consistency and associated bureaucratic support mechanisms like job evaluation came into being at a time when "oligopolistic bureaucracies" operated in a more stable world (1989: 265), but with increasing global competition and environmental turbulence, such an approach is a costly luxury that continues to be emphasized because it has become institutionalized.

Finally, we have little knowledge about organizational differences in or the possible performance consequences of many other potentially strategic aspects of compensation. For example, do otherwise similar organizations use different pay hierarchies? How does the basis for pay differ across organizations? What accounts for such variations? Where performance is the basis, are particular types of performance criteria—individual, group, unit, organizational—more effective than others? If so, under what circumstances? We hope our study provides a useful framework for examining such issues.

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