ORGANIZATIONAL DIFFERENCES IN MANAGERIAL COMPENSATION AND FINANCIAL PERFORMANCE

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ABSTRACT

The present study has two general purposes. First, based on the compensation strategy literature, we examine 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 explore the consequences of these decisions for subsequent firm performance as measured by return on assets. Using longitudinal data on approximately 16,000 top and middle level managers and 200 organizations, significant between-organization differences in compensation decisions are found. The smallest organization effects are on the level of base pay. The largest organization effects are on bonus levels and eligibility for long-term incentives. In other words, our results suggest that organizations tend to distinguish themselves through decisions about pay contingency or variability rather than through decisions about the level of base pay. To study consequences, residualized measures (adjusted for employee and job factors) of organization pay level and pay mix are used. Pay level is not associated with organization financial performance. On the other hand, greater contingency of pay in the form of bonuses and long-term incentives is associated with better financial performance.

ORGANIZATIONAL DIFFERENCES IN MANAGERIAL

COMPENSATION AND FINANCIAL PERFORMANCE

A fundamental assumption of much of the compensation literature is that organizations have considerable discretion in the design of pay policies and that such choices have consequences for organization performance (Foulkes, 1980; Lawler, 1981; Milkovich & Newman, 1987; Milkovich, 1988; Gomez-Mejia & Welbourne, 1988). As such, 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 in attaining the same goals. Little is known, however, about the extent or magnitude of such design differences, their nature (e.g. pay mix choices may distinguish organizations more than pay level choices), their determinants, or their implications for firm performance (Ehrenberg & Milkovich, 1987).

Our study provides evidence on these issues, by examining both the determinants and consequences (for financial performance) of organization differences in pay level and pay mix among a national sample of top and middle level managers. Pay mix is measured as the extent to which pay is given in the form of short term bonuses, long term incentives, and base salary. Taken together, these three components determine pay level (excluding benefits).

DETERMINANTS OF COMPENSATION

Employee and Job Characteristics

Although our focus is on identifying and explaining organization effects on compensation, it is first necessary to incorporate in our model the compensation determinants that have received the most

emphasis in previous theory and research--employee and job characteristics. Otherwise, what appear to be organization effects may actually reflect organization differences in types of employees and jobs.

Human capital theory (Becker, 1975) identifies several employee attributes associated with (lifetime) earnings. Among the most important are those that reflect investments in training (e.g. formal education, on-the-job training). Consistent with the theory, empirical evidence shows that more years of education and labor market experience explain much of the variance in individual 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 (e.g., Livernash, 1957; Schwab, 1980, Milkovich & Newman, 1987; Belcher & Atchinson, 1987) and in theoretical models of job competition (Thurow, 1975) and internal labor markets (Doeringer & Piore, 1971; Williamson, Wachter, & Harris, 1975). Gerhart and Milkovich (1989), for example, found in a large sample of exempt employees that the R^2 for base pay increased from 30% (using human capital variables) to 80% when job level was added.

Although much less theory on the determinants of pay mix is available, one might argue that the higher in the organization hierarchy the job, the greater potential impact on organization

performance an employee is likely to have. In expectancy theory terms, there is also more likely to be a perceived link between effort and (organization) performance. Because of this stronger link, there may be more opportunity to use bonuses and long-term incentives among higher level managers. As discussed later, agency theory would also predict greater use of contingent compensation at higher levels where jobs are less programmable.

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) directly reporting hierarchical levels. However, the work is often low in programmability and high in terms of potential consequences for organization performance. In this example and others, a key factor is the amount of training investment in the employee. Higher human capital investments in the form of education and experience are likely to be associated with less programmability and greater potential impact on organization performance. As discussed above, expectancy theory and agency theory predict that these factors will be associated with greater use of contingent pay.

In summary, based on the preceding discussion, we propose the following general hypotheses:

H_{1a}: Base pay level is positively related to employee human capital investment and job responsibility level.

H_{1b}: Pay mix is positively related to employee human capital investment and job responsibility level.

Organization Variables

After one accounts for organization differences in employee and

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

Case studies by "post-institutional" (Segal, 1986) economists during the 1940s and 1950s, however, suggested that there was no single going rate of pay across organizations for most occupations and that these organization differences could not be explained entirely by employee and job differences (e.g., Lester, 1946; Reynolds, 1946; Dunlop, 1957). For example, Dunlop reported substantial pay differentials across employers for a single job (truckdrivers) in a single geographic area (Boston). Explanations for such organization differences typically centered on custom (or historical precedent) and ability to pay (Segal, 1986). For example, an employer that had expanded during a tight labor market might have chosen to raise pay levels to attract a sufficient number of quality employees. Later, these high pay levels might no longer have been necessary for attraction and retention. Yet, they have come to be accepted as proper (e.g., compared to other organizations) and the employer might choose

not to attempt to change the organization's relative pay level (i.e.,

its position in Dunlop's "wage contour"), especially if ability to pay

is high. In any case, 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 organization differences in pay levels

have sought to improve on the early case studies by more systematically

estimating the relative influence of organization, job, and employee

effects on pay. Somewhat conflicting findings have emerged. For

example, Leonard (1988), based on findings from a single industry

(California electronics firms), concluded that "firms that deviate from

the average (market) wage, tend to return towards the market wage" (p.

28). In other words, he argued that organization differences in pay

levels were transitory and random, consistent with classical economic

theory, and inconsistent with sustained differences in organization pay

strategies. In contrast, Groshen (1988) found that organization

differences in pay level were both important and highly stable over

time, suggesting differences in pay level strategies.

The Leonard (1988) and Groshen (1988) 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 analagous effect on

pay mix. Therefore, organizations may have considerably more

discretion in setting pay mix policies or strategies. As discussed

later, expectancy theory and agency theory clearly predict that some

pay mix policies will be more effective than others.

Second, neither study controlled for employee characteristics, leaving open the possibility that organization pay level differences were a result of different levels of human capital. Third, both studies focused largely on lower level occupations (mostly blue-collar and nonsupervisory white-collar). Despite these limitations, the studies suggest that there may be important pay level differences between organizations. As discussed below, such organization effects may arise, for example, because of differences in industry, size, financial performance, or strategy. However, before considering these explanations in more depth, it is useful to first establish whether there are, in fact, net organization effects on base pay level. Consistent with previous theory and research, we hypothesize that:

H_{2a}: Organizations will exhibit differences in base pay level,

controlling for personal and job characteristics.

Although there does not appear to have been any comprehensive theoretical or empirical research regarding pay mix differences across organizations, evidence from various sources suggests such differences may be substantial. For example, surveys show that the use of profit sharing, lump sum bonuses, gain sharing, and other practices related to pay mix vary across organizations, industries, and occupations (O'Dell, 1987; Conference Board, 1989). Although organization conditions matter, as with pay level, it is usually argued that managers have discretion in designing their pay mix (Lawler, 1981; Milkovich & Newman, 1987). As discussed below, organization effects may arise because of differences in industry, size, financial performance, or strategy. As with pay level, however, we wish to first test for

organization effects on pay mix before considering possible

explanations in greater depth. We hypothesize that:

H_{2b}: Organizations will exhibit differences in pay mix,

controlling for personal and job characteristics.

If organization differences in pay level and mix remain after

removing the effects of employee and job factors, the implication is

that theories focusing only on employee and job attributes are

insufficient. The next step then would be to examine how well the

general organization effect can be explained by specific organization

factors such as industry, size, and financial performance, which are

additional factors incorporated by some economic research, and by

contingency theories.

Industry. Economic research by Krueger and Summers (1986, 1988)

demonstrates significant industry effects on pay level that have been

stable over time. Consistent with Dunlop (1957), Mahoney (1979)

explains 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" (p. 122) that provide a

constraint on ability to pay.

In terms of pay mix, industries with greater variations in product

demand and higher ratios of labor costs to revenues may be more likely

to make a greater percentage of pay variable. Also, industry may act

as a proxy for other organization characteristics (e.g., union power,

research and development focus) potentially related to pay mix aside

from those discussed below.

Organization size. Sales volume and the number of employees are

positively related to pay level (Mellow, 1982). One explanation is that larger firms have both a higher ability to pay and a greater need for high quality employees. Efficiency wage theories, for example, argue that worker "shirking" is more of a problem in large firms because it is more difficult to monitor each worker's performance. Thus, higher pay levels may be used to permit more stringent hiring standards. One hypothesis is that a higher pay level reduces shirking because employees realize they would be unlikely to find another job that pays as well (Shapiro & Stiglitz, 1984). A recent study by Brown and Medoff (1989) found that higher labor quality in large firms does help explain why they pay more (see also Evans & Leighton, 1989). On the other hand, the monitoring explanation was not supported. 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, where slack resources are less prevalent, fixed costs are of special concern. As such, there may be less emphasis on base salary. In addition, if growth is a major objective, capital investments are likely to be a top priority, placing heavy demands on cash flow in the near term, again limiting base salary. However, long-term incentives that have the potential for a substantial payoff if such growth is achieved may be used (Ellig, 1981).

Financial performance. Firms with higher accounting profits (Deckop, 1988), sales growth (Baker, Jensen, & Murphy, 1988), and shareholder wealth growth (Murphy, 1985; Baker et al.) have been found to pay their chief executive officers more. But, the magnitude of such

relations sometimes seems "small" (e.g. Baker et al. report that a $1,000 change in shareholder wealth corresponded to a $0.02 change in CEO salary plus bonus), or nonexistent (Kerr & Bettis, 1987). In cases where organization performance is related to pay, the latter is often higher because of bonus payouts. In this case, the pay mix typically changes such that the ratio of bonus to base pay is greater. We hypothesize that:

H_{3a}: Organization effects on base pay level are related to

differences in industry, size, and financial performance.

H_{3b}: Organization effects on pay mix are related to differences in

industry, size, and financial performance.

Strategy

To the degree that compensation differences between organizations remain after accounting for employee and job differences, and these compensation differences are not due to the observable organization factors examined above (industry, size, financial performance), the implication is that even similar organizations may engage in different compensation practices. Are these different practices largely a result of chance variations or are they indicative of different compensation strategies?

Pearce and Robinson (1982) describe as strategic those decisions that (a) require top management involvement, (b) entail allocation of large amounts of company resources, (c) have major consequences for multiple businesses or functions, (d) are future-oriented, (e) require consideration of external environment factors, and (e) have an impact on the long-term performance of the organization. The fact that

compensation typically accounts for 20% to 50% 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 organization performance)
suggests that certain compensation decisions are likely to take on
strategic properties.

The literature on compensation strategy suggests that decisions
regarding pay level and pay mix, for example, are strategic because
they meet many of the same criteria outlined by Pearce and Robinson
(1982). In contrast, other compensation decisions are less likely to
be strategic. For example, decisions concerning relatively narrow
tactical questions such as the choice between various job evaluation
systems or performance appraisal instruments, are less likely to be
considered strategic (Gomez-Mejia & Welbourne, 1988; Milkovich, 1988).

In measuring strategy, although both intentions and actions are
relevant, the correspondence between the two is not necessarily high
(Mintzberg, 1978, 1987; Snow & Hambrick, 1980). In compensation,
actions, rather than intentions or plans, are likely to have the
greater consequences for costs and behaviors. Thus, consistent with
business strategy measurement approaches that focus on the content
outcome of the strategy process (e.g., Hofer & Schendel, 1978;
Chrisman, Hofer, & Boulton, 1988), we focus on "realized" pay
strategies. These are indicated "when a sequence of decisions in some
area exhibits consistency over time" (Mintzberg, 1978, p. 935; see also
Miles & Snow, 1978). In other words, for organization effects to have
strategic properties, they should be stable over time.

As discussed earlier, a common theme in the compensation literature is that organizations have considerable discretion in the design of pay policies (Foulkes, 1980; Lawler, 1981; Milkovich, 1988; Gomez-Mejia & Welbourne, 1988). As such, we would expect to see even similar organizations following different compensation practices. Further, with longitudinal data, it is possible to test whether such differences represent transitory chance deviations, or instead stable organization differences. Using Mintzberg's definition, such stability would be consistent with organization differences in compensation strategies. We hypothesize that:

H_{4a}: Organization differences in base pay level not explained by personal and job characteristics will be stable over time, suggesting different base pay level strategies.

H_{4b}: Organization differences in pay mix not explained by personal and job characteristics will be stable over time, suggesting different pay mix strategies.

An important question that has been overlooked in the literature concerns the relative magnitude of organization effects on pay level and pay mix. Baker et al. (1988), for example, argue 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" (p. 610). If so, there should be greater consistency in pay levels across organizations than in other aspects of compensation such as bonuses and long term incentives.

Another reason to expect larger organization differences in pay

mix (versus pay level) practices is that large changes in pay mix have the potential to be cost neutral. In contrast, although changes (e.g., increases) in pay level may have positive consequences, the most immediate and visible consequence is an increase in costs. As such, organizations may feel more pressure to be consistent with their competitors on the pay level dimension.

Consistent with these arguments, a recent survey of "leading edge" firms (Hewitt, 1989) found greater consistency in articulated policies concerning pay level (versus mix). In the popular business strategy literature (e.g., Peters, 1987; Kanter, 1989), many of the recommendations concerning compensation tend to focus on making pay more variable and contingent on various measures of performance. The implication may be that pay mix is "where the action is" in terms of organization differences.

In summary, we expect larger organization effects on pay mix than on pay level. In addition, size, industry, and financial performance should explain less of the organization effect on pay mix (versus pay level) because even highly similar organization may have different strategies regarding the basis on which their employees are paid.

H_5: Organization effects on pay mix will be larger and less attributable to industry, size, and financial performance differences than organization effects on base pay level.

Although we focus on realized strategy, corroborative evidence in the form of intentions would be useful. Organizations often do have stated policies about both pay level and mix. For example, Foulkes (1980, cited in Rynes & Milkovich, 1986) 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' (pp. 80-81). In addition, Weber and Rynes (1990), using a policy-capturing design, found that compensation managers who reported that their organizations followed a market pay leadership strategy assigned higher pay rates to hypothetical jobs. 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 prevent us from examining stated pay mix policies, we can examine stated pay level policies. We expect differences in the latter to demonstrate convergent validity with the stable patterns of pay level practices that we may identify.

H_6: Organization differences in pay level not explained by personal, job or specific organization characteristics will correlate with stated pay level policies.

CONSEQUENCES FOR ORGANIZATION PERFORMANCE

Although there is little empirical evidence, it is generally believed that pay practices have implications for organization performance (Ehrenberg & Milkovich, 1987). In fact, consistent with Pearce and Robinson's (1982) general description of strategic decisions above, compensation decisions are seen as strategic to the extent they have consequences for organization success (e.g. Milkovich, 1988; Gomez-Mejia & Welbourne, 1988). Such consequences may result from the effects of pay practices on behavioral or cost objectives. Note that pay level and pay mix may influence these objectives in different ways.

Pay Level

In terms of behavioral objectives, pay level may have the most direct effect on attraction and retention. For example, as discussed earlier, some firms (e.g. large ones) may choose to follow a high pay level strategy to attract a larger applicant pool and allow greater selectivity in hiring and retention decisions (Bronfenbrenner, 1956; Rynes & Barber, forthcoming). Expectancy theory suggests that applicant choice is influenced by the expected probability of receiving valent outcomes such as pay. Current employees decisions about whether to remain with the employer can be explained in a similar fashion. In addition, pay level plays an important role in both equity theory and discrepancy models of pay satisfaction. Perceived inequity and low pay satisfaction are associated with voluntary turnover (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. However, in determining cost effectiveness or longer-run consequences for firm performance, one must also consider whether a higher pay level directly reduces other costs (e.g. search costs, required staffing levels) or increases benefits through its beneficial impact on behavioral objectives (e.g. attraction and retention).

In summary, the theoretical effect of pay level strategy is unclear due to the many trade-offs involved. However, keeping in mind that our study focuses on the highest job levels (and thus, crucial employees), the positive effects of higher pay levels on managerial quality should have important consequences for organization performance. Thus, we hypothesize that:

H_7:   Higher base pay levels are associated with better

organization performance.

Pay Mix

Both the psychological and finance literatures specify important

motivational (and thus behavioral) consequences of pay mix. For

example, in expectancy theory terms, motivation is expected to increase

to the extent that the instrumentality of a behavior for achieving

valent outcomes is high. A key question concerns the direction of the

motivation desired. Compensation practices are designed in the belief

that different degrees of emphasis on individual, group, and

organization objectives will affect employee behaviors accordingly.

Whatever the objective, expectancy theory argues that instrumentalities

of accomplishing these objectives for pay (and thus motivation to

achieve them) are increased by making pay contingent on their

attainment. Merit pay plans, as well as individual, group, and

organizational incentives offer ways of moving away from a strategy of

regular increments to base salary (e.g. announced across the board

increases) in favor of a strategy where pay varies as a function of the

achievement of objectives. In the case of organization or unit

incentive plans, the goal is to encourage cooperation and communication

between interdependent employees or groups (Lawler, 1981).

In the economics and finance literatures, agency theory starts

with the assumption that the interests of principals (i.e. owners) and

agents (i.e. managers) are not ordinarily the same. As jobs become

less programmable (Eisenhardt, 1988), the principal may encounter

growing difficulties in determining whether the agent is pursuing the

principal's goals. To better align the goals (and presumably

behaviors) of the agents with those of the owners, the theory suggests

that compensation of managers will be made contingent on firm

performance (Eaton & Rosen, 1983). Thus, both expectancy theory and

agency theory emphasize the importance of making pay contingent on the

desired outcomes. The executive compensation literature (Murphy, 1985;

Baker et al., 1988) provides some support for this link. Moreover,

firms with dominant stockholders (versus "management-controlled firms")

seem to exhibit stronger links between compensation and financial

returns (Gomez-Mejia, Tosi & Hinkin, 1987; Tosi & Gomez-Mejia, 1989).

Regarding the cost objective, organization (or unit) incentive

plans are often viewed as offering a means of supporting the strategy

of making labor more of a variable than a fixed cost. The latter

increases as the base salary component of total pay increases. In

contrast, if a portion of employee pay is tied to the business

performance of the firm, labor costs will be lower in years when the

firm has less of an ability to pay and higher during years where the

ability to pay is higher and where the organization wishes to recognize

employees for their role in its success. Note that 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. We hypothesize that:

H_8: Higher proportions of variable pay (i.e. pay mix) are

associated with better organization performance.

METHOD

Sample

A large well-known compensation consulting firm provided survey data collected during 1981, 1982, 1983, 1984, and 1985, pertaining to over 20,000 top and middle level executives and managers in over 300 business units and firms in each year. Roughly 95% designated themselves as freestanding companies. The consulting firm collected the data by sending a questionnaire each year to each organization asking that data on a representative sample of jobs, managerial levels, and business units be provided. Each organization was encouraged to report data on at least 75 incumbents and most did so.

The job families in the survey covered a broad range (e.g. top executives, profit center heads, legal, employee relations, manufacturing, marketing, finance, government relations, information systems, research and development/engineering, planning/acquisitions, general management, and materials). As an example of the range of positions within job families, in employee relations, data were collected on jobs ranging from the top personnel executive (1985 average pay = $96,704) down to personnel manager (a generalist under direct supervision of the top personnel executive, 1985 average pay = $60,821).

Analyses and Measures

Organization Effects on Individual Pay. To be included, an organization had to report data for at least 3 of the 5 years surveyed. In addition, only organizations in industries with 3 or more firms were

included. These restrictions resulted in approximately 14,000

individuals per year, for a total sample of 70,684 individuals

(employed in 219 organizations).

Dependent variables were managerial base pay, the use of long-

term incentives (1 = yes, 0 = no)[1], and the ratio of bonus to base pay.

The latter two measures are designed to capture important aspects of

pay mix. All variables measured in dollars were scaled in 1980 dollars

using the Consumer Price Index.

Human capital (HC) variables included years of education, years of

potential labor market experience (age - years of education - 6)[2], firm

tenure, job tenure, and squared terms for the latter three variables,

consistent with human capital theory's prediction of diminishing

returns to experience (negative signs on the squared terms).

Job characteristics (JOBCHAR) measures were (a) the number of

reporting levels from the board of directors to the position of the

incumbent, and (b) the number of management levels supervised.

Organization effects were measured using a dummy variable for each

firm. Specific organization characteristics were size (firm sales,

business unit sales, total employees), return on assets (ROA),[3] and

Industry. The last was measured as the 2-digit SIC code of the firm.

As noted, only industries with at least 3 firms were included in the

sample. However, several of the 2-digit industries were further broken

down into 3-digit SIC codes because of diversity within the industry

and a sufficient number of firms within each 3-digit industry.[4]

The following equations were estimated:

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

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

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

where Y is a vector of observations on a compensation dependent variable for i persons at time t (i.e. data are pooled across years), Z is a matrix of observations on individual and job control variables, X is a vector of dummy variables representing organizations, W is a matrix of specific organization characteristics (industry, size, financial performance), A, B, and C are coefficient vectors, and e is an error term that includes unmeasured causes of Y.

Our approach was to take the increment in R^2 moving from equation (1) to (2) as indicative of the general organization effect. Then, by comparing this increment with that obtained by moving from equation (1) to (3) we were able to determine the extent to which the overall organization effect was due to industry, size, and financial performance.

Stability and Convergent Validity. Because the data cover a 5-year period, the first important evidence of stability in pay practices would be provided by a significant effect of the organization dummy variables in equation 1. However, a second approach was to focus on organizations that provided data in both 1981 and 1985 (N = 137). Equation (1) was estimated using 1981 data and then using 1985 data. The individual employee pay outcome residuals were averaged separately for each organization in each year. These adjusted averages were taken as indicative of the organization's relative position regarding base, bonus/base, and long-term incentive usage in each year. Thus, for example, if the average residual from the base pay equation was

positive for a particular organization in a given year, it was

interpreted as being above the market defined by the organizations in

the survey 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, but using base + bonus as the dependent

variable) with the self-reported pay level policy. The latter was also

part of the consulting firm survey. Each organization was asked "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

self-reports (and because such data were not collected prior to 1983),

the sample size for this analysis was reduced to 124 organizations.

Consequences for Organization Performance. The performance

dependent variable was ROA. Given that short-run bonuses are designed

to have their most direct impact on short term business performance,

the relation of ROA in year t with the bonus/base ratio and base pay in

year t-1 was examined. As above, both compensation variables were

measured using average residuals from equation (1). The model was:

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

where t is the year, Z is a matrix of control variables (industry or

prior ROA), C, D, and F are coefficient vectors, and e is an error

term.

If greater contingency in compensation strategy has the effects

hypothesized by expectancy and agency theories, D should be positive

and statistically significant. Note that by including both base and

bonus payments, overall pay level is controlled and the coefficients on each variable indicate the relative effect of money allocated to base versus bonus.

Different specifications of Z were used to address different questions. For example, to estimate the relation between ROA and compensation practices within industry, dummies for the latter were included. To examine the relation, controlling for prior profitability, Z included ROA in year t-2. As discussed later, however, controlling for prior ROA may be unwise if, as our literature review implies, this prior firm performance is influenced by prior compensation practices.

To control omitted organization-specific causes of financial performance that remain stable in the short-run (e.g. product demand, technology, legal framework, employee attributes), a fixed effects or within groups model (e.g., Hausman & Taylor, 1981; for an application, see Gerhart, 1988) was estimated by including organization dummies in the equation.

Finally, because long-term incentives are designed to foster better business performance over the longer run, average ROA over a time period of three years or more was used as the dependent variable. Again, average residuals from equation (1) were used for the compensation variables. For an organization to be included, at least two observations (Mean = 3.7) during this period were required, the first of which had to be in 1981 or 1982 (N = 159). The model was:

$$ROA_i. = Incentive_{it-1}G + Z_{it-1}H + e_i.. \tag{5}$$

RESULTS

Organization Effects on Individual Pay

Table 1 reports descriptive statistics using individual employees as the units of analysis. For several variables exhibiting nonnormal distributions, a natural logarithm ("Ln") transformation was used. The means for these variables in raw (1980) dollars were $4.9 billion for firm sales, $1.8 billion for unit sales, and $71,155 for base salary. The mean number of employees was 34,378. The average firm in our sample would place approximately 105th in the 1985 Fortune 500 (using 1985 dollars and data). ROA in our sample (6.1%) was the same as the average for the 1985 Fortune 500. Thus, although our sample is not random, it appears typical of the Fortune 500 in some key respects.

Insert Tables 1 and 2 about here

Hypothesis 1 stated that base pay level and pay mix would be related to human capital and job responsibility level. Table 2, which provides results that explain differences in pay between employees across organizations during the 5 year period of the study, shows that human capital and job attributes (row A) explain statistically significant amounts of variance in base pay level (R^2 = .690), bonus/base (R^2 = .238), and incentive eligibility (R^2 = .205). Thus, hypothesis 1 is supported.

According to Hypothesis 2, organizations should differ in their base pay and pay mix, even after controlling for human capital and job factors. To assess the total effect of organizations on each compensation outcome, the organization dummy variables were added to

the equation that already included human capital and job attributes.
The total organization effect (row B) is again statistically
significant for base pay level (R^2 change = .138), bonus/base (R^2
change =.214), and long-term incentive eligibility (R^2 = .342). Thus,
there is support for Hypothesis 2.

Hypothesis 3 stated that an organization effect on employee pay
outcomes could be explained, in part, by specific organization
differences in industry, size, and financial performance. Row C of
Table 2 reports the incremental R-squares obtained with the
organization dummy variables removed and specific organization
characteristics added to the equation controlling for human capital and
job attributes. The last column of Table 2 reports the percentage of
the total organization effect explained by the specific organization
characteristics. For both base pay level and pay mix, industry, size,
and financial performance explain an important portion of the general
organization effect, consistent with hypothesis 3.

Table 3 reports regression coefficients for the equation
containing all independent variables except the organization dummies.
Of note is the fact that pay was positively related to size (LN sales
and LN number of employees) and, consistent with Deckop's (1988)
findings, profitability. A 1 point increase in ROA was associated with
base pay higher by .2% ($142), bonus/base higher by .5% ($355), and a
.006 higher probability of long-term incentive use. A 1 percent
increase in firm sales was associated with a .1% ($71) higher base
salary, a 1.6% ($1,138) higher bonus/base, and a .031 lower probability
of long-term incentive use.[5]

The lower probability of incentives in larger firms (measured

using 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 start-up firms than in declining firms (Ellig, 1981).[6] On the

other hand, the other measure of pay mix, the bonus to base ratio, is

actually lower in smaller firms. One explanation is that small firms

more often have growth as a primary objective. Long-term investments

to achieve growth are enhanced by adequate short-term cash-flow and

incentives that encourage a long-term perspective. Although long-term

incentives are 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.

Insert Tables 3 and 4 about here

Stability and Convergent Validity

Hypothesis 4 suggested that observed organization differences

would be stable over time. The earlier finding (see Table 2) that the

organization dummy variables had significant effects on base pay level

and pay mix over a 5-year period provides important support for this

hypothesized stability in organization compensation practices.

However, as an alternative approach, Table 4 reports stability

estimates for the compensation outcomes using firm averages in 1981 and

1985. The first column is the unadjusted correlation between these

firm averages in 1981 and 1985. A key finding is the fairly high

stability of organization effects over the four year period for base

pay level (r = .85) and long-term incentive eligibility (r = .70). A

partial exception to the general pattern of stability is the case of

bonus/base, for which the correlation (r = .52) is somewhat lower. The

second column of Table 4 indicates that controlling for human capital

and job attributes (i.e. "adjusted") left the stability results largely

unchanged (again, bonus/base is the exception). This stability is all

the more striking when one considers that less than 50% of the

employees included by firms in the survey in 1981 were also included by

the same firms reporting in 1985. As such, we have strong evidence of

stability in at least two key aspects of the compensation packages of

employees that is due to stability in compensation policies and

practices, as opposed to stability in the people,[7] supporting

Hypothesis 4.

Although the bonus to base ratio exhibited less stability, this is

not surprising. As Table 3 indicated, bonus payouts are closely linked

to ROA. The stability of ROA over the 5-year period is only .09.

Given the instability in this key determinant (and perhaps in other

determinants also) of bonus payments, it would be surprising (perhaps

troubling) to find much greater stability in the bonus to base ratio.

After all, bonuses are used to make pay a variable, rather than a fixed

cost. Bonus payments that do not change from year to year with changes

in performance are, in effect, nothing more than base pay.[8]

The next question is in which areas of compensation do strategy

differences appear most pronounced? Hypothesis 5 suggests that it is

in the area of pay mix. Referring again to Table 2, two relevant

findings emerge. First, although it is clear that the organization

effect is smallest for base pay level (R^2 change = .138), the

organization characteristics are best able to account for this effect

(R^2 change = .094), explaining 68% of it. In contrast, the larger

organization effects for the pay mix dependent variables appear to be

less attributable to industry, size, and financial performance with 37%

and 34 % of the organization effects for bonus/base and incentive

eligibility being explained, respectively. These findings suggest that

the most significant differences in firm compensation decisions have to

do with pay mix, rather than pay level, 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 pay level

(defined here as base + bonus) average residuals and reported pay level

policies was .504, indicating that firms with total pay leading

(following) other firms tended to report a lead (follow) policy. In

other words, our empirically derived measure of pay level demonstrates

convergent validity with the self-report measure. This convergence

provides direct support for Hypothesis 6 and thus the existence of

intended (in addition to realized) pay level strategies.[9]

Insert Tables 5, 6, and 7 about here

Consequences for Organization Performance

The results reported in Tables 5, 6, and 7 use the organization as

the unit of analysis, allowing an examination of the breadth and

diversity of pay practices across organizations. As Table 5 indicates, the mean of the bonus/base ratio was .20 and ranged from .00 to .67. Based on supplemental data not fully analyzed here, approximately 95% of the organizations used either corporate/division performance or a combination of corporate/division and individual performance as the basis for bonus payouts. The mean firm base pay level (in 1980 dollars) was $70,235 and ranged from $26,155 to $254,000. Finally, the majority of employees were eligible for long-term incentives (mean = .58), although organizations in our sample ranged from having none of their surveyed employees on long-term incentives to having all such employees on long-term incentive plans. Finally, the 25th and 75th percentile values for the three compensation variables indicate fairly normal distributions.

The estimates for the model of yearly return on assets appear in Table 6. In no case is the coefficient for base pay level statistically significant, refuting Hypothesis 7, which stated that pay level and organization performance would be positively related. In contrast, the coefficient for bonus/base is statistically significant in the first three specifications. Even using the within-organization (or fixed effects) model that includes a dummy variable for each organization, the coefficient indicates that an increase in bonus/base 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 stated that higher proportions of variable pay would be associated with better organization performance.

Note, however, that controlling for prior return on assets,

reduces the coefficients and their statistical significance. It is not clear how to interpret this result, however. On the one hand, it may suggest that the use of bonuses is spuriously related to subsequent performance by virtue of the fact that performance is correlated over time. On the other hand, one of the reasons that performance is correlated in the short-run may stem from the effectiveness of the bonus payouts (i.e. contingent pay). If the latter, one should not control for prior financial performance. Note also that the within-organization or fixed effects model controls for any factor that does not change over time. In this sense, any stable organization differences in profitability levels would be controlled, even without explicitly including lagged ROA in the model. Thus, care must be taken not to overcontrol.7 As such, we are inclined to lend greater weight to the equations that exclude prior ROA.

The results for the use of long-term incentives appear in Table 7. Recall that the longer term focus suggested the use of the mean return on assets for the firm during the course of the study period. Using this measure, there is fairly consistent support across model specifications for the interpretation that the use of long-term incentives at the beginning of the period was associated with higher subsequent mean return on assets. Specifically, an increase in 10 percentage points in the number of eligible executives was associated with 0.17% to 0.20 % higher mean return on assets. These results provide further support for the prediction that a strategy of high variable pay is associated with better organization performance (Hypothesis 8).

DISCUSSION

Our focus has been on the determinants and consequences of organizations' compensation practices. Based on the compensation strategy literature, we identified pay level and pay mix as key aspects of compensation. On the determinants side, we began by comparing two basic models. The first model, based on classical economic theory, human capital theory, and job-oriented theories (e.g., Thurow, 1975), hypothesized that compensation (particularly base pay level) was a function of employee and job characteristics. Although the theoretical and empirical literature on pay mix determinants is comparatively thin, a similar model was taken as a starting point for pay mix.

The second general model was based largely on the compensation strategy and contingency theory literatures, which emphasize that environmental factors (e.g., industry, size, financial performance) may influence pay system design, but that considerable discretion also exists in such decisions. Thus, although employee and job factors (and the just-mentioned environmental factors) were incorporated in this second model, it was additionally hypothesized that knowing which organization an employee worked for would significantly increase the ability to explain pay level and pay mix. This second model was supported, suggesting that theories focusing only on individual, job, and environmental factors are not sufficient for explaining organization differences in compensation practices.

Several types of evidence led us to interpret these unexplained organization differences as indicative of strategic-like differences. First, organization effects on compensation were significant over a 5-

year period, suggesting that organization 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, 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

organization differences in bonus usage.

Third, where data were available (i.e., for pay level), evidence

of significant convergence of pay strategy measures was also found. We

wish to emphasize, however, that a lower level of convergence would not

necessarily be of great concern. The two different 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 impact 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 firm financial performance. Both the general strategy and

compensation strategy literatures argue that a defining characteristic

of strategic decisions is that they have consequences for firm

performance. In this sense, pay mix was found to be a more strategic

aspect of compensation. In summary, these four types of evidence

suggest that even highly similar organizations may follow different pay

strategies that have different degrees of success.

Our work builds on previous research in several ways. For example, the beneficial effect of contingent pay on organization performance is consistent with experimental research on the impact of individual incentives on individual performance in predominantly manual activities (see Lawler, 1981; Dyer & Schwab, 1982 for reviews) and with a recent single firm study of managers (Kahn & Sherer, 1990). Our findings also extend the research on executive pay, which have tended to focus on only a few top executives (usually only those for whom pay information is publicly available in a prospectus) in each organization. In addition, while most of the executive pay research has examined whether pay was related to previous firm performance, our findings, in contrast, also speak directly to the question of whether compensation decisions have consequences for subsequent performance. Our finding that short term bonus usage is linked to subsequent performance is consistent with recent studies (Leonard, 1990; Abowd, 1990). In addition, our work also suggests that making more employees eligible for long-term incentives is also associated with higher subsequent organization performance in the longer run.

Although the economics literature has tended to focus on individual characteristics and to some degree, industry differences, like Groshen (1988), we found that the organization makes a substantial difference in models of pay level determination. Thus, as with much previous work (Brown, 1980), our research provides little in the way of 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 organization differences (within industries). (See Dickens & Katz, 1987 for a review of industry wage studies.) In the case of pay mix, comparisons with previous research are difficult because important studies (e.g., Groshen) did not study pay mix.

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

The finding that organizations differentiated themselves more in terms of pay mix than pay level is consistent with the argument that organizations have less flexibility in pay level decisions. Standard economic theories of competitive markets suggest that there are strong forces that work to limit discretion in the setting of pay levels. Increases in pay level lead, ceteris paribus, to product price increases, and thus reduced competitiveness. Decreases in pay level may result in difficulties such as less successful employee attraction and retention (and thus perhaps lower employee quality) and union activity. In contrast, although pay mix changes may also face costs and roadblocks (e.g., administrative burdens, resistance to change),

substantial changes in pay mix without dramatic changes in monetary or behavioral costs may be possible.

In asking why pay mix, but not pay level, was related to subsequent financial performance, two factors seem relevant. First, there may simply be insufficient variation in organization pay levels to establish such a link. For reasons just discussed, the consequences associated with paying too little or too much may be so serious that organizations avoid risking experimentation with different pay level strategies. In contrast, the risks associated with changes in pay mix may be less obvious, whereas the potential benefits are widely discussed. For example, both expectancy theory and agency theory suggest that employee pay contingencies affect the goals achieved. By making pay variable and dependent on the achievement of specific individual and organization goals, the theories predict that these goals are more likely to be realized.

Similarly, in discussions of what organizations need to do to become more competitive, business strategy books often recommend that changes to the pay mix (usually toward greater variable pay) be considered (e.g., Kanter, 1989; Peters, 1987). According to Kanter, for example:

> 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. (p. 264).

Several caveats should be kept in mind in interpreting our

findings. First, although our results suggest discretion in compensation design, it is difficult to separate differences due to intended strategy, culture, ongoing coalition bargaining, and historical accident. Our focus on realized strategies (Mintzberg, 1978) is not conducive to measuring the relative role of each. On the other hand, our estimates of the net effect of organization differences (and thus perhaps strategy effects) on pay decisions are probably on the conservative side because our control for different distributions of jobs and personal attributes ignores the possibility that these distributions may themselves be outcomes of conscious human resource strategies.

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 our sample was composed of fairly high level employees, a group with relatively large amounts of decision-making power and potential impact on organization performance. Even among these high level employees, pay was often partly contingent on individual performance, rather than completely dependent on organization performance. As one moves down the organization hierarchy, employee impact diminishes. Thus, although making pay contingent on general organization performance may help achieve short-run cost objectives, expectancy theory, for example, suggests that such a plan is less likely to achieve behavioral objectives at lower job levels. Gain-sharing plans, which focus on the performance of smaller organization units might be a more viable option (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. As such, it is not clear that any single factor would be likely have a "large" effect on ROA. Even small effects, however, may be substantial in dollar terms.

Future Research

At this stage of our work, we were able to examine a measure of financial performance (i.e. ROA), but not shareholder wealth. Although the two types of measures are likely to be related, future research using shareholder wealth (e.g., Abowd, 1990), as well as other measures of financial performance would be useful. More broadly, organization effectiveness can be defined in terms of many other dimensions (e.g. survival, adaptability, stakeholder satisfaction).

Future compensation research should also keep in mind that compensation decisions are only one (albeit important) aspect of general human resource strategy (Dyer & Holder, 1989). It would be of interest, for example, 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 sets of conditions. As one example, does a high pay level work best when combined with an effective external staffing and performance management system? The logic would be that hiring mistakes would be especially costly when pay levels are high. On the other hand, a high pay level can drive down selection ratios. Combined with a valid

selection system, it may be an effective means of "creaming" the applicant pool (e.g., Rynes & Barber, forthcoming; Bronfenbrenner, 1956). 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 more in depth examination of the reasons for each would be of potential value. For example, even though our fixed effects model provided valuable information on the effects of changes in compensation variables, future research that examines in more detail the reasons for such changes and whether they are typically accompanied by changes in other human resource practices would be of interest.

It would also be useful to examine cases where compensation strategies remain the same even when environmental changes might suggest that changes would be advisable. In investigations of this sort, institutional theory may provide a useful framework. In essence, institutional theory argues that "organizations are influenced by normative pressures" arising from either the internal or external environment that "lead the organization to be guided by legitimated elements" such as standard operating procedures, professional certifications, and the like (Zucker, 1987, p. 443). These legitimated ways of doing things may, however, continue long after the reason for their implementation is gone. In fact, resistance to change may be a consequence of institutionalization. But as Eisenhardt (1988) has demonstrated in examining retail compensation practices, it can be difficult to demonstrate that institutionalization is the reason for a lack of change. In her study, for example, agency theory accounted for

many findings as well as institutional theory did. Nevertheless, there may be additional applications of the latter in compensation.[10]

As one example, consider the choice of emphasizing internal consistency versus market pricing. One view is that internal consistency is often given great weight in many organizations, despite changes in the business environment that argue against such an emphasis (e.g., Kanter, 1989; Levine, 1989; Lawler, 1986). It is argued, for example, that internal consistency (and associated bureaucratic support mechanisms like job evaluation) came into being at a time when "oligopolistic bureaucracies" operated in a more stable world (Kanter, p. 265). With increasing global competition and environmental turbulence, this view holds that such an approach no longer makes sense. Internal consistency is seen as a costly luxury that continues to be emphasized because it has become institutionalized.

Finally, despite our focus on pay level and pay mix, there are many other potentially strategic aspects of compensation, for which we have little evidence on organization differences or possible performance consequences. For example, do otherwise similar organizations use different pay hierarchies? How does the basis for pay differ across organizations? What accounts for these variations? In cases where performance is the basis, are particular combination of performance criteria (e.g., individual, group, unit, organization) more effective than others? If so, under what circumstances? We hope our study provides a useful framework for examining such issues.

REFERENCES

Abowd, J.M. (1990). Does performance-based managerial compensation affect
corporate performance? Industrial and Labor Relations Review, 43, 52S-73S.

Baker, G.P., Jensen, M.C., & Murphy, K.J. (1988). Compensation and
incentives: Practice vs. theory. Journal of Finance, 43, 593-616

Balkin, D. B., & Gomez-Mejia, L. R. (1987). Toward a contingent theory of
compensation strategy. Strategic Management Journal, 8, 169-182.

Becker, G. (1975). Human capital: A theoretical and empirical analysis,
with special reference to education. Chicago: University of Chicago
Press, 2nd edition.

Belcher, D., & Atchinson, T. (1987). Compensation administration.
Englewood Cliffs, NJ: Prentice-Hall.

Brealey, R. & Myers, S. (1981). Principles of corporate finance. New York:
McGraw-Hill.

Bronfenbrenner, M. (1956). Potential monopsony in labor markets.
Industrial and Labor Relations Review, 9, 577-588.

Brown, C. (1980). Equalizing differences in the labor market. Quarterly
Journal of Economics, 94, 113-134.

Brown, C. & Medoff, J. (1989). The employer size-wage effect. Journal of
Political Economy, 97, 1027-1053.

Chrisman, J.J., Hofer, C.W., & Boulton, W.R. (1988). Toward a system of
classifying business strategies. Academy of Management Review, 13,
413-428.

Conference Board. (1989). Variable pay gains ground. Human Resources,
5(8), 1.

Deckop, J.R. (1988). Determinants of chief executive officer compensation. Industrial and Labor Relations Review, 41, 215-226.

Dickens, W.T. & Katz, L.F. (1987). Inter-industry wage differences and theories of wage determination. National Bureau of Economic Research, Working paper #2271.

Doeringer, P.B. & Piore, M.J. (1971). Labor markets and manpower analysis. Lexington, MA: Heath.

Dunlop, J.T. (1957). Suggestions toward a reformulation of wage theory. Reprinted in Mahoney.

Dyer, L. & Holder, G.W. (1989). A strategic perspective of human resource management. In L. Dyer (Ed.), Human Resource Management--Evolving Roles and Responsibilities. Washington, D.C.: Bureau of National Affairs, Volume 1.

Dyer, L. & Schwab, D.P. (1982). Personnel/human resource management research. In T.A. Kochan, D.J.B. Mitchell, & L. Dyer (Eds.), Industrial relations research in the 1970s: Review and appraisal. Madison, WI: Industrial Relations Research Association.

Eaton, J. & Rosen, H. (1983). Agency, delayed compensation, and the structure of executive renumeration. Journal of Finance, 37, 1489-1507.

Ehrenberg, R. G., & Milkovich, G. T. (1987). Compensation and firm performance. In M. Kleiner et al. (Eds). Madison, WI: Industrial Relations Research Association.

Eisenhardt, K.M. (1988). Agency- and institutional-theory explanations: The case of retail sales compensation. Academy of Management Journal, 31, 488-511.

Ellig, B. R. (1981). Compensation elements: Market phase determines the mix. Compensation Review, (Third Quarter), 30-38.

Evans, D.S. & Leighton, L.S. (1989). Why do smaller firms pay less? Journal of Human Resources, 24, 299-318.

Foster, K.E. (1985). An anatomy of company pay practices. Personnel, 1985.

Gerhart, B. (1988). Sources of variance in incumbent perceptions of job complexity. Journal of Applied Psychology, 73, 154-162.

Gerhart, B. & Milkovich, G.T. (1989). Salaries, salary growth, and promotions of men and women in a large, private firm. In R. Michael, H. Hartmann, & B. O'Farrell (Eds.), Pay equity: Empirical inquiries. Washington, D.C.: National Academy Press.

Gerhart, B. & Milkovich, G.T. (1988). Organizational differences in managerial compensation practices. Center for Advanced Human Resource Studies, Cornell University, Working Paper, #88-19.

Gomez-Mejia, L.R. (1987). The relationship between organizational strategy, pay strategy, and compensation effectiveness: An exploratory study. College of Business, University of Colorado, Working paper.

Gomez-Mejia, L.R., Tosi, H., & Hinkin, T. (1987). Managerial control, performance, and executive compensation. Academy of Management Journal, 30, 51-70.

Gomez-Mejia, L.R. & Welbourne, T.M. (1988). Compensation strategy: An overview and future steps. Human Resource Planning, 11, 173-189.

Groshen, E.L. (1988). Why do wages vary among employers? Economic Review, 24, 19-38.

Hausman, J.A. & Taylor, W.E. (1981). Panel data and unobservable individual effects. Econometrica, 49, 1377-1398.

Heneman, H.G. III. (1985). Pay satisfaction. Research in Personnel and

Human Resource Management, 3, 115-139.

Hewitt Associates. (July 1989). Preliminary report, leading edge

compensation study. Rowayter, Connecticut.

Hofer, C.W. & Schendel, D.E. (1978). Strategy formulation: Analytical

concepts. St. Paul, MN: West.

Holzer, H.J. (1990). Wages, employer costs, and employee performance in the

firm. Industrial and Labor Relations Review, 43, 147S-164S.

Hunter, J.E. & Hunter, R.F. (1984). Validity and utility of alternative

predictors of job performance. Psychological Bulletin, 96, 72-98.

Kahn, L.M. & Sherer, P.D. (1990). Contingent pay and managerial

performance. Industrial and Labor Relations Review, 43, 107S-120S.

Kanter, R.M. (1989). When giants learn to dance. New York: Simon and

Schuster.

Kerr, J. & Bettis, R.A. (1987). Board of directors, top management

compensation, and shareholder returns. Academy of Management Journal,

30, 645-665.

Krueger, A.B. & Summers, L.H. (1988). Efficiency wages and the inter-

industry wage structure. Econometrica, 56, 259-293.

Krueger, A.B. & Summers, L.H. (1986). Reflections on the inter-industry

wage structure. In K. Lang & J. Leonard (Eds.), Unemployment and the

structure of labor markets. London: Basil Blackwell.

Lawler, E. E. (1981). Pay and organizational development. Reading, MA:

Addison-Wesley.

Lawler, E.E. III. (1986). What's wrong with point-factor job evaluation.

Compensation and Benefits Review, 20-28.

Leonard, J.S. (1990). Executive pay and firm performance. Industrial and

   Labor Relations Review, 43, 13S-29S.

Leonard, J.S. (1988). Wage structure and dynamics in the electronics

   industry. Industrial Relations, 28, 251-275.

Lester, R.A. (1946). Wage diversity and its theoretical consequences.

   Review of Economics and Statistics, 28, 152-159.

Levine, H.Z. (1987). Compensation and benefits today: Board members speak

   out, Part 1. Compensation and Benefits Review, 23-40.

Livernash, E.R. (1957). The internal wage structure. In G.W. Taylor & F.C.

   Pierson (Eds.), New concepts in wage determination. New York: McGraw-

   Hill.

Mahoney, T. A. (1979). Compensation and reward perspectives. Homewood,

   IL: Irwin.

Mellow, W. (1982). Employer size and wages. Review of Economics and

   Statistics, 64, 495-501.

Miles, R.E. & Snow, C.C. (1978). Organizational strategy, structure, and

   process. New York: McGraw-Hill.

Milkovich, G. T. (1988). A strategic perspective on compensation

   management. Research in Personnel and Human Resources Management, 6,

   263-288.

Milkovich, G.T. & Rabin, B.R. (forthcoming). Firm performance: Does

   executive compensation really matter? In F. Foulkes (Ed.), Executive

   compensation in the 1990s: A strategic approach. Harvard Business

   School Press.

Milkovich, G. T., & Newman, J. (1987). Compensation (2nd ed.), Plano, TX:

   Business Publications Inc.

Mincer, J. (1974). Schooling, experience, and earnings. New York, National

Bureau of Economic Research.

Mintzberg, H. (1987). Crafting strategy. Harvard Business Review, July-

August, 66-75.

Mintzberg, H. (1978). Patterns in strategy formation. Management Science,

24, 934-948.

Murphy, K.J. (1985). Corporate performance and managerial renumeration: An

empirical analysis. Journal of Accounting and Economics, 7, 11-42.

O'Dell, C. (1987). People, performance, and pay. American Productivity

Center.

Pearce, J.A. II & Robinson, R.B. Jr. (1982). Formulation and implementation

of competitive strategy. Homewood, IL: Richard D. Irwin, Inc.

Peters, T. (1987). Thriving on chaos. New York: Alfred A. Knopf.

Reynolds, L.G. (1946). Wage differences in local labor markets. American

Economic Review, 36, 366-375.

Rynes, S.L. & Barber, A.E. (forthcoming). Applicant attraction strategies:

An organizational perspective. Academy of Management Review.

Rynes, S.L. & Milkovich, G.T. (1986). Wage surveys: Dispelling some myths

about the "market wage." Personnel Psychology, 39, 71-90.

Schwab, D.P. (1980). Job evaluation and pay-setting: Concepts and

practices. In E.R. Livernash (Ed.), Comparable worth: Issues and

alternatives. Washington, D.C.: Equal Employment Advisory Council.

Segal, M. (1986). Post-institutionalism in labor economics: The forties and

fifties revisited. Industrial and Labor Relations Review, 39, 388-403.

Shapiro, C. & Stiglitz, J.E. (1984). Equilibrium unemployment as a worker

discipline device. American Economic Review, 74, 433-444.

Schuster, M. (1986). Gainsharing: The state of the art. Compensation and Benefits Management, 2, 285-290.

Smith, A. (1937). An inquiry into the nature and causes of the wealth of nations. New York: Random House.

Snow, C.C. & Hambrick, D.C. (1980). Measuring organizational strategies: Some theoretical and methodological problems. Academy of Management Review, 5, 527-538.

Thurow, L. (1975). Generating inequality. New York: Basic Books, Inc.

Tosi, H.L. Jr. & Gomez-Mejia, L.R. (1989). The decoupling of CEO pay and performance: An agency theory perspective. Administrative Science Quarterly, 34, 169-189.

Weber, C. & Rynes, S. (1990). Effects of compensation strategy on job pay decisions. Working Paper #89-06 (revised), Center for Advanced Human Resource Studies, Cornell University.

Williamson, O.E., Wachter, M.L., & Harris, J.E. (1975). Understanding the employment relation: The analysis of idiosyncratic exchange. Bell Journal of Economics, 6, 250-280.

Zucker, L.G. (1987). Institutional theories of organization. American Review of Sociology, 13, 443-464.

1.Information on the usage of specific types of long-term incentive plans was not available. However, in a separate survey (to which we did not have access), many of the same respondents were asked to provide information on the following plans: incentive stock options, non-qualified stock options, stock appreciation plans, performance plans, restricted stock, and phantom stock. Thus, our dichotomous long-term incentive eligibility measure was probably answered with these standard types of programs in mind.

2. In cases where a direct measure of years in the labor force is not available, this formula is used in the economics literature to estimate the number of years that a person could have participated in the labor force.

3. ROA was defined as net income divided by assets. Other definitions are also possible (e.g. earnings before interest, but after taxes divided by assets, see Brealey & Myers, 1981). Any biasing effect of a particular definition should be eliminated by the fixed effects model (described below) to the extent the bias remains stable over time. Moreover, recall our formula yielded an average ROA in our sample that was the same as that of the Fortune 500.

4. The industry distribution is available from the authors.

5. Note that in a log-linear specification, multiplying the 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.

6.Long-term incentives are thought to facilitate growth, a high priority objective in many small firms, by encouraging a long-term perspective and not depriving the organization of cash flow, which is necessary for investment. Short-term annual bonus plans do not accomplish the same objectives. Therefore, it is not surprising that this aspect of pay mix is not prevalent in small firms.

7. Although the same employees may not be present, a stability in human resource practices (e.g. hiring criteria) may result in a similar set of employee attributes.

8.The long-term incentive eligibility measure is more stable because it does not measure actual payments. Also, recall that Table 2 showed significant organization effects on the bonus to base ratio. The implication may be that real organization differences in bonus usage can be more accurately measured over longer observation periods because fluctuations in firm performance measures (e.g., ROA) tend to cancel out. In contrast, correlations between single year observations are likely to be constrained because they are highly susceptible to such fluctuations.

9.Because the self-report measure is based on a single respondent and a single item, its reliability is not likely to be high. Thus, our reported correlation of .504 is likely to be an underestimate of the true convergence.

10.We should note, of course, that the idea that certain customs and practices may become institutionalized, is not completely new in the study of compensation. As mentioned earlier, this was a central theme of the work of the so-called post-institutional economists of the 1940s and 1950s (Segal, 1986).

TABLE 1

Descriptive Statistics, Individual Level

VARIABLE	MEAN	STANDARD DEVIATION
Firm and Unit Characteristics		
Return on assets (ROA)	6.129	5.070
Ln Firm sales[a] (SALES)	14.327	1.286
Ln Unit sales[a] (USALES)	12.634	2.006
Ln Number of employees[a] (EMP)	9.818	1.259
Individual Characteristics		
Ln base pay	11.031	.492
Bonus/base	.180	.177
Long-term incentive eligibility	.601	.490
Education (EDUC)	16.408	1.889
Potential experience (EXP)	25.344	9.025
Potential experience squared (EXPSQ)	723.765	469.462
Firm tenure (TEN)	15.098	10.474
Firm tenure squared (TENSQ)	337.657	393.055
Job tenure (JOBTEN)	4.219	4.085
Job tenure squared (JOBTENSQ)	34.487	97.868
Job Characteristics		
Management levels reporting (LEVREP)	2.287	2.024
Levels from board = 1 (LEV1)	.010	.102
Levels from board = 2 (LEV2)	.063	.242
Levels from board = 3 (LEV3)	.199	.399

[continued]

TABLE 1 (continued)

Levels from board = 4 (LEV4)	.313	.464
Levels from board = 5 (LEV5)	.249	.432
Levels from board = 6 (LEV6)	.122	.327
Levels from board = 7 (LEV7)	.044	.205

Note: Number of observations = 70,684; All dollar values were adjusted using the Consumer Price Index to be in 1980 dollars.

ªLn = natural logarithm

TABLE 2

Organization Effects on Compensation Outcomes

MODEL	R^2	R^2 CHANGE[a]	C/B[b]
DEPENDENT VARIABLE = BASE PAY			
A. HC, LEVEL	.690		
B. HC, LEVEL, ORGDUM	.828	.138	
C. HC, LEVEL, ORGCHAR	.784	.094	68.1%
DEPENDENT VARIABLE = BONUS/BASE PAY			
A. HC, LEVEL	.238		
B. HC, LEVEL, ORGDUM	.452	.214	
C. HC, LEVEL, ORGCHAR	.318	.080	37.4%
DEPENDENT VARIABLE = LONG-TERM INCENTIVE ELIGIBILITY			
A. HC, LEVEL	.205		
B. HC, LEVEL, ORGDUM	.547	.342	
C. HC, LEVEL, ORGCHAR	.322	.117	34.2%

Note: All R^2 and changes are statistically significant at p < .001.

Models A, B, and C correspond to text equations 1, 2, and 3, respectively.

[a]Change in R^2 relative to Model A.

[b]Change in R^2 for Model C divided by change in R^2 for Model B.

TABLE 3

Model of Individual Pay Outcomes

	Ln BASE		BONUS/BASE		LONG-TERM INCENTIVE ELIGIBILITY	
	COEFF	T-VALUE	COEFF	T-VALUE	COEFF	T-VALUE
INTERCEPT	7.740	413.6	-.451	-37.6	-1.074	-32.5
EDUC	.041	77.0	.006	18.4	.026	28.1
EXP	.023	43.9	.001	2.7	.012	13.6
EXPSQ	- .0003	-24.9	.000	.4	-.0002	- 9.3
TEN	- .003	- 9.2	.004	18.0	.001	1.3
TENSQ	.0001	9.2	-.0001	-15.0	-.0000	- .7
JOBTEN	- .003	- 9.0	.001	4.8	-.008	-12.8
JOBTENSQ	.0001	3.6	-.000	- 5.1	.0001	4.4
LEVREP	.105	198.2	.026	76.0	.055	58.9
LEV1	1.049	99.4	.151	22.4	.221	11.8
LEV2	.667	110.2	.164	42.1	.442	41.4
LEV3	.386	77.6	.106	33.2	.402	45.7
LEV4	.242	52.1	.067	22.5	.327	39.8
LEV5	.147	32.2	.039	13.3	.249	30.8
LEV6	.063	13.1	.013	4.2	.100	11.8
ROA	.002	9.2	.005	42.6	.006	19.5
EMP	.005	2.3	.010	6.5	.086	21.1
SALES	.100	40.8	.016	10.0	-.031	- 7.1
USALES	.019	31.5	-.003	- 7.5	.003	2.5
R^2	.784		.318		.322	

Note: Each equation also includes dummies variables for year and industry.
Number of observations = 70,694

TABLE 4

Stability of Compensation Outcomes

	CORRELATION BETWEEN 1981 AND 1985	
	UNADJUSTED[a]	ADJUSTED[b]
BASE PAY	.85	.85
BONUS/BASE	.52	.31
INCENTIVE ELIGIBILITY	.70	.68

Note: Based on averages from 137 organizations reporting in both 1981 and 1985.

[a]Based on average of individual pay within each organization.

[b]Based on average of individual pay residuals from equation containing human capital and job characteristics (see text).

TABLE 5

Descriptive Statistics for Compensation Variables, Firm Level

Variable	Mean	SD	25th	75th	Min	Max
Base	$70,235	$26,155	$51,000	$84,000	$28,000	$254,000
Bonus/Base	.20	.14	.10	.28	.00	.67
Long-term Incentive	.58	.36	.23	.92	.00	1.00

Number of Observations = 728 (on 219 firms)

TABLE 6

Model of Yearly Return on Assets, Adjusted[a] Compensation Variables

DEPENDENT VARIABLE = YEARLY RETURN ON ASSETS

EQUATION

VARIABLE	(1)	(2)	(3)	(4)	(5)
LAG BONUS/BASE	9.470[++]	6.825[++]	4.795[+]	2.101	3.723
	(5.3)	(3.73)	(1.9)	(1.3)	(1.44)
LAG BASE	0.586	.022	2.933	.186	2.605
	(.6)	(0.0)	(1.1)	(0.2)	(1.0)
LAG ROA	----	----	----	.451**	.066*
				(13.4)	(1.7)
INDUSTRY DUMMIES	NO	YES	NO	YES	NO
EMPLOYER DUMMIES	NO	NO	YES	NO	YES
INTERCEPT	5.779**	7.196**	4.989**	3.448**	4.574*
	(31.9)	(12.0)	(2.8)	(5.7)	(2.5)
R^2	.039	.214	.659	.376	.661

Note: Number of Observations = 728 (on 219 firms). T-values are in parentheses.

[a] Based on average of individual pay residuals from equation containing human capital and job characteristics (see text).

* $p < .05$, two-tailed   [+] $p < .05$, one-tailed

** $p < .01$, two-tailed   [++] $p < .01$, one-tailed

TABLE 7

Model of Mean Return on Assets, Adjusted[a] Compensation Variables

VARIABLE	DEPENDENT VARIABLE = MEAN RETURN ON ASSETS			
	EQUATION			
	(1)	(2)	(3)	(4)
LONG-TERM INCENTIVE ELIGIBILITY	1.896^{+}	1.657	1.996^{+}	1.838^{+}
	(1.8)	(1.6)	(1.9)	(1.8)
LAG ROA	---	.164**	---	.093
		(3.1)		(1.6)
INDUSTRY DUMMIES	NO	NO	YES	YES
INTERCEPT	5.536**	4.355**	6.748**	5.739**
	(16.6)	(8.7)	(6.6)	(4.8)
R^{2}	.021	.079	.311	.325

Note: Number of Observations = 156 firms. T-values are in parentheses.

[a]Based on average of individual pay residuals from equation containing human capital and job characteristics (see text).

* $p < .05$, two-tailed $^{+}$ $p < .05$, one-tailed

** $p < .01$, two-tailed $^{++}$ $p < .01$, one-tailed