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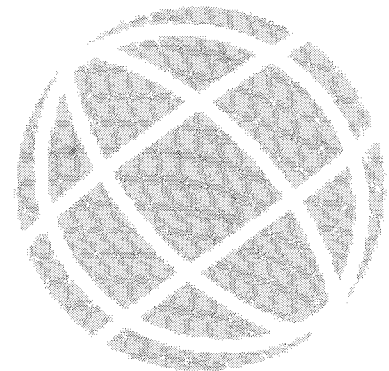
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WORKING PAPER SERIES

Employee Compensation: Research and Practice

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Working Paper 92-26



EMPLOYEE COMPENSATION: RESEARCH AND PRACTICE

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This paper has not undergone formal review or approval of the faculty of the ILR School. It is intended to make results of Center Research, conferences, and projects available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

INTRODUCTION

An organization has the potential to remain viable only so long as its members choose to participate and engage in necessary role behaviors (March & Simon, 1958; Katz & Kahn, 1966). To elicit these contributions, an organization must provide inducements that are of value to its members. This exchange or transaction process is at the core of the employment relationship and can be viewed as a type of contract, explicit or implicit, that imposes reciprocal obligations on the parties (Barnard, 1936; Simon, 1951; Williamson, 1975; Rousseau, 1990). At the heart of that exchange are decisions by employers and employees regarding compensation.

From the organization's perspective, perhaps no other set of decisions are as visible or as consequential for the success or failure of an organization. From a cost perspective alone, effective management of employee compensation is critical, given that it often represents the single largest cost incurred by an organization, typically accounting for 10-50% of total operating costs, and as much as 90% of such costs in some labor-intensive (e.g., service) organizations.

Of course, cost is only one part of the picture. It is also necessary to evaluate the employee contributions the organization receives in exchange. Thus, a second reason for studying compensation from the organization's perspective is to assess its impact on a wide range of employee attitudes and behaviors, and ultimately, the effectiveness of the organization and its units. Compensation may directly influence key outcomes like job satisfaction, attraction, retention, performance, flexibility, cooperation, skill acquisition and so forth. However, its influence may also be indirect by facilitating or constraining the effectiveness of other human resource activities (e.g., recruiting, selection, training,

development). In either case, its significant costs and its potential for significant effects on attitudes, behaviors, and ultimately organization effectiveness suggest that compensation is an area of strategic importance.¹

To the individual employee, compensation decisions also have important consequences. Salaries and wages represent the main sources of income for most people, and may also be taken as key indicators of a person's social standing or success in life. Benefits, such as health care and pensions, are also important determinants of well being and financial security among employees and their dependents. Not surprisingly then, employees have sought to influence such decisions in a variety of ways, including through unions, supporting government regulation of compensation decisions, and through the courts. Therefore, it is important to understand how individuals are affected by (and react to) different compensation decisions.

In this chapter, our goal is to define and describe the major decisions that organizations make in managing employee compensation and, based on theory, research, and practice, evaluate what the outcomes of such decisions are likely to be under different conditions. We have made several specific decisions in focusing the review.

First, compensation, like staffing, recruitment, and training, is an applied area of study where issues tend to be defined in terms of understanding the effectiveness and equity of actual decisions in organizations. Thus, although both parties to the employment exchange are of interest, we focus most of our attention on employer decisions. Our discussion of employee decisions is mostly limited to cases where a better understanding carries potential implications for organizational practice. (For example, understanding what determines individuals' pay satisfaction may help improve the design of compensation programs.)

Second, given its applied nature, our focus is truly on compensation itself, rather than compensation as a means of testing particular psychological theories of motivation (see Dyer & Schwab, 1982 on this point). In this sense, our chapter differs from the work motivation chapters in the first (Campbell & Pritchard, 1976) and second (Kanfer, 1991) editions of the Handbook, and is more similar to the reward systems part of Lawler's (1976) chapter on control systems in the first edition. Although much of our orientation is, of course, psychological, compensation is an area of great interest to other disciplines as well. Thus, we also draw freely on the economics, sociology, and finance literatures at various points.

Third, our focus on managerial implications has also led us to devote relatively little attention in this chapter to what may be termed more tactical questions (e.g., the choice between job evaluation or performance appraisal instruments; see Gomez-Mejia & Welbourne, 1988; Milkovich, 1988) or to determinants of compensation (see Gerhart & Milkovich, 1990 for a review). Our main focus in discussing determinants is the relative importance of organization differences in compensation decisions.

Fourth, we have, for the most part, chosen to limit our attention to pecuniary (i.e., monetary) aspects of employee compensation. Obviously, there is good reason to believe that many other attributes of jobs (e.g., challenge, significance, prestige, supervision, working conditions, coworkers, etc.) can also have important effects on employee attitudes and behaviors. But, reviewing this literature would greatly expand an already large task. We do not believe that our conclusions regarding pay decisions will be invalidated by this omission, at least not to any greater extent than other obvious omissions (e.g., examining compensation in relative isolation from other intertwined issues like staffing, training). We do, however, discuss the role of pay vis-a-vis other rewards and other employment

activities later in the chapter.

As Figure 1 indicates, we have classified compensation (or pay) decisions into four broad categories that the compensation literature (e.g., Belcher & Atchison, 1987; Heneman & Schwab, 1985; Heneman, 1985; Milkovich & Newman, 1990) suggests as most important: pay level, structures, individual differences in pay, and benefits. (A potential fifth category, administration, is addressed within each of the four decision areas.) We suggest that decisions in these areas influence individual and group outcomes which, in turn, influence unit (e.g., plant, business unit) outcomes, and ultimately, organization outcomes. Contingency factors are also included in the model in recognition of the fact that the relation between pay decisions and outcome variables may depend on a host of organization, job, individual, and external factors.

The chapter is organized around the four compensation decision areas shown in Figure 1. Within each decision area, we structure our discussion around the following areas: definition and properties, determinants, consequences, and suggested research directions. Our discussion of contingency factors also takes place within each of the four compensation decision area sections, although in a less structured manner. Finally, our review includes four special topics: pay vis-a-vis non-pay rewards, discrimination, executive pay, and international comparisons. We now turn to pay level, the first decision area shown in Figure 1.

PAY LEVEL

Definition and Properties

Compensation includes any direct or indirect payments to employees, such as wages, bonuses, stock, and benefits. Ehrenberg and Milkovich (1987) have defined pay level as the "average compensation paid by a firm relative to that paid by its competitors" (p. 89).

This definition suggests several implications. First, pay level refers to a characteristic of the organization (e.g., Heneman & Schwab, 1979; Mahoney, 1979). Second, pay level is an attribute that is defined relative to product and labor market competitors. Therefore, pay level research will ordinarily require data on multiple organizations. Third, conclusions regarding relative pay level will depend heavily on how these competing organizations are defined and chosen. Although perhaps not as explicit in the definition, we would add a fourth point, namely, that measuring total compensation goes beyond a consideration of wages and salaries.

Direct pay now represents approximately 72% of total compensation costs, with benefits accounting for the remaining 28% (Nathan, 1987; U.S. Chamber of Commerce, 1991). Thus, it is less and less correct to equate direct pay with total monetary compensation. Yet, there is no single correct way to assess the relative contributions of pay and benefits to total compensation, a particularly relevant issue given what appears to be the increasingly significant differences in benefits packages offered by different organizations.

One way to define relative contribution is in terms of cost to the employer. However, it would be a mistake to equate employer cost with value to the employee, which might be quite different. For example, the type of health coverage that employees select under flexible benefit plans varies more with demographics (e.g., age, sex) than with the dollar cost to employees, suggesting that employees differ in the value attached to different coverage options (Barringer, Milkovich & Mitchell, 1991). Similarly, the fact that some organizations (e.g., Bank of America) have eliminated retiree health care coverage for all new hires suggests that organizations believe that different groups of employees (in this example, new hires) may differ in the value attached to particular aspects of compensation.

Yet, there is little or no research to answer the question of how much value different employee groups attach to different aspects of pay.

The fact that value to employee may differ from cost to employer suggests that, in some cases, less costly total compensation packages may actually provide total inducements that are of greater value to employees than those associated with more costly packages. For example, although a package including many costly benefit options might be the most costly, its value to employees might fall short of the value attached to a less costly package of benefits that is better tailored to employee needs or values. Therefore, measurement of own and competitors' pay levels would ideally include the value to employees of different elements of total compensation.

Even limiting the focus to direct pay does not eliminate measurement difficulties. For example, the use of variable pay causes further measurement complexities because pay level can be assessed accurately only in retrospect. To illustrate, although total compensation cost can be reasonably estimated if there is an average wage of \$10/hour with average annual increases projected (or specified in a contract) at 6% for each of the following 2 years, this is not the case if the average hourly wage is \$9.50 with a chance to make anywhere from \$0 to \$5 per hour per year more, depending on profits or stock performance. In the past, this issue arose mostly in the context of executive stock options. However, stock options and other types of variable pay are now being expanded to other employee groups.

Unfortunately, most pay level research has focused solely on base salary. Yet, surveys suggest that base pay is coming to represent a smaller portion of direct pay (O'Dell, 1987; Bureau of National Affairs, 1988). Only a few studies, often in the area of executive compensation, have also included other components of direct pay (e.g., bonuses),

but mostly in the context of studying determinants of compensation. Virtually no research has examined the role of total compensation in comparisons of organization success in achieving cost and behavioral objectives.

In setting pay levels, an organization is largely interested in productivity or unit labor cost--the cost to produce a given unit of output. Thus, two organizations with identical pay and benefits may have very different total or unit labor costs because staffing levels are higher in one than the other. Further, even if overall staffing levels were equal, the mix of skills or jobs could differ significantly, thereby providing another source of cost differences. Yet, unit labor cost is rarely used when comparing (benchmarking) against the competition and setting one's own pay level.

Determinants of Pay Level

Consistent with our pay level definition, our focus in this section is on organization differences in pay levels.

Benchmarking Against the Competition and Relative Pay

Pay levels of labor market and product market competitors play an important role in determining pay level. Mahoney (1979) (see also Dunlop, 1957), argues that product market (industry) competition places an upper bound on pay level because organizations in a particular industry "encounter similar constraints of technology, raw materials, product demand, and pricing" (p. 122). Thus, an organization will find itself at a competitive disadvantage in the product market if its labor costs exceed those of its competitors because such costs will ordinarily be reflected to some extent in higher prices for its products. For example, if Ford has higher labor costs than Toyota, Ford will have difficulty in providing the same quality automobile at a competitive price. Consequently, product market pressures may act as an upper bound on employee compensation. (See

Krueger & Summers, 1986, 1988 for a review of product market effects on pay.)

However, organizations do not compete solely in the product market. They also compete in the market for labor. Ford, for example, competes for engineers, lawyers, and human resource managers not only with other automotive companies, but also with companies in the computer, aerospace, electronics, and other industries. A pay level that is too low relative to these competitors could lead to difficulties in attracting and retaining sufficient numbers of quality employees. As such, labor market competition can be seen as placing a lower bound or floor on pay level (Milkovich & Newman, 1990). The classical economics literature suggests that, taken together, product market and labor market competition may provide relatively little discretion on the part of employers in choosing a pay level (Gerhart & Milkovich, 1990).

Organizations attempt to gather information about pay practices of competitors through the use of pay surveys (see Fay, 1989). However, finding the "going rate" of pay may be easier in theory than in practice. As Rynes and Milkovich (1986) point out, administrative decisions are required about a range of issues including: (a) which employers are included? (b) which jobs are included? (c) which jobs are considered similar enough to use in benchmarking? (d) if multiple surveys are used (fairly typical), how are the multiple rates of pay weighted and combined? Practice in these areas seems to vary across (and probably within) employers.

The choice of employers is probably one of the most important decisions. It goes to the heart of the organization's competitive business strategy and its likely success in attracting and retaining employees who may or may not define their alternative employment opportunities in the same manner. The organization must decide (a) which employers are its key competitors in both its labor and product markets, and (b) whether to give more

weight to either the product or labor market.

In considering the latter decision, there are probably several factors that argue in favor of emphasizing one or the other. For example, product market comparisons (i.e., a focus on labor costs) are likely to deserve greater weight when (a) labor costs represent a large share of total costs, (b) product demand is elastic (i.e., product demand changes in response to product price changes),² (c) the supply of labor is inelastic, and (d) employee skills are specific to the product market (and will remain so).³ In contrast, labor market comparisons may be more important to the extent that (a) attracting and retaining qualified employees is difficult, and (b) the costs (administrative, disruption, etc.) of recruiting replacements are high.

As the importance of a particular comparison increases, so too should the resources devoted to information and measurement. For example, if product market comparisons are critical, more resources need to be devoted to measuring compensation (or better, unit labor costs) paid by such organizations. In contrast, if labor market comparisons are important, it is necessary to devote resources to find out to which organizations applicants and employees are being lost.

To what extent do employers actually engage in these information collecting and monitoring activities? We do not have any direct evidence, but data on a related issue (recruiting) seems to indicate that organizations in the Fortune 1000 devote few resources to evaluating recruiting activities (Rynes & Boudreau, 1986). Considering that compensation and recruitment often fall in different administrative parts of the human resource function, it is perhaps even less likely that organizations devote much attention to monitoring the influence of compensation decisions (e.g., emphasizing product market versus labor market comparisons) on recruiting success outcomes such as applicant

attraction.

Although the validity of conclusions reached through the survey process may depend critically on how the competition is defined (i.e., what organizations are chosen for inclusion), little evidence exists on how such choices are made or their implications. Rather, most attention has been focused on potential problems in the job evaluation process, especially in the context of pay equity or comparable worth discussions. Nevertheless, as Schwab (1980) has pointed out, job evaluation is usually "validated" against some measure of the market rate, meaning that the measure of the latter is critical. As Rynes and Milkovich (1986) note, although paying the going rate has been an effective employer defense in pay equity cases where female-dominated jobs are underpaid relative to their job evaluation points, the Courts have not really scrutinized whether the measure of the going rate is itself obtained in a valid fashion.

Preliminary evidence on the validity of employer estimates of going rates from the Gerhart and Milkovich (1990) study is not encouraging. One question in the survey 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). The correlation between these responses and actual relative pay level (adjusted for differences in employee, job, and organizational factors) was .50, suggesting some convergent validity, but also a fair amount of unexplained variance in the self-reports. An additional analysis (not reported in the 1990 study) further indicated that none of the 124 organizations reported that they were below the median. Aside from Lake Wobegon (of central Minnesota fame), we know of no population where the laws of statistics permit everyone to be at or above the median. Therefore, this finding again raises the question of how valid assessments of going market rates are likely to be.

Are There Significant Employer Differences in Pay Level?

Before examining the consequences of organizational differences in pay level, it is perhaps necessary to first establish that significant organization effects on pay exist. There is not a consensus on this issue.

Much of the theory and evidence on this point comes from the economics literature. Standard economic theories of competitive markets (e.g., human capital theory, Becker, 1975; compensating wage differentials theory, Smith, 1937) tend to view employers 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. Adam Smith (1937) suggested that the net utility of all jobs was equal when compensating factors such as working conditions, training required, and so forth were factored in. Thus, for example, apparently similar jobs in different organizations may be paid differently because non-compensation job attributes differ between the two jobs. To attract and retain people in jobs having more unfavorable non-compensation attributes, a compensating differential (i.e., higher pay) is required. This view suggests that after accounting for differences in product and labor market competition, the mix of jobs, non-pecuniary job attributes, and the nature of the workforce, organization pay levels will not differ to any significant degree. There is a lively debate regarding the validity of this model, partly because it is so difficult to test (see Brown, 1980; Ehrenberg & Smith, 1988). Specifically, a strong test requires the control of all job attributes and worker ability, which is obviously a difficult task, akin to the problems encountered in the pay discrimination literature.

Empirical evidence on the importance of organization effects on pay level is mixed. Based on data from one industry (California electronics firms), Leonard (1988) concluded

that "firms that deviate from the average (market) wage, tend to return towards the market wage" (p. 28). In other words, organization differences in pay level were found to be insignificant. In contrast, building on the work of Dunlop (1957) and others, Groshen (1988) found that organization differences in pay level were of a significant magnitude and highly stable over time, suggesting that competitive markets do not completely determine pay, leaving open the possibility that employers may engage in different pay level strategies.

Both the Leonard (1988) and Groshen (1988) studies, however, have limitations. First, neither study controlled for employee characteristics, leaving open the possibility that organization pay level differences (e.g., in the Groshen study) were a result of different levels of human capital. Second, both studies focused largely on lower level occupations (mostly blue-collar and nonsupervisory white-collar). Third, Leonard's (1988) results were obtained on a single industry (California electronics organizations), which was composed mainly of small employers operating in intensely competitive product and labor markets. This level of competition may exceed that found in much of the rest of the economy, perhaps helping explain the lack of stable employer differences in his study.

Other studies, not subject to these limitations, suggest that there are stable organization differences in pay over time. For example, Gerhart and Milkovich (1990) used the Cornell Center for Advanced Human Resource Studies (CAHRS) compensation data base to examine this issue. The sample was composed of roughly 16,000 middle and top level managers from 200 organizations followed over a period of up to five years. Extensive controls for organization differences in human capital, job level, and organization characteristics were included. They found, consistent with Groshen (1988) that there were significant and stable employer differences in pay level over the five year period.

Similarly, Weber and Rynes (1991) found significant pay level strategy differences between organizations. Significant employer differences in pay strategy may indeed exist.

Consequences of Employer Pay Level Differences

Theoretical Explanations

The research by Groshen (1988) and Gerhart and Milkovich (1990) suggests that similar employers make different pay level decisions. Why is this the case? The answer to this question is important because it serves as a starting point for our examination of the possible cost and behavioral consequences of different pay level strategies. Although the psychological literature (e.g., expectancy and equity theories) suggest ways in which pay level may influence individual employees or applicants, it does not directly address the question of why organizations engage in different compensation practices. Thus, we look to the economics (efficiency wage models) and strategy literatures.

Efficiency Wages. The basic idea behind efficiency wages is that organizations setting pay higher than their competitors can realize increased efficiency. Four different variants (sorting, shirking, turnover, gift exchange) of the model focus on different mechanisms by which this can happen (see Groshen, 1988).

Sorting by Ability (or Adverse Selection). Some employers may pay higher rates of pay as a means of hiring and retaining higher ability employees. (Empirical evidence on pay level and recruiting is reviewed below.) Even if one accepts the implied assumption of valid selection systems, the following question arises: What advantage is there to having higher ability employees if their higher pay offsets their higher productivity? One answer is that some organizations have a technology or work design that is more sensitive to ability than that of their competitors and therefore, receive a greater productivity return from higher employee ability levels. As one example, Japanese automobile plants in the

U.S. tend to engage in much more intensive screening of job applicants than do U.S. employers. One reason may be that the Japanese companies are more likely to have to live with hiring mistakes because of their emphasis on employment security. However, an additional reason may be that their greater use of self-directed work teams requires more able employees.

Shirking/monitoring and turnover. These two formally identical variants (Yellen, 1984) suggest that worker productivity is often difficult to measure, permitting workers (in the now popular parlance of economists) to "shirk" (i.e., screw around). These models suggest that one way to discourage shirking is to set the pay level above that the worker can obtain elsewhere. The expected effect is that the worker will be less likely to shirk because s/he does not wish to risk losing this premium wage. The alternative, by definition, is a lower paying job (i.e., with a non-efficiency wage employer) or, if all firms raise wages, the alternative is unemployment (Yellen, 1984). In this sense, "unemployment plays a socially valuable role in creating work incentives" (Yellen, 1984).⁴

Gift exchange/sociological morale. In contrast to the other efficiency wage models, this variant has less of neoclassical economics orientation, focusing more on social conventions (Yellen, 1984). Akerlof (1984), in describing his "partial gift exchange" model, suggests that "some firms willingly pay workers in excess of the market-clearing wage; in return they expect workers to supply more effort" (p. 79, 1984). Or, as Yellen describes it, firms pay "workers a gift of wages in excess of the minimum required, in return for their gift of effort above the minimum required" (p. 204). Akerlof cites Adams (1965) work on overreward inequity as empirical support. He also notes, however, that "not all studies reproduce the result that 'overpaid' workers will produce more" (p. 82).

These efficiency wage models are open to a number of criticisms. For example,

there is the following paradox. If higher pay is used to discourage shirking where monitoring is most difficult, how is it possible to monitor well enough to determine when a worker is shirking enough to terminate him or her? The gift exchange variant assumes that overreward equity is a compelling force for increasing worker effort and productivity, yet research shows that overreward equity is very difficult to obtain and maintain, especially outside of the laboratory. (See Campbell & Pritchard, 1976; Kanfer, 1991 for reviews.)

Strategy. A common theme in the compensation management literature is that organizations have considerable discretion in the design of pay policies (Broderick, 1985; Carroll, 1987; Foulkes, 1980; Gomez-Mejia & Welbourne, 1988; Lawler, 1981; Milkovich, 1988). As such, even similar organizations may follow different compensation practices. In this sense, the strategy perspective differs from efficiency wage models which sometimes seem to assume that whatever compensation system an employer uses must be efficient and is the one best system given its particular characteristics. It also differs from institutional (and population ecology) approaches, which lean toward environmental determinism (i.e., practices are dictated by the organization's environment). In contrast, the strategy perspective suggests that even similar organizations may follow different strategies, some of which may be more efficient than others.

Strategy can be measured using intentions, actions, or both. A focus on actions (actual compensation policy decisions) may be advisable given that the correspondence between intentions and actions 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 employee 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), "realized" pay strategies describe cases where "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.

The Gerhart and Milkovich (1990) study provides an example of the use of realized compensation strategies. As noted earlier, they did find evidence of significant organization differences in pay level decisions. Therefore, the emphasis on organization differences in compensation decisions found in the efficiency wage and strategy literatures has some empirical support. This, in turn, suggests a need to examine the consequences of these organization differences.

Evidence on Specific Pay Level Consequences

In terms of behavioral outcomes of pay decisions, relative pay level has been typically viewed as having its main impact on attraction and retention, whereas individual differences in pay are often seen as more relevant to performance within the organization. However, these distinctions are becoming less accepted. For example, some of the efficiency wage models reviewed above clearly view pay level as a determinant of effort. In addition, the way individuals are paid may have consequences for the types of individuals attracted and retained. Below, we focus on empirical evidence regarding pay level effects.⁵

Attraction. There is ample evidence that pay level can increase the size of the applicant pool, likelihood of job acceptance, and the quality of job applicants. For example, Krueger (1988) found that both the application rate and applicant quality increased for government jobs as the ratio of government to private sector wages increased. Similarly, Holzer (1990) found that higher wages reduced vacancy rates, increased the

perceived ease of hiring, and resulted in less time spent on informal training (see also Barron, Bishop & Dunkelberg, 1985). Other studies reviewed by Rynes and Barber (1990), including studies of military recruitment, point to similar conclusions.⁶ In addition to recruiting effects, there is also evidence that high wage organizations have better quality employees in general (Brown & Medoff, 1989).

A very closely related question, How does pay level influence job choice decisions in attracting new employees?, has also been examined. As Rynes, Schwab, and Heneman (1983) pointed out, institutionally-oriented economists like Reynolds (1951) argued many years ago that pay entered into decisions in a noncompensatory fashion. That is, applicants were believed to have a reservation wage below which they would not accept a job offer regardless of how attractive it was on other dimensions. Rynes et al. provided empirical support that this hypothesis is indeed accurate under certain conditions, further supporting the idea that pay level is often critical in attraction. The key limiting condition was the degree of variance in pay across organizations competing for the applicants. Applicant decisions became less compensatory as the market variance in pay increased. Simply stated, the greater the variability in pay offers, the more important was pay level.

Similarly, the importance of pay level is also emphasized in Barber's (1990) work on pay as a signal of other attributes. Building on Spence's (1973) work, she found that in the absence of complete and accurate information, applicants may make inferences about non-pecuniary job attributes based on what they know about its relative pay level. These types of inferences increase in importance if one accepts the description of job seekers as typically knowing little about potential jobs (prior to actually being employed) other than the rate of pay and the general type of work (e.g., Reynolds, 1951). This lack of information is likely to be a matter of degree of course, with applicants for exempt

positions often having the opportunity to gather information on other job attributes through plant visits and other means. Nevertheless, pay is always one of the more visible and probably one of the more important attributes in such decisions. Even in cases where pay appears less important, the explanation may be that there is simply little variation among employers in pay level, thus taking it out as a factor in decisions (Rynes et al., 1983). This may, however, simply attest to the fact that pay level is so important that organizations monitor it closely so as not to get out of line one way or another (Gerhart & Milkovich, 1990).

In summary, although it is true that pay level is only one attribute among many that determine whether an organization is viewed by applicants as being an "employer of choice" (Milkovich & Newman, 1990, p. 198), evidence suggests that it may be a critical attribute in many cases. Considerable research remains to be done on the signals that pay level sends to applicants (and perhaps current employees).

Pay Satisfaction. Psychological theories typically specify that pay influences behaviors through its effect on perceptions and attitudes. One key attitude that is hypothesized to be related to behaviors such as turnover, absenteeism, and union activity (Heneman, 1985) is pay satisfaction. It is hypothesized to be a function of the discrepancy between perceived pay level and what an employee believes the pay level should be (Locke, 1976; Lawler, 1971; Heneman, 1985). Empirical evidence supports this discrepancy model (Dyer & Theriault, 1976; Rice, Phillips & McFarlin, 1990). Frame of reference (Smith, Kendall & Hulin, 1969) and social comparison approaches (e.g., equity theory, Adams, 1963) fit well with the discrepancy model,⁷ offering explanations for how the "should be" component of pay satisfaction is determined.⁸

Heneman (1985) has suggested two modifications to the discrepancy model. First,

rather than treating pay as unidimensional, pay can be classified into level, structure, system, and form categories (Heneman & Schwab 1979). (These categories parallel our level, structures, individual differences in pay, and benefits decision areas.) Second, building upon Dyer and Theriault's (1976) work, Heneman suggested that the model include an additional variable, employee feelings about pay policies and administration.

Dyer and Theriault's (1976) research provided an early indication of the potential importance of procedural justice, in addition to distributive justice, in compensation. Subsequent work by Greenberg (1986) supports the independence of procedural justice. Further, Folger and Konovsky (1989) found that procedural justice explained variance in pay raise satisfaction beyond that accounted for by the actual pay raise and distributive justice perceptions. Although this particular increment was not large, procedural justice perceptions also explained variance in organizational commitment and trust in supervisor, suggesting that its influence on broader organization attitudes may be greater.

Given a multidimensional definition, the Pay Satisfaction Questionnaire (PSQ, Heneman & Schwab, 1983) was developed to measure satisfaction with four facets of pay satisfaction: level, benefits, raises (referred to earlier as "system"), and structure/administration. Although as discussed above, structure and administration were viewed as conceptually distinct dimensions, the items designed to measure the two facets clustered together empirically. Heneman and Schwab (1985) provide support for the construct validity of the PSQ. They also note that existing unidimensional pay satisfaction measures (e.g., the pay subscales of the Job Descriptive Index and the Minnesota Satisfaction Questionnaire) are largely measures of pay level (see also Scarpello, Huber & Vandenberg, 1988).

Subsequent research has also been generally supportive of the PSQ's construct

validity, but suggests that its dimensionality may vary by job type and human resource policies (Scarpello et al., 1988). Scarpello and her colleagues found that a three factor solution fit better than a four factor solution in most nonexempt employee samples. The level and benefits factors received strong support, as did the structure/administration factor for the most part. However, the raise items loaded on both the level and structure/administration factors. They speculated that the greater use of merit in pay increase decisions among exempt employees versus more reliance on seniority or across the board increases for nonexempt employees may help explain the four factor solutions for the former and the three factor solutions for the latter group.

How does this research inform managerial decisions aimed at influencing pay satisfaction? Largely consistent with Figure 1, the obvious levers to pull have to do with level, structures, individual differences in pay, and benefits. However, the fact that administration also arises as an important consideration suggests compensation policy design is only part of the picture--effective implementation and communication of the policy is also likely to be very important. For example, in addition to the actual pay policy (and how it is perceived), the comparison standard employees use to evaluate their pay also has a tremendous potential impact (Adams, 1963; Rice et al., 1990; Berger, Olson, & Boudreau, 1983). It is entirely possible that well-designed communication programs that contain information about pay levels in other companies could influence the "should be" component and thus pay satisfaction in a much more cost effective way than modifying actual pay. Perhaps the marketing and communications literatures can provide some relevant insights. Managers and researchers, however, will need to consider some ethical issues if this line of inquiry (or practice) is pursued. In any case, research does not as of yet tell us how stable or manipulable employee pay perceptions are. All we can say at

this point is that organizations devote significant resources (booklets, videotapes, meetings, etc.) to influencing employee pay perceptions, suggesting that they believe such influence is possible.

Withdrawal Behaviors. Ehrenberg and Smith's (1988, p. 368) analysis of the evidence led them to conclude that the relation between pay levels and quit rates is "strong." Heneman (1985) cites research by Weiner (1980) showing pay satisfaction predicting absenteeism and turnover. Motowidlo (1983) also found that pay satisfaction predicted turnover and further that pay influenced turnover only through its impact on pay satisfaction.

In general, however, Heneman (1985) noted that the amount of research on consequences of pay satisfaction was underwhelming. He suggested that the impact of pay satisfaction may differ across dependent variables. Similarly, the strength of pay satisfaction consequences might vary according to the pay satisfaction dimension. Additional research comparing the relative consequences of pay and other satisfaction facets (e.g., work, supervision, etc.) would also be useful, as would more work that considers the role of contingency factors in determining how satisfaction is translated into individual and group outcomes. As one example, surprisingly little is known about the factors governing applicant and employee choices among the various comparison standards (e.g., organizations in the same product market, organizations in the same labor market) that could be used in evaluating their pay and what the consequences of choosing different standards are.

Staffing Level. Pay level also has implications for staffing levels. The economics literature indicates that if an organization's labor costs exceed those of its competitors, its product price will also tend to exceed that of its competitors, reducing demand for its product. Because labor is a derived demand, the reduced product demand would also be

expected to reduce employment levels.⁹ Reductions in market share and employment levels in U.S. industries (e.g., automobiles, consumer electronics) exposed to foreign competition are a case in point (Kochan & Capelli, 1984).¹⁰ As another (but related) example, although unions raise wages for their members (Lewis, 1983), a consequence may be lower profits for unionized companies (Hirsch, 1991), which may help explain the decline in unions' relative employment levels (Lineneman, Wachter, & Carter, 1990).¹¹

These findings are interesting in a couple of respects. First, they reinforce the notion that total compensation cost is also about staffing level, not just compensation level per employee. Second, it also reinforces the importance of relative pay and the argument that product market competition may leave little room for discretion in setting pay level. (Of course, the evidence does not tell us whether contingency factors mentioned earlier such as the ratio of labor cost to total cost gives some organizations more flexibility than others.) Third, for individual employees, the downside of achieving high compensation levels is the potential risk of job loss to themselves or their peers.

Return on investment. A general problem with almost all compensation research is the lack of a return on investment focus. In broad terms, a goal should be to understand the return on any type of investment in employees or conditions of employment. Resources can be invested in a variety of compensation programs (e.g., raising pay levels, introducing individual pay programs like profit-sharing, re-designing benefits or the pay structure). But, which has the greatest expected return in terms of the outcomes discussed? More broadly, at the margin, is it investment in compensation or in some other human resource program such as staffing, development, or work redesign that will have the greatest return? We are a long way off from answering such questions, although there has, of course, been some work done in this respect, mostly in the staffing area (see Boudreau,

this volume). Two studies by economists are also relevant in this respect.

Raff and Summers (1987) examined the impact of a pay increase at the Ford Motor Company in 1914. The introduction of assembly-line production and scientific management greatly increased productivity, but turnover rates reached 370 percent and absenteeism averaged 10 percent per day. Although the wage rate of \$2.50 per day apparently provided plenty of replacement workers (there were apparently long queues of applicants), Ford decided to double wages to \$5.00 per day, partly to alleviate these problems (and also perhaps because of his paternalistic management style). The pay increase reduced quits by 87 percent and absenteeism by 75 percent. It is not terribly surprising that a doubling of wages would have a large impact. The real question, as discussed above, is whether the benefits met or exceeded the costs. Summers, of course, was not able to provide a definitive answer, but suggested that the benefits probably did not completely offset the higher wage costs.

The study by Holzer (1990) cited earlier, estimated that approximately 50% of higher wage costs were offset by benefits (e.g., in recruiting and training needs) in his sample. Cost/benefit comparisons of this sort require a number of assumptions. Thus, his estimates may not have been very precise for a variety of reasons (Gerhart, 1989). However, this is the direction that research must move. Many compensation strategies will have an impact, but this is only part of the question--the investment required to generate the impact also matters.

Organization Performance. Another way to examine the return on investment of compensation and other human resource programs is to study their effects on organizational outcomes. In the only direct study, Gerhart and Milkovich (1990) found no evidence of an effect of compensation level on return on assets. (Although as discussed later, they found

that use of variable pay was linked to return on assets.) Nevertheless, care should obviously be taken not to infer that pay level is unimportant. Pay level may very well be extremely important in that an organization cannot afford to differ much from competing organizations. Therefore, although an organization may have difficulty gaining a competitive advantage by distinguishing itself on the pay level dimension, the wrong pay level may put an organization at a serious competitive disadvantage.

Summary

Pay level is a key attribute of compensation design and strategy because of its consequences for cost, attitudinal, and behavioral objectives, and ultimately organization performance. Although labor market and product market competition place important constraints on the choice of a pay level, research suggests that even after statistically controlling for differences in individual, job, and organization factors, organizations exhibit differences in pay level that are stable over time.

The literature also suggests, however, that pay level is only one of several important dimensions of pay. For example, employee attitudes towards pay also depend on decisions regarding structure, individual differences in pay allocation, benefits, and administration. Other evidence indicates that organization differences on these latter dimensions (e.g., individual differences in pay) may be large relative to pay level differences.

Even limiting the focus to pay level, our impression is that benchmarking against competitors often places too little weight on comparisons of total labor costs, or better yet, unit labor costs. Toward this end, factors such as non-salary payments (e.g., benefits) and staffing levels require closer attention to facilitate better evaluations of the return on investment from different pay level strategies.

Suggested Research Directions

We suggest that future research focus on the following pay level issues.

1. Organizations choose pay levels based on comparisons with other "relevant" organizations. It would be useful to know more about why particular organizations are chosen for comparison and whether the choices make sense, given that organization's particular strategy. Choices can be evaluated in a number of ways. Examples include the degree of success in controlling labor costs and achieving behavioral objectives such as attraction and retention of valued employees. A return on investment perspective would perhaps be useful.

2. Employee pay satisfaction is hypothesized to be a function of the discrepancy between perceptions of actual pay received and the pay the employee believes s/he should receive. Thus, pay satisfaction and related behaviors (e.g., attraction, retention) can be influenced by changing either (a) actual (and perceived) pay level, or (b) employee perceptions of what their pay level should be. Some evidence suggests relatively limited discretion on the part of most organizations in choosing a pay level. An alternative means of influencing pay satisfaction is to influence employee perceptions of the "should be" component. To what extent can such perceptions be manipulated?

3. Presumably, an important part of any such influence attempt would be influencing the choice of comparison others. Employees use multiple comparison standards (Goodman, 1974; Scholl, Cooper, & McKenna, 1987), including what employees in other organizations are paid. With what types of organizations do different types of employees make comparisons? Do they think in terms of labor market, product market, or geographic comparisons? How much convergence is there in employee comparisons? Do employees and (their) managers make similar comparisons? Can effective management and

communication of information regarding pay in other organizations influence employee comparisons, attitudes and behaviors?

4. Although pay level can have substantial effects on product market and labor market competitiveness, more precise estimates of the specific functional relationships are needed. For example, exactly how far below the pay level of key labor market competitors can an organization go before it loses key employees and applicants increasingly reject job offers. Is the functional form of such relationships linear or non-linear? At what point are the direct labor cost savings of lower pay offset by the indirect costs that arise from difficulties in attraction and retention?

5. Finally, although there appear to be significant differences in organizations' pay levels, it may be that organization differences regarding other types of compensation decisions (e.g., individual pay) are greater yet (Gerhart & Milkovich, 1990). Therefore, although much research is needed on pay level decisions, the need for research on decisions regarding structures, individual pay, and benefits may be even greater.

STRUCTURES

As indicated by Figure 1, a second set of important pay decisions pertains to structures. Here we consider formal pay structures that are embedded in the formal organization. The pay structure for assistant, associate and full professors within a university is a familiar example. Several distinct formal structures often exist within a single organization, typically designed along functional/occupational (e.g., executive, clerical, technical) or divisional (e.g., product market) boundaries, and more recently, along knowledge-based progressions.

From a research perspective, the variations in pay structures observed among different organizations (and over time within the same organizations) raise several questions. First, how are structures defined and what are their essential properties? Next, what explains the observed differences across organizations in the properties of pay structures---in the number of distinct structures used by employers, the number of levels, the differentials among levels, rates of progress, and the procedures and criteria used to design and rationalize them? Finally, what are the consequences of variations in these properties for employee attitudes and behaviors and organization performance? Are more egalitarian structures, for example, related to employee commitment and willingness to cooperate in work teams? Are employees more motivated to undertake training or to acquire additional knowledge under structures based on knowledge or skill, compared to structures based on jobs? Or, are factors other than structures (e.g., employee characteristics) more important in determining motivation for advancement and training? The following sections examine the relevant literature and suggest research directions.

Properties and Measurement

Pay structures are essentially hierarchies. Milkovich and Newman define them as,

"The array of rates paid for different work within a single organization. [They] focus attention on the levels, differentials, and criteria used to determine those pay rates" (p. 31). Much of the focus of empirical research has been on the relational properties (i.e., differentials) of structures. Examples of measures have included the ratio of a position's pay to adjacent positions in the hierarchy (Jaques, 1961; Mahoney, 1976) or to the average pay of all positions in the structure (Pfeffer & Davis-Blake, 1987). The dispersion (variance) of pay within organizations (and its stability over time) have also been studied (Schaeffer, 1975; Rabin, 1987). Gender and race-based pay equity is also typically measured in terms of ratios. (See Cain, 1986 for a review; see also the Equal Employment Opportunity section in this chapter.)

In addition to ratios, recent studies have used a relatively novel measure, the Lorenz Curve, to examine relative pay within organizations (Schaeffer, 1975; Rabin, 1987). Although commonly used to analyze the degree of concentration in nations' income distributions, the Lorenz curve can also be used to measure how evenly pay is distributed among employees within any structure. As shown in Figure 2, the curve depicts the percentage of pay received by a given percentage of employees who are arrayed hierarchically. Pay equality, represented by the diagonal, occurs when each employee receives the same pay---a curve of absolute equality. The degree to which the actual curve deviates from the diagonal represents the degree of concentration of pay in the structure. In this example, because employees are arrayed hierarchically according to their position in the organization, the lowest 10% of employees receive 5% of the pay distributed in the structure, while the highest 10% receive almost 70% of the pay. The greater the deviation from the diagonal, the greater the inequality or concentration in the distribution of pay in the structure.

A single quantitative index of the degree of concentration in the pay distribution, the Gini coefficient, is used in conjunction with the Lorenz curve. Smaller Gini coefficients indicate less concentration (i.e., less inequality). Other measures of concentration or inequality such as simple ratios of the pay among adjacent levels or of the pay at a particular level to the average pay of the entire structure, do not yield information on the relative distribution of employees at each pay level within the structure. However, Lorenz curves do, and the Gini coefficient quantifies the degree of concentration in the entire structure (shaded area in Figure 2).

Egalitarian versus Hierarchical

Consistent with the preceding emphasis on relative pay and the degree of inequality, structures can be classified on a continuum anchored by egalitarian on one end and hierarchical on the other. Figure 3 indicates that a structure's place on the continuum depends on characteristics such as the number of distinct (sub)structures, the number of levels in each, the size of the differentials between levels, and the rate of employee progression through levels. An egalitarian structure (greater equality and a smaller Gini coefficient) would be characterized by fewer differences---fewer distinct structures, fewer levels within each, narrower differentials, and a slower rate of progress.

However, some caution is required when drawing these distinctions because the properties are not independent. Consider two pay structures of a given range, having a maximum - minimum difference of \$100,000, a rate for the entry position of \$50,000 and a rate for the top of \$150,000. Defined in terms of levels, an egalitarian structure has a smaller number of levels than a hierarchical structure. But, fewer levels results in greater differentials between levels, which is usually taken to be an indicator of a more hierarchical structure. The inconsistency would disappear if the structure with fewer levels also had a

smaller (less than \$100,000) maximum - minimum difference.

The issue of egalitarian versus hierarchical pay structures arises in various forms. For example, the business press currently focuses on the size of the differentials between chief executive officers (CEOs) and other employees. Industry Week (1990) recently reported that the differentials between CEOs and operatives in the US (35 to 1) was the highest among industrialized countries (e.g., Japan was 15 to 1). Fortune (1989) labeled U.S. differentials as excessive, raised concerns about fairness, and coined the term, the "trust gap." Similarly, at the opposite end of the spectrum, pay compression, the narrowing of differentials between entry level (or recent hires) and employees at the next higher level (or those hired earlier) has also received attention (Gomez-Mejia & Balkin, 1987).

Administrative Views

Although sharing an interest with researchers in the differential and hierarchical nature of structures, practitioners also focus on additional properties of pay structures such as the number of distinct hierarchies (e.g., separate ones for executives, office staff, managers and engineers, or dual ladders that combine the latter two), the number of levels in each (i.e., salary grades, classes, etc.), the pay differentials between adjacent levels (e.g., at least 15% being a rule of thumb), the differentials between the maximum and minimum paid within a grade (e.g., 50% for office/clerical and at least 120% for professional and managerial) and the time it takes an employee to progress through the hierarchy.

Administrators also distinguish pay structures based on the procedures used to establish and rationalize them. The American Compensation Association periodically surveys its members to determine the proportions using various job evaluation methods (point factor 55%), knowledge-based plans (15%) and/or market pricing (25%). Procedures used to design and administer also vary in terms of the extent of employee participation,

the presence of dispute resolution processes and the like. Practitioners seem to hold strong beliefs that these properties affect employees attitudes and behaviors and organization performance. A contemporary example is the belief that fewer distinct structures (break down the barriers), smaller differentials (more equal treatment), fewer levels (delaying), and using knowledge-based factors leads to increased employee commitment, trust, and performance. Some compensation administrators also express the belief that more rapid progress through a given structure has important consequences for behaviors and costs. In other words, they focus on promotion as a motivational device.

From both research and administrative perspectives, these properties of pay structures are of interest insofar as they affect employee behaviors and subsequently organization effectiveness. It seems obvious that those who determine and administer employee compensation believe that structures matter. Similarly, academics typically devote at least one third of the space in compensation text books to describing the procedures related to pay structures such as job analysis, job evaluation, knowledge based pay, market surveys and pay ranges. Finally, the belief that pay structures matter is reflected in the fads promulgated by pay pundits (e.g., de-layering and so on--see above).

Systematic data on the other properties of interest to administrators (e.g. number of distinct structures, number of levels, rates of progress, ratio of maximum to minimum) are rarely reported in the research literature. However, they are commonly reported in consultant and association surveys. The difference in interest in the properties of pay structures on the part of researchers and practitioners is difficult to rationalize. Those who design and manage employee compensation seem to find the properties of pay structures more relevant than those who conduct research on employee and organization behaviors. It may be that managers' beliefs about the importance of pay structure are misguided, but the

related theory and research offers little insight or guidance. In fact, as the next section makes clear, researchers have devoted the bulk of their attention to the measurement properties of administrative procedures like job evaluation.

Administrative Procedures: Job Evaluation and Related Tools

As already discussed, pay structures are often distinguished by the procedures used to establish and rationalize them (Lawler & Ledford, 1985; Doverspike & Barrett, 1989; Ledford, 1991). Job evaluation, skill-based pay and market pricing are examples (Milkovich & Newman, 1990; Berger & Rock, 1990). A basic premise underlying these procedures is that they influence employee behaviors directly by signaling what is valued and indirectly through the resulting pay structures. Different procedures may induce different behaviors. Hence, structures based on skills, yet identical in other respects (e.g., pay differentials, number of levels and rate of progress) are believed to be instrumental in skill acquisition behaviors. In contrast, job evaluation based structures are believed to induce job or promotion seeking behaviors. Finally, market pricing procedures may be instrumental in encouraging market enhancing behaviors. Among academics, for example, market-enhancing behaviors might include focusing on publishing and giving presentations at other schools (sometimes to generate outside offers), rather than investing effort in committee service or even teaching. Unfortunately, research into the effects of alternative designs is virtually non-existent, so decisions about which to use seem to be based on belief rather than evidence (Lawler, 1989).

Measurement and Administrative Perspectives. There is general agreement that the objective of job evaluation is to help achieve an acceptable pay structure (Livernash, 1957; Schwab, 1985). There are two perspectives on achieving acceptability: measurement and administrative (Kerr & Fisher, 1950; Milkovich, 1980; Schwab, 1985). The essential

difference between the two is that job evaluation is seen as an objective instrument in the measurement perspective, as compared to a flexible set of rules in the administrative view. These different views translate into very different research issues.

Measurement, the dominant view of industrial-organizational psychologists, emphasizes instrumentation, objectivity and minimizing errors (Lawshe & Satter, 1944; Ash, 1948; Arvey, 1986). Acceptability from this perspective depends on psychometric properties of the job evaluation instrument and the quality of the scores obtained. Consequently, the research issues include reliability of evaluation results (Doverspike, et al., 1983; Fraser, et al., 1984), predictability of criteria (Chesler, 1948; Fox, 1962; Schwab & Heneman, 1986), multicollinearity among factors (Lawshe & Satter, 1944; Fox, 1962, Davis & Sausser, 1991), similarity of results obtained from different job evaluation methods (Gomez-Mejia, Page, & Tornow, 1982; Madigan & Hoover, 1986; Snelgar, 1983; Davis & Sausser, 1991), and bias of rater and job incumbent characteristics (Madden, 1962, 1963; Lawshe & Farbo, 1949; Doverspike, et al., 1983; Schwab & Grams, 1985; Arvey, et al., 1977; Huber, 1991; Rynes, Weber, & Milkovich, 1989).

The flexible rules or administrative view, which emerged primarily from industrial relations research, sees job evaluation as a flexible tool that is used to work out disputes that inevitably arise over pay differentials and rates of progress through the structure. Over 40 years ago, Kerr and Fisher (1950, p. 87) observed: "The technical core of a plan (instrumentation), on which so much attention is lavished, has generally less bearing on the ultimate results than either the environment into which it is injected or the policies by which it is administered." Research from this perspective has emphasized the importance of workplace norms and customs (Kerr, 1950; Livernash, 1980), whether the diversity of the work to be evaluated required single or multiple plans within a single organization

(Burns, 1978; Beal, 1963; Treiman & Hartmann, 1981; Remick, 1984), the change in plans over time in response to changes in business conditions and the nature of the work (Milkovich & Broderick, 1982), and the effects of employee participation in the design of pay plans (Livernash, 1957, 1980; Carey, 1977; Jenkins & Lawler, 1981; Folger & Konovsky, 1989; Greenberg, 1987).

To date, however, the majority of research on job evaluation and other administrative procedures has focused on measurement issues such as the choice and weighting of compensable factors, reliability issues, systematic sources of error (e.g., gender effects), and the predictive validity of job evaluation plans. More recently, there has been an increased interest in skill and knowledge-based plans. We now turn to an examination of these topics.

Mapping Relative Content: Compensable Factors, Multicollinearity and Weighting.

Point job evaluation systems often include seven or more compensable factors. These factors are designed to map the domain of relative work content of the jobs to be evaluated and become the dimensions on which relative contribution (value) of the jobs is estimated. The conventional measurement approach is to extract the factors underlying the work performed through job analysis and some form of factor (or cluster) analysis. However, this approach suffers several limitations: (1) it is not forward looking; it presumes the factors in today's work are stable over time; (2) it ignores the organization's strategic purposes as an added source of factors; (3) it often serves to confuse work content with its relative contribution (value) to the enterprise's objectives; and (4) it may become too methodologically cumbersome and costly for the value it adds to pay decisions. As a result, current practice all but omits systematic development of compensable factors. Rather, the typical practice, evidenced by consulting firms and employers' behaviors, is to

start with a generic set of factors which are "tuned" via managers' judgment to fit the unique organizational context. More systematic attention is devoted to determining the appropriate criterion and to estimating the factor weights.

Researchers repeatedly report that relatively few factors, 3 to 5, account for the majority of total job evaluation score variations (e.g., Lawshe & Farbo, 1949; Edwards, 1948; Fox, 1962). Those who have observed job evaluation in use, speculate that the redundant factors may be required to insure face validity or acceptance among the parties. However this notion has never been studied. For example, the Hay Guide Chart Profile, a widely used factor comparison plan, is made up of only three factors and one of these (problem solving) is defined as a percentage of another (know how).

Weighting factors has also received a lot of research journal space. Davis and Sausser (1991), in perhaps the most ambitious study published to date, examined five alternative factor weighting schemes using two job evaluation plans (Federal Evaluation Plan [FEP] and Broad Span Evaluation Techniques [BSET]) on 72 managerial and service jobs in a university setting. The five weighting schemes included natural, unit, rational, partial correlational and regression. Among their many findings, they reported that the two job evaluation plans differed in the (1) degree of multicollinearity among factors, (2) in the degree of "validity concentration" (i.e., the degree of heterogeneity in the factor covariance structure) and therefore in (3) the subsequent effects that the five different weighting schemes had on the plans' ability to predict market wage rates. The greater the multicollinearity of the compensable factors and the more homogeneous their covariance structure, the smaller were the differences in prediction power obtained under different weighting schemes. At their university, using that specific sample of jobs, the predictive power of the FEP factors was less affected by the alternative weighting approaches because

they were more highly collinear. The adjusted R^2 obtained from regressing market wages for benchmark jobs on scores using FES and the five weighting models ranged from .78 using natural weights to .82 with regression derived weights. The BSET plan factors were less collinear. Therefore the weighting had greater effects on the adjusted R^2 , ranging from .54 for natural to .81 for the regression approach. Simply stated, weighting matters most when the compensable factors are independent (see Fox, 1962).

Reliability of Job Evaluation. Findings from work on the reliability of job evaluation inform us about the degree to which using point job evaluation systems are subject to error attributable to individuals and groups performing the evaluation. In general, the reliability coefficients for total scores tend to be relatively high (.94--.99) whether using individuals (Lawshe & Wilson, 1945) or groups of evaluators (Schwab & Heneman, 1986). But the average correlations for individual compensable factor vary widely---.39 to .95 on the 10 factors in the Schwab and Heneman study (1986), and .69 to .96 on the two job evaluation plans used in the Davis and Sausser study (1991). (See Schwab, 1980, 1985 for a review.)

Systematic Bias in Job Evaluation: Gender Effects. In addition to investigations of random error, considerable recent research has focused directly on the judgments of the evaluators for evidence of systematic cognitive biases that might lead to undervaluation of female-dominated work (Arvey, 1986; Treiman & Hartmann, 1981). Findings from this work are mixed. Several studies report little evidence that gender composition of the evaluators or the job incumbents directly affects job evaluation scores (Arvey, Passino, & Lounsbury, 1977; Grams & Schwab, 1985; Schwab & Grams, 1985; Rynes et al., 1989). A review of this evidence (and their own empirical work) led Grams and Schwab to conclude that there is little evidence of direct gender bias in job evaluation. However,

Grams and Schwab pointed out that market data, used to estimate the factor weights in the job evaluation plan, may be an indirect source of bias.

Rynes et al. (1989), investigated the effects of job and evaluator gender while accounting for current pay, market survey data and job evaluation points. A total of 406 compensation administrators assigned pay rates to nine jobs in one of two matched sets, either all predominantly female or all predominantly male. They concluded that no matter how the data were analyzed, job gender does not appear to systematically affect pay decisions. Nevertheless, Rynes, et al., also noted that the possibility of indirect discrimination still remains since market survey data and current job rates did affect pay decisions. To the extent that either the market or current job pay rates reflect previous discrimination or cognitive bias (or both), then the evaluator's decisions are likely to incorporate these biases. Rynes et al. went on to observe that any study that attempts to determine the influence of job gender on job pay is likely to be confounded since men and women do hold different jobs in society.

Predictive of What? The Criterion Problem. In addition to being reliable and free of bias, job evaluation plans need to demonstrate predictive validity. Almost 45 years of research confirms that statistically derived job evaluation plans can predict pay distributions (Fitzpatrick, 1947; Lawshe & Farbo, 1949; Fox, 1962; Tornow & Pinto, 1976; Gomez-Mejia et al., 1982; Schwab & Heneman, 1986; Schwab, 1985; Davis & Sauser, 1991). To illustrate this type of work, Tornow and Pinto (1976) developed a job evaluation plan by regressing current wages of 433 managers on 13 factors derived from the Management Position Description Questionnaire (MPDQ). The estimated model was then used to predict pay of 56 managers not included in the developmental sample. The model accounted for 81 percent of the variance. Specific results vary in all studies of this type, but typically

the adjusted R^2 ranges from the low 80s to mid 90s.

Recall, however, that an objective of job evaluation is to help design and rationalize an acceptable pay structure. Pay structures, as we have noted, are typically made up of levels (often called grades or classes) and pay differentials. Managerial work structures may include anywhere from 5 to 20 classes or levels (Milkovich & Newman, 1990; Belcher, 1962). Under a point job evaluation plan, these classes are defined in terms of a range of points. How these classes and subsequent pay differences among them get determined is at best an art form. It has not been the subject of any research. Yet we know from experience and press reports that these classes are administratively important. Kanter (1987), for example, argues that they become valued for the status they reflect in the organization. In addition, de-layering in organizations (Business Week, 1990) focuses explicitly on reducing the number of pay classes.

In the past few years, researchers have begun to recognize that the predictive validity of job evaluation is also a classification problem, not just a continuous distribution problem. A recurring finding is that the ability of statistically derived job evaluation models to correctly classify jobs into the correct pay class is low. The Control Data study (Gomez-Mejia et al., 1982) reported that 49-73% of the jobs were within +/- 1 class of the correct class, and the State of Michigan study (Madigan & Hoover, 1986) reported hit rates ranging from 27 to 73% depending on the weighting method used. Overgeneralizing a tad to make a point, this is equivalent to saying that 73% of a University's associate professors would be correctly classified if they were slotted into either assistant, associate or full professor ranks. In the case of Michigan, an employee could have received up to \$427/month more (or less) depending on the factor weighting scheme used.

Until recently, questions about the appropriate criteria to validate job evaluation

have not been considered. Conventional practice has been to validate job evaluation against a criterion pay structure. The criterion used in prevailing practice is either external market rates paid for benchmark jobs or an agreed upon hierarchy of current pay within the organization or some combination of the two. Acceptability of the results of job evaluation depends on their correspondence to this criterion structure. Concerns of the type expressed in the selection literature about "the criterion problem" (Smith, 1976) have been largely missing.

Recent questions about the appropriate criterion have sprung from two sources. First, increased sensitivity to discrimination and interest in comparable worth have focused attention on market based pay differentials for jobs held predominantly by women compared to those held by men (see above). If these pay differentials are biased, then they indirectly bias job evaluation results. Rynes and Milkovich (1986) have also argued that defining the so called "going rates" in the market place brings into play an administrative procedure that may be susceptible to the same errors and biases as studied in the job evaluation literature. These concerns have led to a search to find a "bias-free" pay structure to serve as the criterion. Options include using only the market wage differentials for male dominated jobs (Remick, 1984), partialing out the effects of percentage female (Treiman & Hartmann, 1981), or using a structure negotiated by the relevant parties (e.g., using job evaluation).

Questions about the appropriateness of market or current rates as the criterion also comes from work in organization strategy (Gomez-Mejia & Welbourne, 1990; Gomez-Mejia & Balkin, 1989; Milkovich, 1990; Milkovich & Broderick, 1982). The belief emerging from this literature is that an organization's competitive advantage is affected by the extent to which pay decisions are contingent upon the organization's business strategy and the

resulting organization design. Implied in this line of argument is that mimicking the pay structure reported by competitors in the market place may not be optimal for every organization.

Criterion development research is called for here. Virtually no research has been done on the effects of using alternative criteria for validating job evaluation plans and establishing pay structures. Policy capturing could be employed once factors were determined. Perhaps some combination of judgments about organization strategies and design factors, constrained by market based data, is required.

All the research discussed so far stops short of examining how pay structures are determined and how pay is assigned to jobs which make up that structure. They only examine one of its key inputs, job evaluation. The bulk of this research has scrutinized job evaluation as a measurement process, investigating various points at which cognitive biases might enter into judgment (e.g., differential perceptions in the analysis and evaluation of job descriptions) and how the instrumentation should be changed or improved to reduce such errors and biases (e.g., choices of evaluators, compensable factors and factor scaling, anchors and weighting). Valuable as this work is, to gain a more complete understanding of pay decision making and pay structures, research models need to be expanded beyond focusing on the psychometric properties of job evaluation.

More completely specified models of what determines the differential pay assigned to jobs and the behavioral consequences of the associated administrative process are required. The research and theories we examined earlier serve as a source of ideas. By way of illustration, research on strategy suggests that it influences the organization and work design which in turn influence pay structures (i.e., the number of classes, differentials and so on). Institutional models predict that structures exhibited by other organizations

need to be considered. This may be equivalent to using market wage rates. Economic conditions and administrative judgments involved in market surveys may also influence the results obtained through job evaluation. Beyond this work, a review of basic compensation literature reveals that pay structures are based on combination of past pay relationships, individual and intra organizational negotiations, collective bargaining, and compensation strategies. Anecdotal evidence and personal experience also suggest the importance of other contextual factors, including the presence of outside 3rd parties, such as arbitrators in the public sector, unions and government regulators (e.g., under Ontario and Minnesota comparable worth laws).

Even more compelling evidence of the need to include contextual factors in job evaluation research comes from recent studies suggesting that information about current pay rates, job grades/classes and market data influence job evaluation outcomes. As noted earlier, it appears that current pay has both a direct (via market surveys) and indirect effect (via job evaluation process) on the pay assigned to jobs (Grams & Schwab, 1985; Mount & Ellis, 1987; Schwab & Grams, 1985; Johnson & Ash, 1986; Doverspike, Ricicut and Havenstein, 1987; Rynes et al., 1991). Doverspike, et al (1987), reported that job grade had a greater effect than market data, although insufficient information was presented about grades and market rates to be confident about generalizability of this finding. Rynes, et al. (1989) found that market rates and current pay are stronger determinants than job evaluation scores, thus reinforcing the need to broaden research models beyond job evaluation. In fact, even in depth case studies of pay determination in single organizations would shed some light, given the undoubted importance of other organization practices (e.g., decentralization, teams, and delayering; see Kanter, 1984; Gomez-Mejia & Balkin, 1992).

Skill-based Pay Structures. Although job evaluation is a common practice, other administrative procedures are used to help design and manage acceptable pay structures. (American Compensation Association, 1981; Bureau of National Affairs, 1991; Mahoney, Rosen, & Rynes, 1984). In fact, skill-based plans are widely touted as a superior alternative to job evaluation (Lawler & Ledford, 1984; Lawler, 1989; Luthans & Fox, 1989; Gupta, Jenkins, & Curington, 1986), although contrarians and skeptics are beginning to be heard from as well (Doverspike & Barrett, 1989).

As Figure 4 indicates, skill-based structures pay employees for the skills they possess, demonstrate and/or apply, in contrast to job based structures, in which employees are paid for the job they perform (Milkovich & Newman, 1990). Although terms and definitions remain murky, generally these plans are grouped into two types (Luthans & Fox, 1989): (1) knowledge plans, which link pay differentials to the depth of knowledge related to one occupation; e.g., scientists, teachers; and (2) multi-skill plan which link pay differentials to the number of different sets of tasks (breadth) an employee is certified to perform, e.g., all sets of tasks assigned to a production team.

Studies of skill and knowledge based plans are virtually non-existent, although case studies are beginning to appear (e.g., Ledford, 1991), which offer valuable insights into their operations. Again, this topic is fertile research ground. At the risk of pointing out the obvious, all the issues examined and yet to be examined concerning job evaluation apply to skill based plans. By way of illustration, the acceptability of the results of skill based plans can be scrutinized from measurement and administrative perspectives, the various points in the procedure at which errors and cognitive biases might enter into judgment (e.g., differential perception in competency definitions, analysis and testing) and how the process can be improved to reduce potential errors and biases (e.g., through

choices of competency evaluators, weighting, etc). studied.

Similarly, criterion problems do not disappear in skill based plans. If anything, skill based plans highlight the importance of internal organization factors in determining the criterion because market based comparison for "benchmark" skills are rare. Also, as noted earlier, skill-based structures are believed to induce skill acquisition behaviors, whereas job evaluation rewards promotion seeking behaviors. Some have argued that job evaluation plans do, in fact, include skill based factors, thereby also motivating skill acquisition and promotion seeking behavior (Laurent, 1991). An interesting piece of work would be to contrast the historical evolution of craft and teachers' pay schedules, both of which are partially based on skills and knowledge, with contemporary approaches. Finally, there are questions about the effects of contextual conditions (e.g., organization design, employee attitudes, presence of unions, and arbitrators, comparable worth regulations) on the outcomes of skill based plans. These also include examining tradeoffs between skill and job based pay structures. A cynic might observe that one reason skill based plans seem attractive to some is that they have yet to take on all the measurement, administrative and regulatory baggage of job evaluation.

Determinants: What Explains Structures?

Most of the research on pay structure determinants has focused on identifying the factors that account for pay differentials. This work lies primarily in the theoretical domain of labor economics and organizational sociology. Economic models depict industry, human capital, transaction costs, and specific institutional factors such as the presence of unions and gender as the explanation for the variations in differentials and dispersion of wages within an organization (Doeringer & Piore, 1971; Kerr, 1954; Williamson, 1975). For example, the existence of unions results in more egalitarian,

narrower differentials for similar work (Freeman, 1982; Freeman & Medoff, 1984). Internal labor markets may come about as a response to the need for generating firm-specific skills or to control transaction costs. Greater differences in work-related educational attainment within the work force are related to less egalitarian, wider differentials and some industries (e.g., pharmaceuticals) appear to have greater differentials than others (e.g., insurance), at least within the executive ranks (Rabin, 1987). However, beyond their focus on differentials, economic models exhibit little interest in the other properties of structures.

Several organization theory models in sociology can be extended to explain internal pay structure variations. For example, the resource dependency model predicts that the relative power of positions within an organization depends on their relative ability to control resources on which the organization depends to achieve its objectives. Pfeffer and Blake-Davis (1987) examined the resource dependency model by comparing the relative pay of five mid level administrative positions in public versus private universities. They hypothesized that positions most critical to dealing with key external constituencies in the external environment (e.g., obtaining resources) would be valued more highly than other positions. Moreover, they argued that the key positions in public and private universities would be different. Consistent with their hypothesis, jobs critical to the objectives of each type of university did receive higher relative pay. For example, the chief development (fundraising) officer and the directors of admissions and alumni affairs received higher relative pay in private university structures, but not in public university structures. In contrast, in the public universities, relative pay was higher for directors of community services, student placement and athletic directors.

Neoinstitutional models, on the other hand, depict organizations as following patterns

exhibited by others in their "organizational fields" (DeMaggio & Powell, 1984:148) and "orbits of comparison" (Ross, 1957; Wazeter, 1991). By extension, the pay structures adopted by these organizations would conform to accepted practices within an industry, geographic region or occupational domain. Such organizational mimicry, according to this perspective, is the result of a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions. These organizational fields begin to sound very similar to the comparison others used in social comparison models such as equity theory. From the theoretical perspectives of economics and sociology, there is little room for differences in structural properties among similar organizations. Yet, as noted elsewhere in this paper, recent evidence strongly suggests that organizations that are similar in terms of types of employee and jobs, product market, size and so on do have considerable discretion in the design and administration of both how they pay (see "Individual Differences in Pay" section) and, to a lesser extent, how much they pay. There is no evidence to suggest the same would not hold for structures as well, especially if decision makers believe they are important.

Although research into the determinants of structures remains largely the domain of economists and sociologists, the logic underlying their models often relies on presumptions about human behavior and these presumptions represent fertile research ground. The logic underlying institutional theory, that organizations pattern their human resource procedures after others (e.g., Zucker, 1987), relies upon the social comparison processes of individuals and groups. Presumably, if similar organizations failed to match the contemporary practices of others in their organization field, then employee expectations would not be met and some dysfunctional outcomes would follow. However, more than two decades of social comparisons research suggests that employees use a more complex, multiple

comparison process. Evidence suggests that individuals base their expectations on many referents (Finn & Lee, 1972; Goodman, 1974; Heneman, 1978). Scholl et al. (1987), for example, described finding differential equity based on seven referents: job, company, occupational, educational, age, system and self. If institutionalists are correct that organizations simply copy pay structures from other similar organizations, but employee expectations depend on a wider set of referents, then we either need to better understand how employees adapt to the organization or to challenge the logic of institutional models.

Consequences: Do structures matter?

In the administration literature, pay structures are said to influence many things, including employee turnover (Livernash 1957), strikes (Slichter, Healy, & Livernash, 1960), willingness to accept additional responsibilities (Belcher & Atchinson, 1987; Wallace & Fay, 1988), investment in additional training and skill acquisition (Lawler & Ledford, 1985), and employee trust (Lodge & Walton, 1989). The differentials between levels in the formal structure are seen as incentives that affect employee behaviors and equity perceptions. However, as discussed below, there may be trade-offs between the incentive and equity effects. Unfortunately, behavioral theory and research offer little guidance regarding the optimal structures for motivating desired behaviors, while maintaining a perception of equitable treatment. We now turn to an examination of what the literature does tell us regarding the effects of structures on incentives and equity perceptions.

Incentive Effects

Two models, expectancy theory (Vroom, 1964) and tournament theory (Lazear & Rosen, 1981), focus on the possible incentive effects of different structures. For example, expectancy theory focuses on the implications for motivation of both the valence of an outcome (e.g., a pay increase) and the perceived probability (instrumentality) of receiving

the outcome as a consequence of a behavioral choice. Thus, for example, an organization could enhance performance through its structure by closely linking promotions to performance and by making sure that the associated pay increase is sufficiently large. The latter implication has spawned research that has examined how large the magnitude of pay increases must be to be meaningful to employees (Krefting & Mahoney, 1977; Krefting, 1980). Extending this work to internal pay structures suggests that optimal differentials may depend on employees' characteristics such as income and age, and on the type of behavior to be motivated. If current practices serve as a guide, then a 3-5% pay increase may serve to reinforce previous performance, but a 10-15% increase may be necessary to induce employees to invest in training or take on added responsibility.¹² However, no research has examined the validity of these rules of thumb. Thus, a great deal remains to be learned about the incentive effects of different structures on outcomes such as skill acquisition and the desire to advance in the organization hierarchy.

Another way of thinking about the incentive effects of structures is to conceptualize them as tournaments. The large differentials between CEOs and other employees (Lazear & Rosen, 1981; Rosen, 1986) and the evidence of organizational career systems for managers (Rosenbaum 1984) provide some impetus for this approach. Generally, the tournament process determines which employees advance, how fast they advance, and the pay increases they receive for advancing at each level.

Whether it is organizations, or more obvious types of tournaments (e.g., golf, Bognanno & Ehrenberg, 1990), three key features are emphasized. First, payoffs (differentials) are fixed in advance and are based on relative not absolute performance. Next, the magnitude of the differentials between levels affects effort exerted by all participants, not only those who "win and lose." The motivational presumption in a

tournament model is that if the CEO earns significantly more than his/her immediate subordinates and so on throughout the hierarchy, then each individual will exert more effort. Note this implies that the magnitude of the differentials, at least at the higher levels in the hierarchy, must be sufficiently large to keep everyone motivated to pursue the top prize. Third, optimal magnitudes of these differentials between levels are assumed to exist. Although larger differentials increase effort and create added output, there are associated costs for both individuals and organizations. Therefore, at some point the value of the costs associated with incremental effort exceeds the value of the output. Thus, there is a limit to the incentive effects of increasingly larger differentials within the structure. Consequently, the optimal size of the differential for a new job or for learning a new skill depends on the value of its motivational effects and associated costs.

There is some evidence supporting tournament models. Ehrenberg and Bognanno (1990) studied professional golfers and reported that the greater the dispersion (variance) in the tournament prize structure the better the scores per hole. However, the different nature of the employment relationship (e.g., interdependencies, its relatively long term nature, payments typically becoming part of base pay) may limit the generalizability of these findings.¹³

Equity and Fairness

Although differentials must be sufficiently large to provide incentives, what about differentials that are perceived as too large? As discussed earlier, the popular press has devoted considerable attention to the ratio of CEO pay to that of the lowest paid employee in the organization. This ratio is larger in the U.S. than in other countries such as Japan and Germany. Fortune (1989), for example, asserts that this differential is seen by employees as unfair, resulting in a "trust gap." This focus is, of course, much different

than that of the tournament model, which suggests that such differentials are necessary to provide incentives for expending effort and taking on added responsibilities and risks.

However, even confining attention to the equity criterion does not eliminate conflicting views of the appropriateness of particular differentials. Consider again the issue of pay compression (e.g., Gomez-Mejia & Balkin, 1987) to illustrate that although there may be agreement that formal pay structures matter, there is little theoretical or research agreement over why (or how) they matter. Deans (and other managers) often try to explain away compression by saying, "The market made me do it." Deans often argue that compression is the unavoidable and undesired result of salaries for entry level jobs increasing at faster rates, due to market pressures, than salaries for other positions. Hence, deans need to respond to be able to compete in the labor market for new talent. Rather than unavoidable and undesirable, another view is that this narrowing of differentials (compression) is simply more egalitarian pay. As already noted, some advocates (e.g., Lawler, 1986; Lodge & Walton, 1989) argue that more egalitarian pay encourages cooperation, higher commitment and greater team work. So, is the narrowing of differentials best described as a negative outcome (compression) or as a positive outcome (egalitarian)? What is the optimal differential and what understanding does behavioral research and theory offer? We believe that the answer lies in better understanding how contextual factors affect the relationships between pay and employee behaviors. For example, narrow differentials may be related to greater satisfaction and performance when the technology and nature of the work requires cooperation and teamwork compared to more independent and autonomous situations. On the other hand, it is not difficult to think of examples where large pay differentials exist within highly successful (championship) teams (e.g., Michael Jordan and the Chicago Bulls basketball team; Mario Lemieux and the

Pittsburgh Penguins hockey team).

Perceived inequity in pay structures is believed to result in detrimental effects such as turnover, grievances and the motivation to perform (Livernash, 1957). Note the focus is not on the satisfaction with the level of pay (see previous section), but rather on attitudes about relative pay (differentials) in the structure. Frank (1985) goes further, arguing that employees attribute value to the structure itself, and their relative position in it. He argues that employees value the status attached to their relative position in a pay structure.

Consequently, they make tradeoffs between the value of their status in their current pay structure and the rate of pay for a new job in another unit and its status in the new pay structure. Using the analogy of a big fish in a little pond, he believes that pay structures influence employees in "choosing the right pond." Employees, like fish and frogs, may forego changing ponds (organizations with new structures) if their status (relative position) in the current pay structure has greater value than the increased pay for the new job and its status. Kanter (1990) even goes so far as to urge employers to cease paying for status and start paying for performance. Others argue that if differentials among jobs (or skills) are not perceived as equitable, individuals will harbor ill will toward employers, resist technological innovations, change employment and "lack the zest and enthusiasm which makes for high efficiency and personal satisfaction in work" (Jaques, 1961).

Internal Consistency and External Competitiveness

Organizations also sometimes face a conflict between the goals of internal consistency and external competitiveness in designing their structures. Consistent with our earlier discussion, equity depends on your perspective. For example, although an internal measure of worth may assign equal value to the jobs of marketing manager and information systems manager, a relative undersupply of the latter may result in the external

market placing a higher value on information systems managers. As another example, the pharmaceuticals division of an organization may be doing much better than the automobile parts division. Should the marketing manager in pharmaceuticals be paid more than the marketing manager in the automobile parts division? Even if base salaries and benefits were the same, pay differences could easily arise if bonuses were linked to division profits, growth, etc.

Lawler (1986) has argued that organizations need to focus greater attention on external competitiveness. He believes that an internal focus encourages employees to compare themselves with others within the organization, rather than focusing on the real competition--other organizations. He also suggests that an internal focus results in employees focusing on promotions rather than on performing well on their current job. Moreover, there is some belief that conflicts between external and internal equity may be resolved by increasing the pay of all jobs, not just those where competing in the labor market requires higher pay. If true, such organizations would seem to be at a serious labor cost disadvantage in the product market. In a symposium of compensation professionals, the argument was stated even more forcefully: "We've seen a clear shift in the last ten years...to market pricing as the ultimate survival....To stay in business with the competition out there, your choice is to get down to the market or go out of business (Levine, 1987, p. 34). Unfortunately, empirical evidence on the implications of an external versus an internal focus is lacking.

There are also arguments for an internal focus (Carroll, 1987), particularly where employees move across divisions or where teamwork is commonly required (e.g., in project teams). Weber and Rynes (1991) have provided evidence that organizations do differ in their degree of internal versus external orientation and that this is reflected in their pay

decisions. For example, their results suggest that externally focused organizations may have lower overall labor costs, as suggested above. However, we know little about the consequences for organizational effectiveness of these various strategies under different contingency conditions.

Summary

There is an extensive research literature on the measurement properties of administrative tools such as job evaluation. However, there is considerably less evidence on the broader questions of determinants and consequences of structures. There is an abundance of anecdotal and qualitative evidence to support the proposition that internal pay structures have consequences for work behaviors. Managers and union officials devote considerable resources and behave as if the number of distinct structures, the number of levels, the size of the differentials and the rate of progress matter. Yet, little attention has been devoted to understanding the structure-outcome relationship in industrial-organizational psychology. The possible exception is the work on social comparison models, but even this does not offer much guidance to decision makers or much understanding of the effects of the changing properties of pay structures observed in organizations today.

Suggested Research Directions

The industrial/organizational psychology literature is virtually silent about the nature, determinants, and consequences of internal pay structures. We suggest the following directions for future research and theory building:

1. Based on practitioners' behaviors, as well as the administrative and research literatures, structures can be defined in terms of multiple properties. However, little is known about the relative salience of these various properties to employees (and managers) and their relative impact on attitudes, behaviors, and organization effectiveness.

2. At an even more basic level, little is known about the degree and type of variation in internal pay structures across organizations. In other words, basic descriptive evidence is lacking. Do similar organizations make use of similar structures? Is structure design systematically related to employee, job, and organization characteristics? It is clear from the business press that structures are undergoing significant changes in many organizations (e.g., delayering, fewer distinct job classifications, interest in skill-based pay). These changes offer an opportunity for field research of both a descriptive and substantive nature.

3. As a specific example, little is known about the degree to which organizations focus on internal consistency versus external competitiveness in their pay structures. Descriptive evidence would be useful, as would insight into the consequences of the two strategies for organizational effectiveness. In addition, specification and testing of contingency factors would be useful.

4. Other disciplines, notably economics and sociology, offer theories (e.g., tournament models, resource dependency, institutional models, internal labor markets) that identify important determinants and consequences of pay structures. These formulations often rely on implicit assumptions regarding employee behavior. It would be useful to examine such assumptions in greater depth in light of the state of knowledge in the industrial and organizational psychology literature.

5. A recurring research theme in this chapter is the need to study decisions from a return on investment perspective. The design and administration of internal pay structures is typically accompanied by a substantial bureaucracy for evaluating (and re-evaluating) jobs (or skill blocks). Are the attendant costs of such bureaucracies justified?

6. Although there is some descriptive evidence, there is virtually no research on the

consequences of skill-based and knowledge-based pay structures relative to more traditional job-based structures. What are their relative influences on attitudes and behaviors? Are skill-based plans more or less expensive to design and administer? Are they more or less susceptible to systematic biases such as discrimination? What unique problems arise in market pricing of skills and knowledges?

7. Several consulting firms are marketing quantitative approaches to job evaluation. Hay Expert, TPFC's WJQ, and Wyatt's Multicomp are leading examples. These are largely conventional point job evaluation plans that are statistically tailored to the pay structure selected by their clients. All of them use various policy capturing approaches. Some simply weight compensable factors, others tailor each factor's scale, through data fitting methods thereby deriving the factor weights and scales which best fit the pay criterion. These products have received little scrutiny by the measurement community. Parallel developments in selection and cognitive tests are often subject to publicly available research. Considering the increasingly important role these commercial plans are playing in establishing pay structures within large organizations, they deserve similar scrutiny.

8. Although measurement evidence on job evaluation and related procedures is important, it may be time to shift resources to focus more on some of the broader issues mentioned above such as the effects of different types of structures on attitudes, behaviors, and organizational effectiveness.

9. One exception to the preceding statement is the need for empirical evidence on the effects of political and environment considerations (Kerr & Fisher, 1950) on the successful implementation of job evaluation systems. Even job evaluation systems that are highly successful in the sense of predicting grade levels for jobs can be deemed failures because of a lack of acceptance for non-technical reasons.

INDIVIDUAL DIFFERENCES IN PAY

The preceding discussion of pay level and pay structures focused on (average) pay differences between organizations, where job evaluation and pay surveys were typically used to develop and price pay structures for jobs. So far, we have given little attention to how organizations pay individual employees within such structures. For example, one organization may have a strong link between pay and performance for its middle managers, but less so for its production employees, whereas a similar organization may have a weak link between pay and performance among middle managers and other employee groups.

There is good reason to believe that such organization differences in how individuals are compensated may have some of the most important implications for individual attitudes and behaviors, as well as for organizational performance. Moreover, as Haire, Ghiselli, and Gordon (1967) pointed out over twenty years ago, features of the compensation system other than pay level often "can be varied by a company without increasing the total salary expense" (p. 10). In a study described earlier, Gerhart and Milkovich (1990) echoed this point, suggesting that the largest organization differences were likely to be in individual pay determination rather than in pay level because there are greater product and labor market restraints on the latter (see earlier discussion). Their empirical evidence bore out this suggestion, indicating that organizations may be most strategic with respect to individual pay determination.

Consistent with the two previous sections, we proceed as follows. First, we describe a simple system for classifying pay programs. Second, we turn to the question of how individual differences in pay are determined. Special emphasis is given to the link between pay and performance. Next, we discuss the potential consequences of different pay plans. Finally, we conclude with a summary and suggested future research directions.

Properties and Definition: Classifying Pay Programs

In describing individual pay determination, it is convenient to classify the various compensation plans using two dimensions (Milkovich & Wigdor, 1991). First, are changes in

compensation added into base pay (e.g., conventional merit systems) or are they given as one-time payments (i.e., bonuses, lump sums)? Second, are changes in compensation based on individual or group (i.e., work team, plan, business unit, organization) objectives? The resulting grid and classification of plans is shown in Figure 5.

The first dimension, whether the increase is added to the base, can also be viewed as indicating the extent to which pay is a fixed versus variable cost to the organization. For example, a merit increase, as the term is typically used, refers to an increase that is rolled into the base salary. As such, employees are always, to an extent, paid on the basis of past performance because such increases carry over to future years. In contrast, a lump sum increase (or merit bonus) is ordinarily paid out on a one-time basis. It does not become part of base pay. Therefore, the pay at any given time may be more likely to reflect recent performance, rather than an accumulation of past performance increases. One implication is that rewards can be more directly tied to recent performance using lump sum types of payments. In addition, as pay becomes a more variable cost, organizations may be better able to align compensation costs with ability to pay (e.g., through profit-sharing bonuses or lump sums). Thus, plans that differ on the fixed versus variable pay dimension may differ in terms of both behavioral and cost consequences.

Differences on the second dimension, individual versus group performance criteria, are also likely to have consequences for costs and behaviors. Expectancy theory suggests that motivation (specifically, instrumentality perceptions) will be greater under plans that tie pay to individual (versus group) performance and empirical evidence supports this hypothesis (Schwab, 1973). However, linking pay to individual performance means that employees can earn large amounts of money even in years when the company is losing money and thus, is not an effective way of aligning labor costs with ability to pay.

Determinants

At the outset, it is important to distinguish between two related, but different questions. First, one can ask what factors account for individual differences in pay within organizations. An

extensive literature suggests that education, experience, performance, and other individual differences play some role (Gerhart & Milkovich, 1989; Medoff & Abraham, 1981; Milkovich & Newman, 1990; Mincer, 1974), depending on the organization.

Second, however, one can ask what factors account for the fact that different organizations use different pay programs (e.g., merit pay, gainsharing, etc.). The empirical evidence on this question is much more sparse, although the section on "Contingency Models" (later in this chapter) provides some conceptual models for thinking about such issues. Again, the two questions are related, and we focus here on the nature of the relation between pay and performance.

Is There Pay for Performance?: The Case of Merit Pay

A recurring question concerns the strength of the relation between pay and performance. In the case of incentive plans, which typically use physical measures of output, this relationship is clear and barring rate-setting issues, is usually not an issue. But, with the subjective ratings required under a merit pay system, the link between pay and performance may fail to exist or may not always be obvious to employees. Because merit pay is so widely used, especially among white-collar employees (Bretz, Milkovich, & Read, 1989; Personick, 1984), we will focus a good deal of our general discussion of "pay for performance" issues on merit pay, per se. However, a number of the issues also apply to other pay for performance plans.

Several pieces of evidence suggest that the relation between merit and pay is "small" (e.g., Lawler, 1981, 1989; Teel, 1986; Milkovich & Newman, 1984; Milkovich & Wigdor, 1991; see Heneman, 1990 for a review).¹⁴ For example, Lawler (1989, p. 151) comments that "All too often only a few percentage points separate the raises given good performers from those given poor performers." For instance, he mentions the problem of "topping out," which refers to the fact that many organizations use merit increase guidelines (see Figure 6 for an example, from Milkovich & Wigdor, p. 116) that reduce the size of the merit increase percentage for employees higher in the salary range or grade as a means of controlling costs (Milkovich & Newman, 1990). Similarly, some merit increase guidelines also reduce the frequency of within-grade pay increases for

employees near the top of the range (Milkovich & Newman).

In fact, despite the mention of "merit," merit increase grids in actual usage often appear designed more to meet budgetary goals than to reward merit. Administratively, the process typically begins by first determining the budget for pay increases (based on market movement and ability to pay). Next, the distributions of employees across performance categories and range positions (e.g., pay quartiles) is assessed because these distributions will have a major impact on the cost of the increase program. Finally, the percentage increases in each cell are decided upon. One might argue that if merit pay or motivation was the primary goal, one would begin instead by establishing increases sufficiently large to motivate employees, and then calculate the necessary budget.

In any case, the preceding types of factors may contribute to a weakening of the link between pay and performance. In addition, although the subjective nature of performance assessment under merit pay systems has potential advantages (e.g., factoring in extenuating circumstances), it has the drawback of being open to perceptions of favoritism or other perceptions of unfairness. These factors may all contribute to the perception of a weak relation between pay and performance. A survey by the Hay Group (1984), for example, found that less than one-half of middle managers and professionals thought that "better performers" received "higher pay increases than average or poor performers" (p. 14). Where the perception is of a weak pay--performance link, pay satisfaction among high performers may be low. Dyer and Theriault (1976) did, in fact, report lower pay satisfaction among high performers, although they did not report information on the nature of the reward system in their study.

Evidence of this sort suggests that the pay--performance link may not always be as strong as one might wish, and that within some organizations, the link may be particularly weak. Further, even where pay is strongly related to performance, pay for performance perceptions can still be weak (Dreher, 1981; Heneman, Greenberger, & Strasser, 1988). On the other hand, one needs to keep in mind that organizations probably differ significantly in this respect, and in some, both the

actual and perceived link may be fairly strong. We now focus on two reasons why the magnitude of the pay--performance is often underestimated.

Reason 1: Cross-sectional Versus Longitudinal Data. First, and perhaps most important, research often looks at the link between the most recent performance rating and the subsequent pay increase (or worse, the current pay level of an individual) at a single point in time, thus ignoring the fact that performance differences over time often result in an accumulation (and compounding) of pay differences in favor of higher performers. Some of the limitations of using cross-sectional data in studying pay for performance can be illustrated by considering Bishop's (1984) useful discussion of the factors that constrain the observed pay for performance link. Most relevant are three factors: (1) performance is typically measured with error (King, Schmidt, & Hunter, 1980), (2) true performance may vary over time, and (3) the present value of an increase is greater than the first year effect. Using longitudinal data would potentially eliminate each problem. Averaging performance over time would help control measurement errors and variations over time in true performance (see Gerhart & Milkovich, 1989),¹⁵ and would also allow an examination of the present value (or similarly, the effects of compounding and accumulation) of pay increases (see Schwab & Olson, 1990).

Greater use of longitudinal data is likely to lead to other conclusions that may come as a surprise to some. For example, Lawler (1989) has spoken of merit bonuses (not rolled into base salary) as a way of avoiding what he refers to as the "annuity feature" of traditional merit increases--a situation where current pay reflects past performance increases, rather than current performance. He suggests that merit bonuses can be used to more strongly link pay to performance. However, Schwab and Olson (1990), in a simulation of multiple time periods, did not find that a merit bonus system was superior to a conventional merit system in linking pay and performance in either the current time period or over multiple time periods. Moreover, they did not find "capped" merit systems (i.e., where percentage increases are smaller at higher points within the pay grade) to have any significant influence on the pay-performance relationship.

Reason 2: Role of Promotions. Second, and related, merit pay increases (i.e., within-grade pay increases) are only one factor contributing to salary growth over time. Promotions (i.e., between-grade increases) are another major determinant (Gerhart & Milkovich, 1989). In fact, promotions often have a two-fold effect. First, there is typically a pay increase that goes along with the promotion. In 1990, the average promotional increase was about 12%, compared with approximately 4.5% for merit increases (HayGroup, 1991). Second, in addition, a promotion usually moves the employee to a new pay grade where s/he will most likely be in a low relative position (in the grade), thus having the opportunity to earn larger and perhaps more frequent within-grade increases. Thus, the impact of promotions on performance can have significant consequences for the strength of the pay--performance relation, but will show up only with longitudinal data.

Studies that ignore the importance of promotions, not surprisingly, are less likely to find a strong pay for performance link. For example, Medoff and Abraham (1981), in a study of professional and managerial employees, focused exclusively on within-grade analyses, and found relatively modest effects of performance on pay. Similarly, Konrad and Pfeffer (1990), in a study of college and university faculty, concluded that the effect of productivity on pay was "small" (p. 270). However, they focused entirely on the relation between productivity and pay within rank (grade) (i.e., assistant, associate, and full professor). This, of course, ignores the possibility that performance may have a large impact on rank/grade. We reanalyzed their data and found the following results. First, a bivariate regression shows, across ranks, that professors with 1 SD higher productivity earned \$2,234 (18.9%) more. Within rank, 1 SD higher productivity resulted in only \$1,080 (9.2%) more [based on 4 predictors--productivity, and dummy variables for assistant professor, associate professor, and full professor (R-squared = .504 versus adjusted R-squared of .570 in their full model using 25 predictors)]. Consequently, ignoring the impact of performance on rank or grade results in a lower estimated link between pay and performance.¹⁶

Gerhart and Milkovich (1989), in a study of a large, private diversified organization that provided evidence on the pay for performance link, also used longitudinal data, but recognized the

role of promotions. Among 5,550 exempt male employees,¹⁷ they found an average salary growth (due to both promotions and merit increases) over a 5 year interval of 54%. Men, however, averaging (over the 5 year period) 1 rating point above the mean experienced 10% greater salary growth ($54\% + (.10 \times 54\%) = 59\%$). This works out to be 9.8% per year versus 9.0% per year. Projecting the pay of two hypothetical employees over a 20 year period, with both starting at \$40,000 per year, results in a cumulative earnings advantage of \$220,000 for the higher performing employee (present value = \$57,000 using a 9% discount rate or \$75,000 using a 7% discount rate). This difference is substantial, but would be overlooked if promotions were ignored or if longitudinal data were not used.

The role of promotion in generating pay for performance will be even larger in situations where within-grade performance-based increases are small (e.g., in some public sector employers) or nonexistent (e.g., in some unionized jobs). Although these situations are often thought of as good examples of a lack of pay for performance, the preceding discussion suggests that this is probably not true when one considers the role of promotion.

On the other hand, there has been much discussion of late regarding the possible decline in promotion opportunities in many U.S. organizations (e.g., Business Week, 1990; Fortune, 1990; Kanter, 1989). The concern stems from the extensive retrenchment that many organizations have gone through in the past five years in the form of employment reductions and de-layering (eliminating job levels). As one example, General Electric (chemicals division) recently reduced the number of pay grades from 22 to 5. As part of this reduction, 10 layers of management were compressed into 4 levels (Fortune, 1991). The implication of these changes for the role of promotion as a reward remains to be seen. It is conceivable that some organizations will need to place more emphasis on the annual pay increase to achieve pay for performance if promotions become less frequent. However, any such trend among established organizations is likely to be offset by continuing growth of promotion opportunities in smaller organizations, which account for a substantial share of both employment level and growth.

In summary, research has probably underestimated the magnitude of the link between pay and performance because promotion effects and the accumulation (and compounding) of merit increases over time have often been ignored. Despite these limitations, the bulk of the research shows that there is at least some relation between pay and performance. (The link was statistically significant in 23 out of 30 studies in R. Heneman's 1990 meta-analysis.)

Do Employees Perceive Pay for Performance? Of course, a key question remains unanswered. Even if pay for performance exists in the longer run, are employees aware of this relationship and does it affect their behavior? Do employees respond to pay for performance in a similar fashion regardless of whether it is largely achieved through annual increases or through promotions? Do employees think in terms of cumulative earnings? Some evidence suggests that they may. For example, Wazeter (1991) argues that new teachers focus more on the top rate on the pay scale rather than the entry point. Of course, this situation may be somewhat unusual in that the pay schedule is public information, and the means of achieving the top of the scale may be based on objective factors (e.g., degrees obtained, years of service). If employees do not always think in terms of cumulative earnings, to what extent can companies communicate this information in such a way that employees will see the long-term advantage of higher performance levels?

Consequences: Theory and Mechanisms

Objectives.

Some objectives discussed earlier under the "Pay Level" section fit equally well here. For example, although pay satisfaction is related to overall pay level, it will also vary across individuals according to their own pay, frame of reference (Smith et al., 1969), perceived inputs and outputs (i.e., distributive justice or equity, Adams, 1963, 1965), and perhaps perceived procedural justice (Greenberg, 1986; Folger & Konovsky, 1989). Similarly, although pay level may influence the overall quality of the workforce, it is also hypothesized that the individual performance, cooperation, and so forth of the current workforce are likely to depend on the way the organization determines individual pay. Further, the organization's approach to individual pay may also signal prospective

applicants, thereby influencing the eventual composition of the workforce in another way.

Impact on Current Employees

The general assumption underlying many pay plans, especially the "new" variable pay plans, is that there is a significant amount of "untapped energy" (Lawler, 1989; Hammer, 1988) in the workforce that can be elicited with the right compensation system. Here, we briefly discuss three theoretical explanations for the effects of pay plans on motivation and behaviors: reinforcement theory, expectancy theory and agency theory. The last theory is discussed at greater length because of its relative unfamiliarity to some readers.

Reinforcement. Thorndike's Law of Effect states that a response followed by a reward is more likely to recur in the future. Applied to employee compensation, this implies that the receipt of a monetary reward following high employee performance will make high performance more likely in the future. The emphasis is on the importance of actually experiencing the reward. This contrasts, for example, with expectancy theory's forward looking emphasis on expectations (or incentive effects). All three of the theories discussed here, however, stress the importance of behavior--reward contingencies.

Expectancy Theory. In the psychological literature, expectancy theory has been widely used over the past three decades in attempting to understand and predict the motivational and behavioral consequences of different individual pay plans.¹⁸ Behaviors (e.g., performance) are believed to be a function of ability and motivation. The motivation component represents the "force" to choose a particular behavioral alternative instead of another. This motivational force is hypothesized to be a function of three factors (Vroom, 1964): expectancy (the perceived link between effort and behaviors), instrumentality (the perceived link between behaviors and valued outcomes like pay), and valence (the value the person expects to derive from outcomes like pay). Thus, for example, employees may choose to work toward different levels of performance depending on the way different compensation systems influence the three components. Typically, most attention is given to the consequences of compensation programs for instrumentality (e.g., pay for performance)

perceptions, although compensation may influence the other two components as well (e.g., skill-based pay to influence expectancy perceptions).¹⁹

Locke (1968) has argued that pay affects behavior through its influence on gaining acceptance of challenging, specific work goals and maintaining commitment to them. Recent models of goal-setting (e.g., Hollenbeck & Klein, 1987) and control theory (Klein, 1989) similarly focus on the subjective expected utility of goal choice and commitment. In other words, a common theme is that goals are a mediating variable between pay and outcomes like performance, although the empirical evidence is not conclusive (Tolchinsky & King, 1980; Locke, Shaw, Saari, & Latham, 1981; Wright, 1989).

Agency Theory. In the economics and finance literatures, agency theory has been widely used to study compensation, particularly executive compensation. Agency theory suggests that an important advantage of the present day corporation is the separation of ownership and control. This separation permits owners (principals) to freely transfer ownership (stock ownership) without disrupting the operations of the firm because their agents (e.g., managers) have taken over the control function (Fama & Jensen, 1983; Hoskisson, Hitt, Turk, and Tyler, 1989). The ability to transfer ownership allows shareholders to diversify their portfolios (and thus their risk). This is an important advantage because it allows people to specialize and work to their relative advantage (e.g., managing, being an entrepreneur) and it also helps meet the large capital requirements of modern corporations (Jensen & Meckling; Hoskisson et al., 1989).

However, the separation of ownership and control creates a situation where the preferences of principals and agents are not ordinarily the same. What is best for the agent may not be best for the owner, giving rise to what are referred to as agency costs. As a rather extreme example, the agent might benefit in a narrow economic sense from "stealing from the till" or embezzling money. Obviously, the owner would not benefit from such behavior. Less extreme, agents may simply not push as hard to make the company a success as an owner might. Another source of divergent preferences stems from the fact that principals can diversify their ownership, but an agent

(e.g., a manager) works for just one organization, thus having all of his/her "eggs in one basket." The fact that the agent cannot diversify risk suggests that s/he will be more risk averse than the principal.

Thus, much like expectancy theory, agency theory's focus is on the question of how to motivate someone (the agent) to choose to pursue certain behavioral objectives. Also similar is the central role that compensation plays. Agency theory says that the principal must choose a contracting scheme that helps align the interests of the agent with his or her own. These contracts can be classified as either behavior-oriented (e.g., merit pay) or outcome-oriented (e.g., stock options, commissions) (Eisenhardt, 1988).

On the face of it, the most obvious means of aligning the interests of agents with those of the principal(s) would be to use more outcome-oriented contracts. The drawback of such contracts, however, is the increased risk borne by the agent who, as noted above, is less able to diversify his/her risk and is thus more risk averse than the principal. Therefore, to accept this higher risk contract, the agent may require a compensating pay differential (Eisenhardt, 1988; Hoskisson et al., 1989).

Thus, as Eisenhardt (1988) has noted, a key question is "when is it more efficient to have a contract based on behavior versus a contract at least partially based on outcomes?" (p. 490). Where the principal can easily monitor what the agent has done, a behavior-based contract is more efficient because no risk needs to be transferred to the agent and thus, no compensating differential needs to be paid. In contrast, where monitoring of the agent's behaviors is difficult, the principal must either invest in monitoring/information or structure the contract such that pay is linked at least partly to outcomes (Eisenhardt).

Several contingency factors have been noted (Eisenhardt, 1988, 1989). First, risk aversion among principals makes outcome-oriented contracts more likely, whereas risk aversion among agents makes them less likely. Second, because of the increased costs of shifting risks to agents, outcome uncertainty makes outcome-oriented contracts less likely because agents are less able to diversify

risk. Third, as jobs become less programmable (and more difficult to monitor), outcome-oriented contracts become more likely. Fourth, when outcomes are more measurable, outcome-oriented contracts are more likely. Fifth, outcome-oriented contracts contribute to higher compensation costs because of the risk premium (Conlon & Parks, 1990). Sixth, a tradition or custom of using (not using) outcome-oriented contracts will make such contracts more (less) likely.

Studies using retail clerks (Eisenhardt, 1989) and students (Conlon & Parks, 1990) have found support for these predictions. Moreover, in studies of managerial compensation, 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), providing support for the idea that managers and owners prefer different compensation systems. Also, a comparison of research and development (R & D) intensive organizations with others revealed that the R & D intensive group relied more heavily on outcome-oriented compensation arrangements, consistent with the idea that monitoring of behaviors would be more difficult when highly technical and complex work is involved (Milkovich, Gerhart, & Hannon, 1991). Also consistent with the agency theory prediction of a risk premium, pay level was higher in the R & D intensive organizations.

How do agency theory and expectancy theory compare? They are similar in the sense that both focus on (a) explaining choices, (b) separating the concepts of behaviors and outcomes (contrary to Eisenhardt's 1988 suggestion), and (c) motivation and control of performance by tying outcomes to behaviors. They differ in that agency theory focuses more on (a) the specific choice of which governance (often compensation) system will be most efficient to use, and (b) the risk-reward trade-off (Eisenhardt, 1988). The latter is particularly relevant given the increased attention being paid to variable pay plans, which are often intended to put some pay at risk.²⁰ Finally, unlike expectancy theory, agency theory explicitly recognizes the importance of an exchange process between two parties.

Impact on Workforce Composition

At a general level, pay can influence employee performance in two ways. First, as discussed above, it can influence the performance of the current workforce. This is the focus of most of the empirical research on specific pay programs (reviewed below). Second, however, and perhaps less obvious, pay programs can also affect the composition of the current workforce through self-selection.

For example, Rynes (1987) suggests that "compensation systems are capable of attracting (or repelling) the right kinds of people because they communicate so much about an organization's philosophy, values, and practices" (p. 190). This idea again goes back to the signalling model of Spence (1973). To illustrate, she discusses the case of sales jobs. If there is not a large incentive component in which individual effort is important, she argues that over time, one or more of the following three consequences is likely: (1) the right people will not be attracted; (2) they are attracted, but leave when they discover that their efforts are underrewarded; (3) the right people are attracted and retained, but because they are not rewarded for high performance, their performance declines.

In a similar vein, Brown (1990) has suggested that workers know their own productivity and choose to work in organizations where they can maximize their earnings. For example, he argues that highly productive blue-collar workers are more likely to choose organizations that pay piece rates versus those that pay straight salaries. Although the notion that there is self-selection by individuals and selection by organizations to find people that fit (Rynes & Gerhart, 1990) the pay system, empirical research has only recently begun to appear.

For example, on the retention side, Gerhart (1990), examined the relation between average performance ratings and salary growth over several years among recent managerial and professional hires. He found that the relation between pay and performance was nonlinear. Salary growth among average performers was substantially greater than that among poor performers. However, salary growth among the highest performers was not much greater than that among average performers. He also found that turnover decisions of high performers were the most sensitive to

salary growth. The consequence of these two facts appeared to be relatively high turnover among the highest performers. In other words, the pay system seemed to result in high performers self-selecting out of the organization.

Two other studies are also consistent with the idea that pay systems influence workforce composition through self-selection. A study of nonclerical, white-collar workers in U.S. Navy laboratories found that turnover among high performers was lower in laboratories using merit pay plans (U.S. Office of Personnel Management, 1988, cited in Milkovich & Wigdor, 1991, p. 91). Gomez-Mejia and Balkin (1989) found that employees who were more willing to take risks were more likely to intend to remain employed with organizations that relied more heavily on variable compensation systems, consistent with Rynes' (1987) arguments.

Still lacking is evidence on the effect that pay systems might have on the attraction of new hires to an organization. In addition to the question raised by Rynes (1987) and Brown (1990) about high performers being attracted to pay for performance, more general questions about fit and self-selection need to be addressed. For example, do variable pay systems having downside risk attract risk takers and discourage risk averse people as found by Gomez-Mejia and Balkin (1989) on the retention side? If a pay system attracts only certain types of people (still an open question, see Bretz, Dreher, & Ash, 1989), what consequences might the resulting employee homogeneity have for future organization success (Schneider, 1983)?

Is Individual Emphasis a Good Idea?

The focus of the preceding theories (agency, expectancy, reinforcement) and mechanisms has been on explaining individual decisions within organizations. In parallel fashion, many of the specific programs discussed below (e.g., merit pay, merit bonuses, individual incentives) typically focus on distinctions between individuals. Yet, in many cases, interdependence and the need for teamwork may argue against such differentiation (Lawler, 1989; Lodge & Walton, 1989). This point has been raised in the economics literature (Frank, 1984; Lazear, 1989) and by W. Edwards Deming, who has received much credit for his role in Japan's success. According to Gabor (1991,

p. 99), Deming believes that focusing on the contributions of individual employees is "usually destructive" because "individuals are unfairly penalized...for deficiencies that are linked to the system they work in--which is created by management--rather than behavior over which they have control." Deming also has argued that the relative contributions of the system and the individual on observed behavior are "unknowable." He raises the following question: "if the manager cannot accurately determine the contribution of individuals, how can their performance be validly rated?" (p. 100).

However, one can also carry the argument in a different direction and raise the possible drawbacks of de-emphasizing individual contributions too much. Organizations and work groups are composed of individual employees. As such, they are limited by the nature of these individuals. If, as suggested above, high performance employees are more likely to seek out and remain with organizations that provide rewards for high performance, a problem may arise for organizations that do not recognize top performers with top rewards. They may simply choose to work elsewhere, leaving the organization with members of low and average level ability. Teamwork and cooperation, without ability, is not a formula for success either.

As examples, consider the consequences to the L.A. Kings of paying hockey player Wayne Gretzky near the average or (returning to an earlier example) the Chicago Bulls paying Michael Jordan the same as his teammates. To be sure, hockey and basketball are team sports that require teamwork and cooperation, but the Kings and the Bulls would be very different teams without their star performers. Failing to recognize their individual contributions could be a serious mistake, because another team would recognize them. It is possible that the Kings and Bulls might have better teamwork and cooperation without Gretzky and Jordan, but they would most assuredly also have many fewer victories.

Obviously, such examples are no substitute for systematic empirical study. However, they illustrate some of the potential trade-offs involved in designing reward systems. Deming's criticisms point to the potential drawbacks of individual-oriented plans. (See also Bartol & Martin,

1989; Bretz, Milkovich, & Read, 1989; Longnecker, Sims, & Gioia, 1987; and Markham, 1988 for related information.) These potential drawbacks, together with the goal of making human resources more of a variable cost have contributed to greater recent attention to gainsharing and profit sharing plans, which are group-oriented and do not add pay increases into the base (see Figure 5).

Consequences: Specific Pay Plans

As discussed, there is limited evidence on the impact of pay programs on workforce composition. Therefore, the bulk of evidence reviewed below pertains to the influence of specific pay plans on current employee attitudes and behaviors. Much of the readily available information and effectiveness evidence on pay plans comes from professional organizations like the Conference Board, the American Compensation Association, and various consulting organizations. Most such evidence is limited to reporting on the frequency with which organizations are using particular pay plans. Even this evidence can be misleading because organizations are often asked to report whether the plan is being used anywhere in their organization. Thus, even an organization having only a pilot program could be counted as using a pay plan.

Evidence on the effectiveness of particular plans is less available and also of questionable value. For example, Table 1 summarizes evidence from a 1990 Conference Board study. As indicated by the Table, each pay plan seems to come out as being somewhere between partially successful and highly successful. Virtually no organizations appear to have adopted plans that did not work, which is more than a little suspicious. However, perhaps the most interesting aspect of this pattern of data is that the column headings (compensation plans) can be interchanged without having any effect at all on the interpretation! Obviously, these sorts of data are of little help in determining which compensation plans tend to work best under different sets of circumstances. The alternative interpretation (to which we do not subscribe) is that contingency factors simply do not matter--the plans work equally well regardless of the conditions.

In a sense, such "research" recalls past criticisms of the nature of research in the compensation field (Dunnette & Bass, 1963; Opsahl & Dunnette, 1966; Haire, 1965). Haire (cited

in Opsahl & Dunnette) suggested that despite the large amount of money spent and the obvious relevance of motivational theory, there was less research and theory in the field of compensation than in any other. Dunnette and Bass suggested that "personnel men (sic) had relied on faddish and assumptive practices in administering pay which lack empirical support" (as paraphrased by Opsahl & Dunnette, 1966; see Mahoney, p. 84). Finally, Opsahl and Dunnette expressed hope that "the firm of the future will be able to establish compensation policies and practices based on empirical evidence about the behavioral effects of money as an incentive rather than on the untested hunches, and time worn 'rules of thumb' so common in industry today" (see Mahoney, p. 86).

Fortunately, there has been at least some progress in developing a research base to inform practice. For example, Gerhart and Milkovich's (1990) longitudinal study of multiple organizations found evidence that linking pay to organization performance contributed to higher subsequent organization performance (as measured by return on assets). However, their study had limited information on the nature of specific pay plans in those organizations.

We now turn to a discussion of specific pay plans and what the available research evidence has to say about their effectiveness under various conditions. It may be useful to keep the grid shown in Figure 5 in mind as we proceed.

Individual Incentives

As Figure 5 indicates, the focus here is on individuals and payments that are not rolled into base compensation. One of the most famous proponents of individual incentives was Frederick Taylor. A favorite story of his had to do with a German laborer named Schmidt (Principles of Scientific Management, 1967). Taylor and his associates observed that most laborers at the steelyard they were studying moved about 12.5 long tons of pig iron per day and earned an average of \$1.15 per day in return. Taylor, however, decided that a laborer could move 47 to 48 long tons per day with some modification to the work motions and with the appropriate incentive payment. To prove this contention, he offered Schmidt the opportunity to earn \$1.85 per day if he moved 47 to 48 long tons. According to Taylor, Schmidt did subsequently move an average of 47.5 long

tons per day (about a 300 % increase) in response to the monetary incentive (about a 60% increase in pay). Obviously, this was an awfully good return on investment and not surprisingly, there has since been a good deal of research on the productivity enhancing effects of incentives. For example, a fairly recent study found a good deal of evidence to support the claim that individual incentives can have a substantial positive impact on productivity (Locke, Feren, McCaleb, Shaw, and Denny, 1980).

The key word, however, is "can." Despite their potential for large productivity payoffs, relatively few employees work under individual incentive plans in the U.S. for two general reasons. First, they are not applicable to many jobs such as those with no physical output measure of performance or those where individual contributions are difficult to isolate (or should not be isolated because of, for example, a team approach). Both are typically characteristics of white collar jobs and many blue collar jobs as well.

Second, individual incentives can cause a wide range of what might be called "administrative problems." These include (a) the cost of time study to set and keep current production standards for multiple jobs (and perhaps machines), (b) the cost of tracking output in these multiple jobs and calculating payments, and (c) the difficulty in setting production standards that are accepted as appropriate by both management and workers. This last problem has received a good deal of attention in discussions of "gaming" by workers (to fool the time study person into setting the standard lower so they can make more money--see Whyte, 1955). Workers may also have serious concerns about working themselves out of a job if their productivity increases substantially. In addition, they may anticipate that once they begin to exceed a standard regularly (and thus make more money), management may decide the standard is too low (yielding excessive labor costs) and raise it.

All of this suggests that individual incentives are most likely to work when there is trust in management and where production standards do not undergo regular change. One much cited example, Lincoln Electric, has an incentive system that works, in part, because it (a) has an

employment security practice and (b) changes standards infrequently (partly because technology has been relatively stable in their product market). Another potential problem, sacrificing of quality for quantity, is controlled at Lincoln Electric by paying workers only for output that meets the quality standard.

Merit Pay

As Figure 5 indicates, the term is used to refer to cases where payments go to individuals and are added in to base compensation. "It is not difficult to view merit pay plan design as a means of overcoming some of the unintended consequences of individual incentive plans" (Milkovich & Wigdor, 1991, p. 78). Nevertheless, other problems may arise in using merit pay plans. As discussed earlier, the strength of the link between performance and pay may be more difficult to establish. Moreover, even where a strong link exists, employees may not necessarily perceive such a link.

Although we suggested earlier that pay is often based to a significant extent on performance, there is much less interpretable evidence on the crucial question of whether pay for performance contributes to increased future performance and other organization objectives. Although a fair amount of research on this question has now accumulated, methodological problems make it difficult to interpret much of this literature. For example, R. Heneman (1990) reported that only 4 of the 22 studies he reviewed on this topic used any type of control group. Another 4 studies used a time series design. The remaining 14 used neither. Only 6 studies looked at performance levels subsequent to the implementation or removal of a merit pay plan. Of these, 4 reported a positive effect of merit pay on performance.

To illustrate some of the problems in interpreting these studies, it may be useful to consider a study by Pearce, Stevenson, and Perry (1985) of the implementation of a merit pay system for Social Security Administration managers. They concluded that "merit pay program had no effect on organizational performance, suggesting that merit pay may be an inappropriate method of improving organizational performance" (p. 261). Several aspects of the study, however, suggest caution in

accepting their interpretation. First, no control group was used. Second, to study the impact of a pay for performance system, one must first establish that there is indeed pay for performance (much like doing a manipulation check in an experiment to see whether the treatment "takes"). However, in the Pearce et al. study, only one-half of the annual pay increase was based on merit. The other one-half was an across-the board increase. (Prior to the new pay system, increases had been completely of the across-the board type). Moreover, in the first year, the merit pool was 4.5%. In the second year, it was 2.4%. Therefore, it is not clear that major distinctions could be made in rewarding different performance levels. Pearce et al. also reported that the performance measures they included in their study accounted for only 40% of the merit increase portion (which recall, in turn, determines 50% of the annual increase). In other words, it appears that Pearce et al. focused on performance measures that accounted for only about 20% of managers' annual increases. The timing of the measurements may also be an issue. The majority of Pearce et al.'s study took place before the actual distribution of pay increases under the new plan. Yet, reinforcement theory would suggest that behavioral responses (e.g., higher performance) would not occur until after people actually received the reward. Similarly, from an expectancy theory perspective, instrumentality perceptions may not have strengthened until after it was demonstrated that pay and performance were being more strongly linked. In sum, these facts suggest that Pearce et al. may not have really been studying a pay for performance system.

The dependent variables in the Pearce et al. (1985) study included factors such as the number of days to process a claim, accuracy of claims processing and so forth. However, no information was provided on changes in either staffing levels or number of claims filed during the period. In other words, their study did not provide information regarding productivity ratios (e.g., claims per person). Also, their results suggest a strong possibility of floor or ceiling effects in several instances. For example, in the two years immediately preceding the change in the compensation system, performance had already improved by an average of 45% across their measures. The days needed to process a retirement/survivor's claim had already dropped from

about 60 days to 38 days. The implication is that significant changes in the managerial system (or staffing levels) may have already been made, perhaps leaving relatively little room for further improvement. However, it may be that such improvements were more likely to last under a pay for performance compensation system.

A recent study by Kahn and Sherer (1990) examined within-organization variations in the link between pay and performance among managers and the consequences for subsequent performance. They found that bonuses (but not "merit pay") were linked to performance. Further, those managers who in the past had bonuses most strongly linked to performance had the highest subsequent performance levels, even controlling for previous performance. In other words, pay for performance seemed to "work" in the organization they studied. More work of this kind would be useful. In particular, research that examines the conditions most conducive to the success of pay for performance (i.e., a contingency analysis) would be of value.

Profit Sharing

Profit-sharing is a group (organization) based plan that does not typically roll changes in pay into the base salary (see Figure 5). The logic behind profit sharing seems to be twofold. First, it is seen as a way to encourage employees to think more like owners (see the agency theory discussion) or at least, be concerned with the success of the organization as a whole. Individual-oriented plans often place little emphasis on these broader goals. Second, it permits labor costs to vary with the organization's ability to pay. As an example, Union Carbide's plan for its 14,000 U.S. chemical and plastics division employees has frozen base salaries, but, if return on capital exceeds 8%, employees can get lump sum payments of up to 15.4% of base. Larry Doyle, Vice President of Human Resources, points out that Union Carbide secretaries are now "not bashful about nudging managers to stay at a Holiday Inn instead of a more expensive Hyatt" (Fortune, April 9, 1990). Profit-sharing is in use at several well-known companies, including Hewlett-Packard, USX, Ford, General Motors, ALCOA, Caterpillar, Monsanto, and AT&T (Business Week, November 7, 1988; Personnel, January 1991). Like Union Carbide, a number of these companies

(e.g., AT&T, Monsanto) have replaced some portion of base salary with the potential to earn shares of the profits. In other words, there is not only an upside potential, but a downside risk as well. General Motors' new division, Saturn, is also using profit-sharing, linking "up to 20 percent of workers' salaries...to the company's profitability" (New York Times, March 17, 1991).²¹

A very comprehensive and useful review of the empirical evidence on profit-sharing has been provided by Weitzman and Kruse (1990). They examined two basic types of evidence: attitudes toward profit-sharing (among both employees and employers) and productivity, usually defined as value added. They concluded that employers believed that profit-sharing had a positive effect on productivity and company performance. As illustrated above, however, the validity of employer self-reports are open to question. On the employee side, they also found positive views, but they noted that this was "tempered on the employee side by the risk of fluctuating income" (p. 123). This note of caution was based largely on a Bureau of National Affairs (1988) survey of 1,000 people who were asked which type of pay system they preferred. Most preferred was straight wage salary (63%), followed by individual incentives (22%) and finally, company-wide incentives (12%).

These preferences may raise some questions about Weitzman and Kruse's (1990) overall conclusion about employee views of profit-sharing. Examining their summary of attitudinal data more closely, one finds that only one study reported on employee attitudes before and after the implementation of profit-sharing. Moreover, this study was based on only 66 blue-collar workers and, in fact, involved a Scanlon plan (gainsharing), not profit-sharing. Finally, the data from this study, as summarized by Weitzman and Kruse, pertained to cooperation, communication, and participation (on which gainsharing was superior). However, no data on beliefs concerning productivity were provided.

One other study from the Weitzman and Kruse (1990) review compared responses of employees under profit-sharing plans versus those who were not. The employees covered by profit-sharing agreed more strongly with the following statements: employees get their share of company

growth, employees get credit for company progress, and employees gain from cost-cutting. Note again, however, that there are no direct questions regarding productivity.

The final type of evidence examined by Weitzman and Kruse (1990) concerned the effect of profit-sharing on productivity. They found 16 studies that used econometric methods to control for the effects of other factors on productivity. They found that the t-value for the profit-sharing coefficient was positive in all 16 studies, greater than 2 in 12 of the 16 studies, and had a mean of 2.46 across studies. They also emphasized that 226 profit-sharing coefficients had been estimated across these 16 studies, with 60 per cent having positive t values greater than two. They concluded that "evidence on the connection between profit sharing and productivity is not definitive. Yet it is also not neutral--many sources point toward a positive link; the only quarrel seems to be over magnitudes" (p. 139). Weitzman and Kruse estimate that the mean effect of profit-sharing on productivity is 7.4% (median = 4.4%).

A skeptic, however, might question some of this evidence. The most important concern has to do with the typical measure of productivity--value added. It is not a measure of physical productivity (e.g., units produced). Rather, it is a measure of the extent to which the price (or value) of a product exceeds (or adds to) the cost of the factor inputs (labor, capital). Obviously, the price of a product can be influenced by many factors besides productivity (e.g., product market competition, marketing). Thus, finding a relation between profits distributed per worker (profit-sharing) and value added (productivity), the most typical model employed in the studies reviewed, may not provide compelling evidence that profit sharing really affects productivity.

For example, recent contracts between the United Auto Workers (UAW) and the automobile companies have included profit sharing plans. However, the profit sharing bonuses have been significantly larger for UAW members at Ford, compared with UAW members at General Motors because profit targets have been met more successfully at Ford. This comparison would generate the type of result found by Weitzman and Kruse in their review--higher profits ("productivity") where profit-sharing is more heavily emphasized (in terms of bonuses per worker), but would not

warrant the causal inference that greater profit-sharing leads to higher productivity. They seem to sense this problem because they note that "A limitation of the econometric studies is that they shed little light on the mechanisms through which profit sharing may affect productivity" (p. 139).

Given the above, there is still some doubt about the efficacy of profit sharing for improving organization performance. Based on expectancy theory, in fact, one would expect instrumentality perceptions, and thus individual motivation to be significantly lower under profit sharing than under individual incentives, merit pay, or gainsharing because the link between an individual's performance and organization performance (profits) is necessarily constrained by the fact that many other people have as much or more impact. This is sometimes referred to as the "line of sight" issue.

For example, returning to the example of the automobile industry, both Ford and General Motors (GM) have had profit-sharing plans in their contract with the United Auto Workers (UAW) since 1984. The average profit-sharing payment at Ford has been \$13,225 per worker versus an average of \$1,837 per worker at GM (Bureau of National Affairs, 1990). What accounts for the fact that the average payment at Ford has been over seven times greater? It is probably not because Ford UAW members have worked seven times as hard as their counterparts at GM. Rather, workers are likely to view top management decisions regarding products, engineering, pricing, and marketing as more important. Therefore, although profit-sharing may, in this case, be useful in achieving the objective of making labor costs variable, the motivational impact is open to question.

Moreover, even the idea of using profit sharing to make labor costs more variable often seems to go out the window exactly when labor costs begin to vary (downward). For example, the much publicized plan for the Dupont Fibers division (e.g., McNutt, 1990) was eliminated when division profits were down and employees were about to actually experience what downside compensation risk is all about (Santora, 1991). It is likely that management will need to build a persuasive case for why employees should be willing to incur this type of risk, particularly

employees at the lower pay levels.

It is not difficult to understand why employees, especially those not in higher paying jobs, would react unfavorably to downside risk in pay. As discussed earlier in the context of agency theory, the fact that employees are tied to a single organization means that they cannot diversify what might be termed their "investment in employment" to avoid employment or pay related risk. In a similar vein, John Zalusky of the AFL-CIO points out that banks that hold mortgages and utilities that provide services do not adjust monthly bills to fit changes in worker income. Until they do, he suggests that it is unlikely workers will ask their unions to change their approach to variable pay packages.

Another constraint on motivation relates to the fact that the great majority of profit-sharing plans are of the deferred type. The Bureau of Labor Statistics (Coates, 1991) reports that in 1989, 16 percent of full-time employees in medium and large private establishments participated in a profit-sharing plan, but only 1 percent of employees overall (i.e., 6.3 percent of those in profit-sharing plans) were in cash plans where profits are paid directly to employees as soon as profits are known.

As a final note, profit-sharing has been argued to have beneficial effects on employment stability (Weitzman, 1984, 1985). The basic logic is that organizations resort to layoffs of employees because there is no other way to reduce labor costs during difficult economic times. But, profit-sharing automatically decreases labor costs during such periods, making layoffs less necessary. Research does seem to support this hypothesis (Chelius & Smith, 1990; Kruse, 1991; Gerhart, 1991). Perhaps for this reason and others (e.g., encouraging greater employee involvement), public policy in some countries, including India and much of Latin America, actually mandates profit-sharing (Florkowski, 1991). For example, some major Venezuelan industries must disburse 10 per cent of each year's profits, capped at an equivalent of 2 months pay for each employee. In India, domestic firms must share 60 per cent of net profits. Although the U.S. does not have any exact counterpart to such mandates, there are tax advantages in the U.S. (and other

countries like France) for using deferred profit-sharing and employee stock ownership plans (see below).

Gainsharing

Gainsharing differs from profit-sharing in at least three ways (Hammer, 1988; Schuster, 1990). First, under gainsharing, rewards are based on a productivity measure rather than profits. The goal is to link pay to performance outcomes that employees can control, thus enhancing the line of sight or instrumentality perceptions (as do the following two differences). Second, gainsharing plans usually distribute any bonus payments with greater frequency (e.g., monthly or quarterly versus annually). Third, gainsharing plans distribute payments during the current period rather than deferring them as profit-sharing plans often do. Thus, Milkovich and Wigdor (1991, p. 86) suggested that "The adoption of group incentive plans may provide a way to accommodate the complexity and interdependence of jobs, the need for work group cooperation, and the existence of work group performance norms and still offer the motivational potential of clear goals, clear pay-to-performance links, and relatively large pay increases."

Evidence on gainsharing has been favorable. For example, Schuster's (1984a) empirical work, a 5-year study of 28 sites, found positive effects of a variety of gainsharing plans on productivity. A recent study by Hatcher and Ross (1991) found that changing from individual incentives to gainsharing resulted in a decrease in grievances and a fairly dramatic increase in product quality. (Defects per 1000 products shipped declined from 20.93 to 2.31).

Nevertheless, some questions remain about the motivational potential of gainsharing. Milkovich and Wigdor (1991, p. 86) argue that "such a prediction requires a sizable inferential leap from the expectancy and goal-setting literature" and go on to suggest that "Many beneficial effects attributed to gain sharing--including productivity effects--may be as much due to the contextual conditions as to the introduction of gain sharing" (p. 87). The important role of these conditions, which may accompany gainsharing, has also been suggested by Hammer (1988) and might include enhanced work group cooperation, better management-labor relations, increased acceptance of new

technologies, and more worker participation (Mitchell, Lewin & Lawler, 1991).

Although such conditions may be important, it would probably be incorrect (and an overinterpretation) to suggest that the monetary component of gainsharing plans is not important. Quite to the contrary, Schuster (1990) has argued that gainsharing plans have also worked well in cases where the main (or entire) focus was on the monetary aspect, unaccompanied by employee involvement or participation. Consistent with this argument, a recent study of several Improshare plans (see Fein, 1981), which emphasize pay, but not employee involvement, found positive effects on performance (Kaufman, 1990).

In addition, a study by Wagner, Rubin, and Callahan (1988) examined the effects on productivity of a nonmanagement group incentive payment plan that appears to have most closely resembled an Improshare gainsharing plan, and apparently not accompanied by changes in worker participation. Work tasks were assigned a standard number of hours. If the task was completed in a shorter amount of time, employees shared in the savings. Wagner et al. found a substantial increase in productivity under the plan (103.7 %). They also found statistically significant declines in labor costs and grievances. They made some interesting observations about the context of the plan implementation and the effects of the plan on specific behaviors. For example, the company had experience with incentive plans in other plants, which may have reduced employee concerns about rate-cutting. So, trust in management may have facilitated success. They also observed greater employee concern for cooperative behaviors (e.g., helping out coworkers with temporary work overloads), as well as coworker "policing" of quantity and quality to assure equitable contributions.

Pritchard, Jones, Roth, Stuebing, and Ekeberg (1988) found that relatively little work had been done on the impact of incentives where there is employee interdependence (but see Schuster, 1984a; and subsequently, Wagner et al. for exceptions). They undertook an ambitious 23 month study of the effect of incentives, goal setting, and feedback in 5 separate organizational units (maintenance, receiving, storage & issue, pickup & delivery, and inspection) at an Air Force base in

the southwest United States. Pritchard et al. used a baseline period of 8 months, followed by 5 months of feedback only, 5 months of feedback + goal-setting, and finally, 5 months of feedback + goal-setting + incentives. They observed large increases in productivity due to feedback alone (50% over baseline), feedback + goal-setting (75% over baseline), but little additional effect of incentives. However, Pritchard et al. noted that there may have been a ceiling effect, given the dramatic productivity improvement that had already been obtained. They also suggested that the incentives might have been necessary to sustain the substantial feedback and goal-setting effects over the longer run. In any case, the results also serve as a reminder that pay programs are only one means of influencing employee behaviors. Goal-setting and feedback can also be very powerful (see Kanter, this series; Locke et al., 1980).

Perhaps even more interesting than the results were the reactions of decision-makers in the Pritchard et al. (1988) study. Despite the dramatic productivity improvements, in 4 of the 5 sections (the 4 were under the same manager), the programs were discontinued. Pritchard et al. (1988) explained that a new manager was "opposed to the use of incentives, especially when used for some units under his command and not for others" (p. 353). The authors also described resistance from people who believed that "personnel should not get something for doing what they were already supposed to do" (p. 354). Finally, Pritchard et al. also found that "some supervisors felt such an incentive system would undermine their power and prerogatives to reward individuals and units informally" (p. 354).

In summary, the evidence on gainsharing seems to tell us at least two things. First, group compensation interventions can, like individual incentives, result in significantly higher productivity. Second, however, as with individual incentives, "administrative" or contextual factors can nevertheless result in such programs being unacceptable to one or more of the affected parties. Schuster (1984b, cited in Hammer, 1988) drew similar conclusions, noting that management adjustment of payout formulas without worker input caused problems. He also reported (Schuster, 1984b) evidence to suggest that plant-wide plans may be better than group-specific plans because

perceived inequities may arise when groups receive different levels of bonus payments. A different type of perceived inequality, namely, that high performers may feel underrewarded, is something that will need to be examined. A study by Weiss (1987) at AT&T, for example, found that extreme performers (at both the top and bottom) left under a gainsharing plan. This goes back to our earlier discussion about the effect of pay programs on the composition of the work force and more specifically, the potential effects of group-oriented programs on individual performers.

Employee Ownership

Stock Options. Stock options are similar in many ways to profit-sharing plans. The basis for payouts is organization performance (in the stock market) and the payouts do not typically go into the base salary (see Figure 5). Important goals of the plan are to (a) motivate employees to act in the best interest of the organization as a whole, (b) similarly, enhance employee identification with the organization, and (c) have labor costs vary with organization performance. Stock options may offer somewhat more potential to encourage employees to think like owners because they actually do achieve some ownership stake if they are able to exercise their options. Briefly, stock options allow the purchase of stock at a fixed price, regardless of the current price. So, for example, if in 1992, an employee receives options to purchase stock at \$50 per share and the stock price goes to \$60 per share in 1994, s/he can purchase stock (i.e., exercise the options) at \$50 per share in 1994, making a profit if the shares are then sold. However, if the stock price, goes down to \$40 in 1994, the options are worthless ("under water"), at least for the time being.

Stock options have long been a common program for executives, but some organizations grant them to all employees (e.g., Pepsi-Cola, Hewlett-Packard). There is evidence that this approach is becoming more widespread (Personnel, 1990), but also some skepticism about the reasons. For example, in the Personnel article, Graef Crystal says that "a lot of fog is generated" by such plans, by which he means that it may be used as a way to increase pay without it being noticed as much because the cost is less visible--no direct payments are made. We return to this issue below. To our knowledge, little evidence exists on the impact of stock options among non-

executives. One partial exception is the Gerhart and Milkovich (1990) study, which found that organization performance was higher in organizations that made a greater percentage of employees eligible for long-term incentives like stock options (See "Executive Pay" section for other evidence.)

ESOPs. Employee stock ownership plans in the U.S. are defined in the Internal Revenue Code and the Employee Retirement Income Security Act and are generally treated as benefit plans in these and other federal laws (Conte & Svejnar, 1990). However, congressional intent suggests that ESOPs were intended to provide an opportunity for more U.S. citizens to become owners of capital, to provide another source of equity financing for corporations, and to enhance employee motivation and performance (Conte & Svejnar). ESOPs are unique in several respects, including the requirement that plan participants (i.e., employees) be permitted to vote their securities if they are registered on a national exchange (Conte & Svejnar). Although there are other forms of employee ownership, ESOPs are by far the most common (see Hammer, 1988 for more information) and have grown rapidly over the past decade for a variety of reasons, not the least of which are their tax/financing and takeover defense advantages.²²

Do ESOPs have a positive impact on organization performance beyond that accounted for by such advantages? Like profit-sharing, stock ownership would not be expected to lead to high instrumentality perceptions. Nevertheless, some evidence suggests that ownership does have performance benefits. For example, Hammer (1988) concluded that the "research presents an encouraging picture of employee stock ownership" (p. 356). However, she cautions that we are not yet at the point where causal inferences can be drawn, partly because the mechanism by which ESOPs influence individuals has not been adequately demonstrated. Without knowing why ESOPs are related to organization performance, it is difficult to rule out alternative explanations. For example, it may be that organization performance is the cause and ESOPs are the outcome. Both Hammer and Conte and Svejnar (1990) conclude, however, that the evidence points to greater beneficial effects of ownership in cases where employees participate in decision-making. Similarly, Pierce, Rubinfeld, & Morgan (1991) suggest that employee ownership is most likely to influence

motivation, attitudes, and behaviors when "employee-owner comes to psychologically experience his/her ownership in the organization." Klein (1987) reports that employee satisfaction under ESOPs is related both to the monetary and participation components.

There are several concerns with ESOPs. First, participation and voting rights are not always commensurate with the ownership stake. Second, and particularly troublesome, because an ESOP must invest at least 51% of its assets in its company's stock (Conte & Svejnar, 1990), diversification of risk is more difficult to achieve and in many cases, there is no diversification. Thus, employee buyouts of troubled companies or ESOPs used as pension plans carry great risks to employees (Fortune, 1991).

A final note concerns the cost of stock options and ESOPs. At times, there seems to be some tendency to underestimate the cost of plans that are funded through issuing new shares of stock. A recent study at the London School of Economics of 55 top British firms (Richardson, R. & Barnes, J., Working Paper, 1990) found that the average annual dilution rate of other shares was 0.25%, equal to about \$445 million in these 55 firms in 1988, which in turn, represented about 2.2% of pre-tax profits (Economist, 1991). Obviously, such information is highly relevant for evaluating the return on investment of such a plan.

Consequences: Contingency Frameworks

No pay program (or set of pay programs) is likely to be equally effective under all sets of conditions. Therefore, looking only at the average effect of a pay program across diverse settings overlooks the possibility that there is a statistical interaction between pay programs and contextual (i.e., contingency) factors of the type contained in Figure 1. This can also be described as a question of "fit." Some pay programs (or perhaps pay strategies) and organization strategies are likely to be more congruent than others.²³ As one example of the importance of this question, consider the Gerhart and Milkovich (1990) finding that an increase in the bonus/base pay ratio (i.e., variable pay emphasis) from, for example, .20 to .30 was associated with an increase in return on assets of between .21 and .95 percentage points (e.g., from 6.0 % to 6.21 or 6.95 %). Obviously,

any such effect represents an average. In some organizations, the payoff might be two or three times as great. In other organizations, perhaps variable pay would actually diminish performance. It would certainly be helpful to know how to distinguish between the two types.

Therefore, as with pay level and structure decisions, it is important that organizations avoid making decisions about individual pay programs based on what others are doing (i.e., playing "follow the leader"). Rather, the contingency approach suggests the need for organizations to decide what pay programs fit best with their overall strategy. Moreover, because contextual factors often change over time, so too perhaps will the types of pay programs that fit. Wallace's (1990) empirical study, for example, focused on reasons for changes in pay programs. He reported that many organizations had what he described as "well-defined" reasons for changing their pay programs. Many of the organizations were driven by changes or "threats in their business environments" such as increased multinational competition (manufacturing), deregulation (communications & financial services), increased consumer expectations associated with the emergence of a more service-oriented economy (health care, financial services), and innovation (financial services, computer systems & services firms, software firms, pharmaceutical). According to Wallace, "In all cases, these firms could not have survived or maintained a competitive advantage without changing their modes of operation (p. 10)." This is an interesting statement because there were presumably other organizations facing similar threats in the business environment that did not undertake significant changes, but still survived. Empirical evidence on survival and comparisons of long-term success between organizations that changed and those that did not are greatly needed.

Although knowing which programs are most effective under particular circumstances is a key concern, relatively little work has been done on this question, despite the recognition that context is important (e.g., Lawler, 1971; Milkovich & Wigdor, 1991). On the conceptual side, the situation is changing somewhat with papers by Broderick (1985), Balkin and Gomez-Mejia (1987), Gomez-Mejia and Welbourne (1988), Milkovich (1988), and Lawler (1989).

However, empirical work continues to be sparse. The research that does exist tends to use compensation as a dependent variable, focusing on whether organizations use the compensation programs predicted by contingency frameworks (e.g., Kerr, 1985; Balkin & Gomez-Mejia, 1984; Milkovich, Hannon, & Gerhart, 1991). The consequences for performance of compensation programs that are consistent with contingency theory predictions, however, have received only limited empirical attention. Major reasons include the difficulty in (a) generating sufficient numbers of observations on different combinations of pay programs and contingency factors when the organization is the unit of observation, and (b) in defining and measuring the concept of fit. In addition, it may be that more theoretical work needs to be done in developing specific, testable contingency framework propositions.

One of the better known contingency frameworks treats stage in the product or organization life cycle as the key contingency factor in designing compensation systems (Cook, 1976; Ellig, 1981). The argument is that organizations in startup and growth stages of their product life cycles face strong cash demands to finance capital expansion. They also have an external resource focus, based on the need to attract key employees. Thus, startup and growth firms were advised to emphasize stock options and variable short-term pay increases in lieu of higher base pay as a means of conserving cash for investment and growth. These pay programs, especially stock options, would also encourage the long-term perspective needed to facilitate growth. In contrast, organizations in the maintenance stage of their life cycles would not have the same cash flow problems and need (or potential) for growth. As such, they were advised to place more emphasis on base salary, less on stock options. Although there is some evidence to suggest that life cycle is related to pay system design (e.g., Balkin & Gomez-Mejia, 1987), evidence on consequences for performance is lacking. There are also some conceptual problems with this approach (see Milkovich, 1988).

Another contingency perspective focuses on the need for a match between diversification and compensation strategies (Balkin & Gomez-Mejia, 1990; Berg, 1969; Kerr, 1985; Lorsch &

Allen, 1973). Moreover, recent work by Gomez-Mejia (1991), provides evidence on the consequences of such matches for organization performance. They categorized organizations into four diversification strategy groups: single product, conglomerates, dominant product, and related product. Compensation strategy was classified as either "algorithmic" (emphasizes internal equity, bureaucratic procedures such as job evaluation, low risk-sharing in pay, seniority) or "experiential" (opposite pattern--emphasizes market rates, flexible and decentralized pay policies, personal skills rather than job or hierarchical position, higher risk-sharing, less role for seniority). Gomez-Mejia hypothesized that the algorithmic strategy would be more effective in dominant product and related product organizations because its emphasis on formalized rules and procedures would facilitate coordination and the management of interdependence. Such issues, however, are less important in conglomerates and single product organizations, permitting more flexibility, decentralization, and risk-sharing in compensation. Using a combination of profit and stock market performance measures, these hypotheses were generally supported.²⁴

Summary

Organizations have a relatively large degree of latitude in choosing how (versus how much) they pay their employees. In our view, the literature indicates that many organizations choose to make rewards contingent on some type of performance criterion, although there appear to be substantial organization differences in this respect.

Taken as a whole, the literature also leaves little doubt about the fact that how employees are paid has important consequences for individual, group, and organization performance. On the other hand, an examination of the evidence on any particular pay plan often does not lead to firm conclusions about its consequences. Our sense is that there is relatively strong evidence that individual incentives, merit pay and bonuses, and gainsharing can contribute to higher performance under the right circumstances, especially when one also factors in the possible effects these programs have on workforce composition. Although there is also favorable evidence on the performance effects of profit-sharing and stock ownership, this evidence tends to be less conclusive

because of the added difficulties in ruling out threats to causal inference (e.g., reciprocal causation, omitted variables).

Suggested Research Directions

1. Much more work is necessary on the role of context or contingency factors in compensation. Figure 7 provides a suggested design for comparing the effectiveness of different compensation strategies under different conditions (contingency factors). In this particular example, one contingency factor, stage of the organization in its life cycle (Ellig, 1981) is used to illustrate the kind of design that is needed. The design that emerges when Figure 7 and Figure 1 are considered together has three features. First, data on multiple units and multiple organizations are required. Second, longitudinal data are also necessary. Third, outcomes ("success") are measured at multiple levels. Thus, if a link is found say between compensation and organization profitability, possible mediating mechanisms can be examined to help establish why the link exists and whether a (or which) causal interpretation is warranted.

2. As Milkovich and Wigdor (1991) emphasized, there is virtually no evidence that compares the effectiveness of different pay programs. For example, we do not know the relative effects of merit pay versus merit bonuses or of individual versus group incentives. Obviously, a contingency approach would also be applicable here as well.

3. Even knowing the effects of programs is only part of the story. The goal should be to know the return on investment of particular programs. Thus, for example, even if individual incentives have large positive effects on productivity, the costs of developing and maintaining standards and monitoring production need to be considered.

4. Little attention has been given to the possible influence of pay programs on the composition of the workforce. We do not yet have a good grasp of the extent to which different individual pay programs attract different types of employees. Yet, anything that affects the flow of incoming and exiting employees may have important consequences for the nature of the workforce (Boudreau & Berger, 1985). One possible avenue of study would be to obtain data on different

units within an organization that have different degrees of pay for performance. Do the units with strong linkages attract the best performers? Do such units outperform the other units?

5. There has been insufficient attention to the effects of group and organization pay programs on individual level outcomes. Consequently, when links are found between these pay programs and unit or organization performance, it is not clear why. Without this information, it is difficult to have much confidence in the causal relation. In addition, it makes development of contingency models more difficult when there is no evidence on how (or through what mechanism) the program had an effect. Therefore, we would like to see more attention to measuring outcomes of pay programs at multiple (i.e., individual, unit, and organization) levels.

6. It would be unfortunate if we have given the impression that the design of compensation systems simply entails a choice between one or the other pay program. To the contrary, in many organizations, employees are covered by multiple plans. So, for example, an employee could work under merit pay, gainsharing, and profit-sharing simultaneously. In fact, if each plan is better at achieving some objectives than others, a mix of plans may make a good deal of sense. This again points to a fertile area for future research. Thus, the question may not be what plan is best, but rather what mix of plans would work best.

7. Thus far, our discussion has implied that employee attitudes and behaviors are malleable and responsive to changes in situational factors such as pay programs. For better or worse, there has been a renewed debate about this assumption (Staw & Ross, 1985; Staw, Bell, & Clausen, 1986; Gerhart, 1987, 1990; see Judge, forthcoming for a review) that probably requires further empirical evidence.

BENEFITS

Employee benefits have become an important inducement in the exchange between employers and employees, adding an average cost of \$.38 on top of every \$1.00 of payroll (U.S. Chamber of Commerce, 1991), thus accounting for about 28% of total compensation costs. Beyond costs, the importance of benefits in the employment relationship can be seen in the substantial amount of public policy attention devoted to the benefits area, including the Social Security Act of 1935 and the Employee Retirement Income Security Act (ERISA) of 1974 among many others. These statutes, as well as the tax code's continued treatment of many benefits as tax free have contributed significantly to benefits growth (Beam & McFadden, 1988; Rosenbloom, 1981). Also, wage and price controls during the 1940s and 1950s encouraged employers and unions to negotiate higher benefits levels as a means of circumventing the controls. Interest among public policy makers continues to be strong as evidenced by the recent introduction of federal legislative bills in areas such as parental (and family) leave and health care. Employees and their dependents rely on benefits such as health care and pensions for economic and personal well being and employers are believed to use benefits as a means of achieving important objectives like attraction, retention, and by implication, organizational effectiveness. Thus, there are a great many stakeholders to consider in studying benefits.

We organize our discussion of benefits decisions in the following manner. First, we cover definitional and measurement issues, identifying basic attributes along which benefits decisions can vary. Second, we very briefly discuss general classes of benefits determinants. Third, we review the consequences of different benefits decisions. As was the case with pay structures, this discussion of consequences (and that of determinants) is necessarily brief due to the relative lack of attention given to benefits by the research community.

Properties and Definition

We discuss three attributes of benefits: costs, types (or forms), and level of coverage.

Costs

Both the level and growth of benefits costs are worth noting. In 1935, benefits accounted for less than 1% of total compensation costs. By 1953, their share had risen to 16%, and by 1980, to 27%. In other words, benefits costs have grown at a much faster rate than wage and salary costs. Thus, as discussed in the "Pay Level" section of this chapter, it is now difficult to study compensation without studying benefits. Yet, they have become too important to continue to suffer from the benign neglect of the past.

Although there is evidence of a recent slowdown (during the late 1980s) in overall benefits growth (relative to wages and salaries), a notable exception to this overall trend is the continued dramatic growth in the cost of health care benefits. The costs of health care benefits increased 21.6% (to \$2,313 per employee) in 1990, following increases of 20.4% and 17% in 1989 and 1988, respectively (Foster Higgins, 1991). As of 1989, the U.S. was spending 11.4% of its gross domestic product on health care (up from 8.6% in 1979, Burke & Jain, 1991), the largest percentage among developed countries.²⁵ According to Fortune (1991), total spending on health care amounted to \$604 billion in 1989 (private spending of \$351 billion, plus government spending of \$253 billion).

Despite this large expenditure of resources, there are 37 million U.S. citizens (14.8% of the population) who do not have public or private health insurance. One half of the uninsured are employed adults, 1/3 are children, and 1/6 are non-employed adults (Piacentini & Cerino, 1990). Moreover, conventional quality indices such as infant mortality (U.S. ranks highest), life expectancy (U.S. ranks 6th out of 6 countries for men, 4th for women) and office waiting time per visit (14 minutes) raise questions about the return on the nation's investment in health care. Finally, according to public opinion polls, U.S. citizens are less satisfied with their health care system and more likely to say it needs fundamental change than citizens in other countries. Consequently, as discussed below, there has been a great deal of recent work aimed at containing health care costs by employers and in the public policy arena.

Although the preceding discussion makes it clear that benefits now represent an

increasingly significant percentage of total employee compensation costs, the statistics cited may imply more precision in measuring such costs than there really is. One of the central problems is the lack of comparability in the definitions of benefits used by different surveys (and commentators). For example, our experience is that various consultants and government agencies include different forms of benefits in their surveys and often define payroll differently. The Chamber of Commerce surveys are probably the most inclusive, including such benefits as cafeteria subsidies and parking lot costs. Individual employers (e.g., IBM, AT&T) often report health care cost increases that are one-half as large as the national figures. Although benefits managers in such companies usually attribute such differences to successful management on their part (e.g., cost containment and cost shifting to employees and providers), it probably also signals the need for caution in interpreting the statistics. As another example, Lee Iacocca has asserted that health insurance costs for Chrysler employees add \$700 to the cost of each car produced in the U.S. (Wise, 1989). Not reported, however, is that the most significant portion of these costs stems from the health care program covering Chrysler's large retiree population.

Forms

At a general level, forms include those benefits which are legally mandated (e.g., social security), as well as those that are non-mandated such as pensions, insurance, pay for time not worked (e.g., vacations) and so on. Our discussion focuses on these non-mandated forms, over which employers and employee exercise the most control and discretion in making choices. By way of illustration, an organization can choose between two basic forms of pensions: defined benefit (i.e., actual pensions payouts are specified) or defined contribution (i.e., levels of investment to pension fund are specified). Further, within each of these, various options exist. For example, employee stock ownership and 401K plans are two widely used forms of defined contribution plans. Similarly, employers must choose which of the various forms of health care insurance to offer. One decision concerns the choice between fee-for-service plans (e.g., Blue Cross/Blue Shield), under which providers' charges depend on actual employee use of services, and prepaid plans (e.g., health

maintenance organizations [HMOs]), in which case an initial (fixed) fee is paid.

Level of Coverage

This is another area where organizations face a wide array of choices. In medical care, the levels of coverage may vary across and within health care plans. Prepaid HMOs may include fewer cost-sharing provisions (e.g., deductibles and co-payments), but be more limited in coverage (e.g., they tend to limit mental health treatment). Fee-for-service plans typically offer a range of deductibles (e.g., employee must pay \$100 before insurance begins to pay) and co-payments (e.g., so called 80/20 features, under which 80% of costs are paid by the insurance plan after an initial deductible is paid).

Determinants

As with other dimensions of employee compensation, we can map out benefits determinants using the general classes of factors (e.g., employee, job, organization, and external factors) depicted in Figure 1. However, the volume of research on determinants is probably smaller in benefits than in other areas. Thus, our knowledge of why different organizations have different benefits plans and outcomes is relatively limited. Part of the explanation may stem from the fact that, on average, legally required benefits account for 31% of total benefits costs (Nathan, 1987), reducing the amount of employer discretion in the benefits area. Nevertheless, this still leaves a large, non-mandated component that can differ significantly across employers.

Some specific determinants have received empirical attention. For example, benefits tend to be higher in the presence of unions (Freeman & Medoff, 1984) and less competitive product markets (Long & Link, 1983). A consideration of some of the factors discussed below (e.g., demographics, the need to attract and retain valued employees) under "Consequences" points to other benefits determinants.

Consequences

The complex array of benefits forms and decisions can make even the most avid reader's eyes glaze over. Yet, we have illustrated only a few of the of the issues and and types of benefits

with which professionals and employees must deal. Given the complexity of the area, any discussion of the consequences of benefits decisions for employee attitudes and behaviors must, more so than any other area of compensation, pay close attention to employees' understanding and perceptions of their benefits. For example, as pointed out earlier in the "Pay Level" section of this chapter, it would be a mistake to equate the cost of benefits to the value perceived by the employee. Because this point has implications for several important consequences (e.g., benefits satisfaction, attraction), we turn to it first.

Benefit Perceptions

Consistent with the distinction between benefit costs and perceived value, evidence suggests that employees may be unaware of the financial value of their benefits (Wilson, Northcraft, & Neale, 1985) or even the existence of many benefits. For example, Milkovich and Newman (1990) cite a study where employees were asked to recall which benefits they received. The typical employee was able to list only about 15% of the total number.

The Wilson et al. (1985) study focused on employees' perceptions of their health care insurance benefits. Employees were knowledgeable about their own contributions, but not about those made by the employer. Over 90% of the employees underestimated both the (a) cost to the employer and (b) what it would cost them to provide the benefits on their own.²⁶ For example, for one health plan, employees estimated the employer cost to be \$22 (the actual cost was \$64) biweekly and the market value to be \$48 (versus an actual value of \$169). In fact, some employees believed that the employer made no contribution at all to their health insurance coverage.

One interpretation of such findings is that employers may, to put it bluntly, be throwing away money on benefits. If employees do not know the benefits exist or fail to attach value to them, the benefits cannot influence their attitudes or behaviors in any positive fashion. As Lawler (1981) has suggested, any action that would enhance employee knowledge would help strengthen the impact of benefits. He advocated increasing employee choice (e.g., by using cafeteria or flexible benefits plans) as one approach. Organizations have, in fact, moved in this direction, with

61 percent now offering such plans according to a Hewitt Associates survey of 944 "large" organizations (Bureau of National Affairs, 1991). Preliminary evidence suggests that flexible benefits do positively influence benefits satisfaction (Barber, Dunham, & Formisano, 1990). Other actions aimed at enhancing employee knowledge include greater use of co-payments and deductibles. The success of such approaches awaits evaluation.

Individual Differences in Preferences

There is longstanding evidence of significant individual differences in benefit preferences (Nealey, 1963; Mahoney, 1964; Nealey & Goodale, 1967; Huseman et al., 1978; Davis, Giles & Field, 1985, 1988; Stonebraker, 1985). Although interpreting these results is often complicated because of a lack of adequate controls (e.g., differences in the experience or use of different forms, employer differences in benefits packages and communication approaches), some findings seem robust (and perhaps even obvious to some): older workers tend to place more value on pensions, women tend to prefer more time off, and the number of dependents is related to the desire for health insurance.

Such individual differences, of course, lend greater weight to the need for offering employees a choice in the design of their benefits package. The increasing diversity of the workforce further reinforces this suggestion. Employers hope that flexible benefits plans will help control costs and enhance employee satisfaction by increasing employee knowledge and improving the fit between employee preferences and benefits.

Survey and anecdotal evidence suggest that employee reactions to flexible plans are positive and that medical care costs are lower under such plans. However little empirical research has taken advantage of the field opportunities offered by employers' shift to flexible plans (see Barber et al. for an exception). Little is known about why some employers shift and others do not. Even less is known about how employees make the choices that are so fundamental to such plans, or whether different choices are made (Barringer, Milkovich, Mitchell 1991).

Barringer et al. (1991) studied the actual decisions made by employees (N = 1,500) among

six health care options under a flexible benefit plan offered by a large manufacturing company. Employee choices were modeled as a function of employee and plan characteristics. Results indicated that employee decisions among multiple health plans were significantly influenced by employees' age, income, marital status and gender. As age and salary increased, the probability of selecting a reduced (less expensive) level of health care coverage decreased. The probability of selecting a lower cost alternative was greater among married employees and female employees.

Perhaps most important, Barringer et al. (1991) found that the cost charged to an employee did not have a significant effect on their decisions, suggesting that individuals may be highly risk averse when it comes to health care and only major price increases will induce individuals to change (Friedman, 1974; Holmer, 1984). They raised the alternative possibility, however, that the small effect of cost might have been more a function of the organization's program design than the risk aversion of employees. Specifically, employees were given enough benefit credits to purchase the high coverage options, so out of pocket costs were not really a factor. The main cost was foregoing the opportunity to purchase greater amounts of other benefits (e.g., vacation time). Moreover, tax laws required the unused credits to be forfeited. Thus, the authors concluded that employees were given purchasing power and an incentive to use it.

Another study, conducted by IBM, reported that not only did the selection of high coverage options not drop when employee costs were raised, but they found employee satisfaction with their health care benefits actually increased. Simultaneously, the organization had launched a massive communication effort (including take home videos). These findings suggest that employee expectations about their benefits are adaptive and communication efforts may have an influence.

Benefits Satisfaction

Initially, Heneman and Schwab (1979) believed that a relationship between benefits and pay satisfaction was not likely. They reasoned that (a) employees were not very knowledgeable about their benefits, (b) external comparisons were unlikely to generate differences because similar patterns of benefits were common within a labor market and (c) internal comparisons were unlikely

to cause differences because many benefits were uniform across employees. Subsequently, however, based on their development of the PSQ (see earlier discussion) and related empirical work (Heneman & Schwab, 1985), they concluded that benefits satisfaction was a separate and independent dimension of pay satisfaction (see also Scarpello et al., 1988).

Other findings suggest that satisfaction with benefits increases with improved coverage and decreases with greater costs to employees (Dreher, Ash, & Bretz, 1988). Further, the relation between benefits satisfaction and coverage levels was stronger among employees possessing accurate information about coverage levels. An advantage of the Dreher et al. (1988) study is that it controlled for the actual benefits level paid to employees. Variation in actual benefits was achieved by studying eight different highway patrol agencies. As the authors noted, "it is not possible to study linkages between benefits and satisfaction without controlling for the direct costs borne by employees and the relationships among all components of the compensation system" (p. 251). Finally, they found that employees satisfaction with benefits was especially closely linked to health insurance costs.

Generalizing the Dreher et al. (1988) results to current conditions, we would expect increased cost shifting (increased deductibles and co-payments, reduced first dollar coverage, maximum coverage limits) to result in decreases in pay satisfaction. On the other hand, employee expectations may have also shifted in response to publicity about rising costs and to increased communication efforts by employers. In other words, benefits expectations may be adaptive (Helson, 1960), as in "we're lucky to have only a \$150 deductible for surgical."

Clearly, one inference that can be drawn from employers' increased communications efforts is that they believe expectations are adaptive. Employers are using a wide variety of media, including brochures, take home videos, computer spreadsheets, and expert systems to communicate, and presumably manage employee expectations. We suggest that these are examples of research opportunities, the results of which could inform practice and advance our knowledge.

Attraction and Retention

Several forms of benefits are designed to be directly contingent on employee service. Retirement and vacation benefits are two examples. Others, such as the level of participation in employee savings plans and life insurance are linked to salary levels and thus indirectly tied to experience. By linking these benefits to seniority, it is assumed that employees will be more reluctant to change employers. However, the effects of vesting and portability features need to be considered. The effects of service contingent benefits may be most evident around vesting and portability dates.

There is increasing evidence from labor economics research that pensions and health care reduce voluntary turnover (Schiller & Weiss, 1979; Mitchell, 1982, 1983). Schiller and Weiss also reported that decisions to quit were not only influenced by the existence of pensions, but also by the time of vesting and whether employees contributed. Mitchell reported gender effects such that pensions were less likely to influence women's turnover decisions (1982). However, a problem (encountered throughout the chapter) is that the optimal level of mobility is not known. Therefore, some have expressed concern that benefits like pensions will restrict mobility too much (Ross, 1958), and not place enough emphasis on encouraging high performance (Allen & Clark, 1987).

Benefits are also believed to influence job choice decisions. The typical study involves asking graduating students to rank order the importance attached to various factors influencing their job choice (e.g., Huseman et al, 1975). Benefits, however, typically rank last, apparently due in part to the fact that students tend to underestimate the value of benefits (Mahoney 1964, Houseman et al 1978; Pergande, 1988). This again raises the question of what organizations receive in return for their large investments in benefits. Lacking effective communication from organizations, applicants may assume that benefits are essentially the same across organizations.

In a recent Gallop poll, respondents claimed they would require \$5000 more in extra pay to choose a job without pension, health, and life insurance. These results are consistent with a trade-off (compensatory model) of the effects of benefits. Tax advantages, lower transaction costs, and group discounts encourage employee interest in giving up some portion of their direct pay in return

for more benefit forms, wider coverage and higher levels of benefits. Dreher, Ash and Bretz, in fact, found benefits level to be negatively correlated (-.32) with direct pay level. But, much remains to be learned about the optimal mix for different employees.

Summary

Benefits represent a large share of total compensation, and therefore, have a great potential to influence the employee, unit, and organization outcome variables depicted in Figure 1. The empirical literature indicates that benefits do indeed have effects on employee attitudes, retention, and perhaps job choice. Further, it appears that individual preferences may play a particularly important role in determining employee reactions to benefits. Consequently, many organizations have implemented benefits plans that permit some degree of employee choice, in the hope that a better match between preferences and benefits will be obtained, perhaps at a lower total cost to the employer. Finally, some research indicates that employee knowledge of their benefits provisions (and associated spending by the employer) is limited. The implication is that effective communication is another critical factor in determining the influence of benefits provisions on employee reactions.

Suggested Research Directions

As noted, we believe the benefits issues are fertile research grounds which have been largely overlooked by researchers.

1. Employees are increasingly faced with the need to make choices among benefit alternatives. This offers an opportunity to study decision making models and the effects of individual differences and benefit plan characteristics on the choices made by employees.
2. Although the development of the PSQ has provided an instrument for measuring specific facets of pay satisfaction, there may be a need for further subscales to measure dimensions of benefits satisfaction. This would permit research on the relative importance of the various benefits dimensions (e.g., pensions, medical benefits) in determining overall benefits satisfaction.
3. Despite the rapid growth in benefits costs, the state of knowledge about the influence of

benefits on employee attitudes and behaviors is dismal. Beyond a handful of studies, employee benefits have been ignored by researchers. Studies examining the links between the forms and levels of coverage with valued outcomes offer potential contributions. At this point, benefits decisions are being primarily made based on beliefs and experience--behavioral research simply does not exist to help inform such decisions. Yet, organizations are increasing their communications efforts, changing benefit programs, increasing cost-sharing and attempting to influence employees' perceptions. These changes provide abundant research opportunities.

4. Although organizations spend large amounts of money on benefits, it is not clear that such investments have much of an influence on applicants or employees. The complexity of benefits and the fact that employees tend to think about them only when needed contribute to this situation. The implication for practice is that effective communication is of paramount importance in maximizing the "bang for the buck."

SPECIAL TOPICS

Executive Pay

Not surprisingly, top executives receive special attention in the compensation literature because of their potential influence on organization success (Milkovich, 1988; Newman, 1989; Gomez-Mejia & Welbourne, 1989). The business press (e.g., Fortune, Business Week) also pays close attention to executive pay, particularly its magnitude and its relation to organization performance. Much of this attention has been negative, focusing on whether (a) pay levels are too high and (b) sufficiently linked to organization performance (e.g., shareholder value).

In terms of pay level, Towers, Perrin, Forster, & Crosby (TPF&C) reported that average 1989 total remuneration (base, bonus, value of long-term incentives, benefits, perquisites) of CEOs and CFOs in companies with at least \$250 million in annual sales was \$543,000 in the U.S. International comparisons suggest that this level is higher than the \$352,000 average in Japan, \$287,000 in the former West Germany, \$288,000 in the United Kingdom, and \$130,000 in Korea (CompFlash, 1990). Spending power differences can be even greater. For example, spending power among U.S. executives was found to more than 3 times greater than that of their Japanese counterparts. Another type of comparison has focused on the ratio of CEO pay to that of hourly production workers. TPF&C reports that the average ratio is 35 to 1 in the U.S., compared to 15 to 1 in Japan and 20 to 1 in Europe (Industry Week, 1990). As noted earlier, this ratio has been spoken of as contributing to "the trust gap" in the U.S.--a trend among employees to acquire a "frame of mind that mistrusts senior management's intentions, doubts its competence, and resents its self-congratulatory pay" (Fortune, 1989).

On the other hand, a case has been made that these executive pay levels are necessary, and indeed may not be high enough. First, the pool of people capable of being effective top executives is very small. Thus, an organization competing for this scarce (but critical) commodity will have to pay the going rate. The supply of talented people becomes even more scarce if many of these people choose different careers such as investment banking and law where top performers can make

more money than in corporate management (Murphy, 1986; Jensen & Murphy, 1990b). Second, high pay levels relative to lower level positions can have desirable motivational effects (see the earlier discussion of tournament models).

There may be somewhat greater consensus that the link between pay and performance is not sufficiently strong. Questions arise from, among other things, examples of what appear to be organizations paying executives relatively large sums of money despite relatively poor organization performance. It is now a tradition for Business Week to present lists in its annual May issue on executive compensation of executives who did the most and executives who did the least for shareholders compared to the pay they received. More systematic evidence has been provided by Jensen and Murphy (1990a) who found that CEO wealth changes by \$3.25 for every \$1000 change in shareholder wealth. In a related article, they interpreted this sort of relationship as indicating that "the compensation of top executives is virtually independent of corporate performance" (1990b, p. 138), a conclusion consistent with findings of Kerr and Bettis (1987).

What explains the lack of a stronger pay for performance relation? Jensen and Murphy find the situation "puzzling" (1990a, p. 262). They suggest that political forces inside and outside the organization may be responsible for limiting the pay of top performers. More specifically, they refer to "political figures, union leaders, and consumer activists [who] issue now familiar denunciations of executive salaries and urge that directors curb top-level pay in the interests of social equity and statesmanship" (1990b, p. 138). Discussions of the "trust gap" (see above) might be an example of what Jensen and Murphy mean.

Others focus on different explanations. Industry Week (1990), in an article entitled "The Pay Revolt Brews," raises questions about the process by which executive compensation is set (see also "The People Who Set the CEO's Pay, Fortune, March 12, 1990). Industry Week cites research that finds "two-thirds of all directors have registered personal or professional relationships with the CEOs on whose boards they serve" (p. 36). Fortune states that the compensation committee is "always conflicted, usually co-opted...[and it] is an apt time to look at why they so often do a

terrible job" (p. 58). Fortune explains that executives set each other's pay on such committees so it is in their own best interest to set high pay for others (as a means of raising their own). Research does, in fact, find that CEO pay is related to the pay level of the board of directors (O'Reilly et al., 1988). Fortune interpreted O'Reilly et al.'s findings as follows: "instead of laboring to serve the shareholders, a CEO looking to enrich himself could do just as well selecting a compensation committee whose members earn more than he does" (p. 58). To receive a raise of \$55,000, the article suggests that the "CEO can either double return on shareholders' equity to 30% or appoint a new compensation committee member who earns \$100,000 more than he does" (p. 58).

Another explanation relies on agency theory, which explicitly recognizes the potential conflict between managers and owners (see earlier discussion). Three types of conflicts are most relevant in discussing executive pay (Lambert & Larcker, 1989, pp. 100-101). First, the primary interest of shareholders is in maximizing their financial returns, but management may allocate resources to expenditures that may not increase shareholder value, such as perquisites (e.g., "superfluous corporate jets) or empire building through acquisitions that do not add value. Second, managers and shareholders may differ in their attitudes toward risk. As discussed earlier, shareholders can diversify more easily than managers, suggesting that the latter will typically be more risk averse. As a consequence, managers may be more inclined to turn down high potential return projects that are perceived as risky. Third, the time horizons for decision-making may differ. For example, if a compensation committee evaluates a manager based on short-term profits, s/he may be less likely to evaluate projects based on the present value of long-term profits expected over the life of the project.

Although there is some disagreement about the factors most responsible for the nature of the pay for performance relation, recommended actions tend to have a common focus. For example, Jensen and Murphy suggest three solutions: (1) require that executives become major stockholders, (2) structure salaries, bonuses, and stock options to provide large rewards for high performance and penalties for poor performance, and (3) make real the threat of dismissal for poor

performance.

Jensen and Murphy suggested that "it's now how much you pay, but how" (1990b, p. 138; see Gerhart & Milkovich, 1990 for a similar conclusion). Given the nonzero (average) link between pay and performance in the literature, at least some organizations must obviously follow recommendations 1 and 2. Recent research suggests that organizations that tie bonuses and long term incentives (e.g., stock options) to organization performance tend to perform better than those that do less of this (Abowd, 1990; Gerhart & Milkovich, 1990; Leonard, 1990). Another recent study, although not examining implications for subsequent organization performance, found that CEO turnover was higher in organizations that did not meet earnings forecasts (Puffer & Weintrop, 1991).

In discussions of how organizations pay executives, there has also been much attention paid to the time horizon issue referred to by Lambert and Larcker (1989). Typically, U.S. executives (relative to executives in countries like Japan) are described as having a short-term orientation, which may have negative implications for organizational effectiveness (Hayes & Abernathy, 1980). A key culprit is believed to be the structure of managerial compensation and its incentives for short-term (e.g., quarterly) performance (Gomez-Mejia & Welbourne, 1989; Rappaport, 1978; Salter, 1973; Stonich, 1981).²⁷ Investments in areas such as research and development and employee development that may generate improved future performance may be bypassed in favor of generating higher quarterly or annual earnings. Plans that focus on long-term objectives offer a potential means of getting managers to think like owners. The announcement of such plans seems to elicit positive reactions from the stock market (Brickley, Bhagat, & Lease, 1985). Although this reaction could be because the market assumes that executives are more likely to accept stock options when they expect high corporate performance, there do appear to be other factors associated with the use of long term incentives. For example, long term incentives have been found to be positively associated with high research and development intensity (Milkovich, Gerhart & Hannon, 1991), greater employment stability (Gerhart, 1991), increased capital investment (Larcker, 1983).

All of these suggest that long term incentives do succeed in extending the time horizon of executives. These advantages may help explain the increase in the use of long term incentives for senior management, now 28% of their total compensation, up from 16% in 1982 (Compflash, 1989).

Equal Employment Opportunity

Race and sex differences in employment outcomes such as compensation are prohibited under the Civil Rights Act of 1964, unless justified by business necessity. Labor market and demographic realities also dictate that organizations pay close attention to equal employment opportunity issues and "managing diversity" (see Broderick, 1991 for a review). Consider two trends. First, the labor force participation rate of women has risen from 37.7% in 1960 to 57.7% in 1989. During the same period, the rate for men fell from 83.3% to 78.1%. Second, U.S. Census data show that the white population grew by 6.0% between 1980 and 1990. During the same period, population growth among non-whites was 25.3%. The implication is that the share of white males will continue to decline in organizations, meaning that attention to equal employment opportunity issues in compensation is likely to continue to be important.

Typically, the popular press focuses on raw earnings ratios, which show substantial differentials based on both race and sex. For example, in 1988, among year-round, full-time workers, the ratio of female to male average earnings was .65. and the ratio of black to white earnings was .75 (Ryscavage & Henle, 1990). These ratios have generally risen over the last two to three decades (Blau & Beller, 1988; Carlson & Swartz, 1988; Horrigan & Markey, 1990), but obviously still fall well short of unity. However, the raw ratios ignore the fact that part of the earnings differentials are due to race or gender differences in earnings determinants such as education, labor market experience, and occupation. Although these factors may themselves be tainted by discrimination (employer or societal), it is useful to examine earnings ratios adjusted for such factors. Even though these adjusted ratios are, of course higher, providing somewhat less of a case for discrimination, it is also clear that they too fall well short of unity. In almost no case do

such adjustments account for any more than 50% of the earnings differential (Cain, 1986). Thus, defining the latter as 1 - earnings ratio, a ratio of say .60 would rise to no more than .80 (i.e., differential goes from .40 to .20). Exceptions to this general finding tend to occur only when differences due to employers and narrow job title are eliminated. However, controlling for these latter two factors rests on the tenuous assumption that they are not tainted by discrimination. Moreover, even with controls for these and an extensive array of other variables (e.g., performance rating, college major, degree level, etc.), adjusted ratios fall short of unity (Gerhart, 1990).

Given evidence that earnings differentials are robust to a range of samples and model specifications, perhaps the best strategy is to attempt to identify the employment activities most responsible, in order to know where to target anti-discrimination efforts. Most attention of late has focused on sex-based earnings differentials. In particular, there has been a focus on the pay implications of the sex segregation found within and between occupations (Bielby & Baron, 1984). Some believe that those occupations dominated by women tend to be systematically paid less than their worth (Treiman & Hartmann, 1981).

At the organization level, job evaluation has been scrutinized as a possible source of underevaluation of women's work. However, as discussed in the Structures section of this chapter, the empirical evidence does not support any direct effect of either evaluator gender or the gender composition of the job incumbents. On the other hand, the evidence suggests that market rates influence job evaluation results. Thus, if market rates are discriminatory, job evaluation may indirectly help perpetuate discrimination in pay.

Comparable worth (or pay equity) has been advocated as a public policy that would remedy the undervaluation of women's jobs. The idea is to obtain equal pay for jobs not just of equal content (already mandated by the Equal Pay Act of 1963), but also for jobs of equal value or worth. Typically, job evaluation is used to measure worth. There are, however, a number of potential problems with using job evaluation to implement the comparable worth approach. Perhaps most fundamentally, values differ and reaching agreement on the worth of jobs is not

straightforward. In addition, proponents have often proposed job evaluation-like procedures to establish worth as an alternative to the market mechanism because the latter is viewed as discriminatory. However, as Schwab (1980) has argued, job evaluation is not well-suited to this purpose for a variety of reasons, including the fact that it is often used as a way of capturing market pay policies, rather than being used independently of the market.

As with any regulation, there are also concerns about obstructing market forces, which economic theory suggests provide the most efficient means of pricing and allocating people to jobs. Without market forces in control, some jobs would be paid too much, others too little, resulting in an oversupply of workers for the former, an undersupply for the latter. In addition, some empirical evidence suggests that some proposed pay equity regulatory policies may not have much impact on the relative earnings of women in the private sector (Gerhart & El Cheikh, 1990; Smith, 1988). Further questions about its impact arise when one considers that such policies are targeted at single employers, ignoring sex-based pay differences that arise from men and women working for different employers (see Bielby & Baron, 1986). In other words, to the extent that sex-based pay differences are due to men and women working in different organizations having different pay levels, such policies will have little impact. Perhaps most important, despite the possible sources of invalidity in market rates discussed earlier (Rynes & Milkovich, 1986), the courts have consistently ruled that using going market rates of pay is an acceptable defense in comparable worth litigation suits. Thus, there is no comparable worth legal mandate in the U.S. private sector.

Nevertheless, there has been a great deal of activity in the U.S. public sector at the state level and in both the private and public sector in Ontario, Canada. For example, as of 1989, 20 states in the U.S. had begun or completed comparable worth adjustments to public sector employees pay (Milkovich & Newman, 1990). Evidence suggests that such policies can significantly raise women's relative pay where states are willing to invest the money (Orazem & Matilla, 1989). Evidence from Ontario has yet to come in, but should be even more interesting because of the application of the policy to the public sector. Finally, despite the potential drawbacks discussed

above, job evaluation is widely mandated as the means of determining the worth of jobs under pay equity laws and agreements.

Another line of inquiry has focused on the role of pay structures (e.g., promotions) in generating pay differences. On the one hand, Gerhart and Milkovich (1989) found in their literature review and in their own empirical study that although women were paid less than men, it was not unusual for women to receive more promotions and larger percentage pay increases than men. Gerhart (1990) found that virtually all of the earnings differential between men and women in one organization was a result of a one-time pay shortfall at the time of hire that persisted for many years, despite the equal (or better) treatment of women in pay increase and promotion decisions reported by Gerhart and Milkovich (1989). These findings may indicate that when actual job performance (versus general qualifications) can be used in decisions, women may be less likely to encounter unequal treatment. If so, more attention needs to be devoted to what happens at the time of hire to generate pay differences.²⁸

On the other hand, evidence from other organizations points to the possibility that the promotion system is indeed a key determinant of pay differences between men and women. A recent study by Cannings and Montmarquette (1991) reported that women received fewer promotions than men, partly because of women's poorer access to informal networks (see also Brass, 1985; Roşen, Templeton, & Kirchline, 1981). One suggested means of improving such access is the use of mentoring programs (Noe, 1988). Although empirical evidence is sparse, one recent study found that although mentoring had substantial positive effects on the pay of both men and women, it did not explain differences in pay between the two groups because men and women reported receiving equal amounts of mentoring. One possibility is that lower career advancement expectations among women (e.g., Major & Konar, 1984) contributed to women perceiving the same degree of mentoring as being more extensive.

The Department of Labor "glass ceiling" initiative focuses on the specific possibility that women may have equal access to promotion opportunities until they reach the upper echelons of

organizations. At that point, they have the top executive positions in sight, but are impeded by the glass ceiling. (See Broderick, 1991 for a review.) Evidence provided by Spillerman and Petersen (1990) is consistent with this idea. They found that women's chances of promotion were greater than those of men at lower levels, but smaller at higher levels. In addition, Fortune (1990, July 30) reported on the presence of women and men among the highest paid officers and directors in 799 of the 1,000 largest industrial and service companies in the U.S. In 1979, 0.16% (10/6400) of this group were women. By 1989, 0.47% (19/4012) were women. Although most attention seems to be focused on sex differences, some evidence suggests a similar pattern for Blacks. For example, a Korn-Ferry survey of the 1985 Fortune 1000 found that of 1362 senior executives, 4 (0.3%) were Blacks (Jones, 1986). These statistics suggest the need for further research on identifying the specific employment and compensation practices that are responsible.

International Comparisons

International Competitiveness

When discussing international competitiveness, one focus often seems to be on labor costs. However, there are at least four major problems with such comparisons.

First, as Table 2 suggests, they are very unstable, even over short periods of time. The main problem is that the relative standing of the various countries is greatly influenced by changes in the currency exchange rate. For example, between 1985 and 1987, the value of the Japanese yen relative to the U.S. dollar rose 65 percent (Capdevielle, 1988), accounting for more than 80 percent of the rather dramatic narrowing of the cost difference between the two countries. (In local currency (yen), hourly compensation rose a much smaller 6 percent in Japan between 1985 and 1987.) As a consequence, one cannot, in a straightforward manner, simply factor in relative labor costs in making decisions about where to locate production. Rather, a projection (guess) must also be made about future exchange rates, which appear to be at least as important.

A second major limitation goes back to our earlier point that costs are only one part of the picture--productivity is equally important. Combining information on both productivity and labor

costs yields what is perhaps the most important indicator, unit labor costs, defined as labor costs/output. Unfortunately, the Bureau of Labor Statistics (BLS) does not provide information on international comparisons of productivity or unit labor cost levels because sufficiently reliable data have not yet been developed. Mitchell (1989), however, provides data on gross national product (GNP) per employee, which he refers to as a "very crude" measure of productivity level differences. In 1986, for example, he reports that GNP per employee in Northern Europe and Japan was between 75% and 95% of that in the U.S., British and Italian levels were about 60% of the U.S., and South Korea was about 17% of the U.S. level. Although these are crude measures, they suggest that the level of U.S. productivity may still be among the highest (if not the highest) in the world.

More precise data on productivity in some specific industries can also be found. For example, the New York Times (July 7, 1991), based on research at the Massachusetts Institute of Technology (Womack, Jones & Roos, 1990) and other sources reports the following data. The average number of hours needed to build an automobile is 36 in Europe, 25 for U.S. domestic manufacturers, 22 for Japanese companies operating in the U.S., and 17 for Japanese companies operating in Japan. Within countries, the variance can also be large. For example, 3 different Volvo plants in Sweden average 37, 40, and 50 hours, respectively to build an automobile.

More extensive reliable comparative data are available on productivity and unit labor cost growth. Much attention has been focused on the relatively slower productivity growth in the U.S. As Table 3 shows, the U.S. lagged other countries during the 1960 - 1985 period. In particular, Japan's rate of productivity growth was 3 times greater than that in the U.S. On the other hand, the U.S. has held down unit labor cost growth as well or better than the other countries included here. Unfortunately, however, this has been achieved through slower increases in wages (and thus, in standard of living), rather than through productivity growth. More recent data (see Table 4) show similar trends, but with one hopeful exception-- productivity growth appears to have picked up substantially, helping hold unit labor costs down in a more desirable manner.

Third, Drucker (1988) has argued that "wage levels for blue collar workers are becoming increasingly irrelevant in world competition (p. 32)." Consistent with our earlier discussion, he argues that productivity is important, as are quality, design, service, innovation, and marketing. He suggests a rule of thumb whereby offshore production "must be at least 5%, and probably 7 1/2 % cheaper than production nearby to compensate for the considerable costs of distance: transportation, communications, travel, insurance, finance (p. 32)." As he points out, if wages fall below 15% of total cost, then a 50% wage differential is needed to offset the costs of offshore production.

This brings us to a fourth problem with focusing only on comparative labor costs in assessing competitiveness. Such comparisons ignore the fact that certain employee skills are simply not available in sufficient quality and quantity in all countries, meaning that certain types of production, let alone the innovation and product quality emphasized by Drucker, are difficult to achieve in many countries. For example, as of 1986, the percentage of the relevant age group enrolled in high school in Organization for Economic Cooperation and Development (OECD) countries (U.S., Western Europe, Japan, Canada, Australia) was 93%, compared to 40% in the developing countries (Johnston, 1991). Similarly, for college enrollment, the figures in 1986 were 39% enrollment in the OECD countries, versus 7% in the developing countries. These data suggest that the lower labor cost found in developing countries may be simply reflect the lower level of skills and training available.

Compensation in Japan. The dramatic productivity growth of the Japanese economy and the significant Japanese productivity advantages in highly visible industries (e.g., automobiles, see above) has focused attention on that country's employment system, including compensation. What can be learned from the Japanese approach? Typically, the system is described as resting upon "three pillars." The first pillar is lifetime employment (for about 30% of the labor force). The second pillar is the bonus system. According to Hashimoto (1990, p. 257), as of 1985, production workers in manufacturing in Japan received, on average, 26% of their direct annual pay in the form of bonuses. In contrast, U.S. production workers received an average of 0.5% of their pay in the

form of bonuses. The third pillar is the dominance of enterprise unions, which as the term suggests, are less tied to industry-wide bargaining, and more oriented toward dealing with a particular employer, thus presumably allowing more flexibility in the agreements reached between particular employers and unions. In addition, contracts are typically for a length of one year, which is shorter than the typical duration (three years) in the U.S. Both factors are thought to contribute to greater flexibility in base wages among Japanese (versus U.S.) employers. Empirical evidence supports the overall hypothesis that direct compensation is significantly more flexible in Japan than in the U.S. (Gordon, 1982).

Although there may be significant value in studying compensation and human resource practices in other countries, some caution is also necessary, because practices, especially when lifted piecemeal out of a larger industrial relations system, may not readily transfer. Two recent studies on the impact of information sharing on the wage negotiation process, one in Japan (Morishima, 1991), the other in the United States (Kleiner & Bouillon, 1988) may help illustrate this point. In Japan, information sharing decreased the (a) length of negotiations, (b) union's initial percentage wage increase demand, and (c) final percentage wage increase settlement. Morishima suggested that findings (a) and (b) support an asymmetric information framework--information sharing reduces the union need to guess or infer what type of settlement management can provide. Finding (c) supports the goal alignment model. He concluded that:

if information provided by management can convince the union and the employees that it is to their benefit to have a well-performing firm, the union and employees will be less likely to demand a share of the firm's profits that may hurt firm performance....Unions may perceive that other important goals, such as employment security, also depend on the viability of firm operation and will be jeopardized by setting wages well above the competitive level (p. 472).

In contrast to Morishima's (1991) results for Japan, findings using a U.S. sample (Kleiner & Bouillon, 1988) found that information sharing led to higher wages and benefits for production

employees in both union and nonunion business lines. Moroshima suggests that "the comprehensive labor relations strategy used by Japanese management in order to induce goal alignment is generally lacking in the United States" and that "a piece-meal application of Japanese industrial relations techniques" is not likely to win union cooperation in the U.S. (p. 482).

Thus, for example, although proponents of variable pay systems might look to Japan as proof of their effectiveness, such comparisons require caution, and should perhaps be conducted as a way of generating ideas and stimulating re-evaluation of one's own practices. Having production workers receive 26% of their annual pay in the form of bonuses combined with lifetime employment security (as in Japan) is quite different from the same (or a lower) level of variable pay without employment security (e.g., more similar to some U.S. managerial notions).

The Global Market and Compensation

Mirroring what is happening with the organization of production (e.g., Reich, 1990), the world's labor market is undergoing dramatic changes. Johnston (1991) projects that the world labor force will grow by 36% between the years 1985 and 2000. Of the 600 million net new workers, 570 million (95%) will be from developing countries. He predicts that nations having slow growth in their labor forces but expanding service sectors (e.g., Japan, Germany, and the U.S.) will attract immigrants, while countries producing more educated workers than can be used will export workers (e.g., Argentina, Poland, the Philippines). Johnston points out that the labor market for a number of occupations (e.g., physicists, nursing, software engineers) is already international to varying degrees and is likely to move further in that direction given shifts in the distribution of education across countries. For example, between 1970 and 1985, the share of the world's college students accounted for by the U.S., Canada, Europe, the Soviet Union, and Japan dropped from 77% to 51% (Johnston, 1991). Moreover, Johnston predicts that by the year 2000, their share will fall to about 40%.

Johnston (1991) predicts that there will be a movement toward workforce standardization across borders. (See the European Community's 1992 initiatives for a current example). He argues

that "for a global corporation, the notion of a single set of workplace standards will eventually become as irresistible as the idea of a single language for conducting business" (p. 126), an idea reminiscent of the Kerr, Dunlop, Harbison, and Myers (1960) convergence of industrial relations systems hypothesis. If true, significant changes in compensation are to be expected. Familiarity with other countries' approaches to employee relations and compensation will become more important, as corporations and governments are faced with choosing the most appropriate international standard.

Foreign Service Employees. These trends suggest that decisions regarding the compensation of foreign service employees will increase in importance. There are several unique challenges that arise due to the different legal systems and customs that prevail in different cultures (Milkovich & Newman, 1990). Thus, for example, in Western Europe, many compensation decisions (e.g., vacations) are mandated by law, eliminating employer discretion. As another example, the relative importance of pay in influencing employees may vary significantly across cultures (Ruiz-Quintanilla, 1990).

Newman (1989) suggests that a major decision concerns the choice of an appropriate equity standard in pay-setting. For example, should an expatriate's pay be compared to what the same assignment would pay in the home country or in the local country? If based on the home country, two people (e.g., an expatriate and a local country national or expatriates having different home countries) performing the same assignment will often receive very different pay. On the other hand, pay based on local standards (e.g., in a low wage country) may make it virtually impossible to find someone willing to accept the position.

The demise of centrally planned economies in Eastern Europe (and perhaps the Soviet Union) raises other important questions (and opportunities). After decades of working under a system that did not reward individual initiative, risk-taking and achievement, how will people respond to compensation systems that focus on such behaviors? Such changes should present tremendous opportunities for studying the effects of Western compensation systems on attitudes,

behaviors, and effectiveness, as well as provide some guidelines concerning their introduction to new settings.

Pay vis-a-vis other Rewards

Our focus, of course, has been on monetary rewards. According to Lawler (1971), pay is a reward of unique importance because it is instrumental in obtaining a range of other rewards. However, the work of Maslow (1943), Herzberg (1976), and others suggests that jobs have many other attributes that can serve as rewards. Moreover, an exchange perspective implies that pay can be viewed as a return for services rendered--in essence, as an obligation, rather than a "reward."

Although we will not attempt a comprehensive review, a few such issues warrant attention because organizations have a limited pool of resources to devote to managing human resources. In structuring monetary compensation, decisions concerning the mix between direct pay and benefits are important. But, at an even more general level, organizations face a choice between allocating resources to pay versus other potential rewards/returns such as improved supervision, participation, working conditions, advancement opportunities, job design, training, and so forth. Therefore, it is useful to have some insight into both the relative importance of various job attributes to employees, as well as the relative motivational effects on employees (or "bang for the buck") of expenditures in each area.

Expectancy theory, in particular, emphasizes that outcomes (e.g., pay, recognition) of behaviors (e.g., performance) will enhance motivation only if they are valent to employees. Thus, the work by Herzberg and Maslow inspired a line of research devoted to identifying the outcomes that were most important or valent to employees or applicants on average. Briefly, the importance of pay in such studies appears to depend somewhat on the method used. For example, self-reports of importance suggest that pay is not one of the more important job attributes, although people seem to believe that it is important to others (Jurgensen, 1978). Indirect assessments of importance (e.g., by observing hypothetical job choices using policy-capturing), however, tend to find that pay is a very important attribute (e.g., Zedeck, 1977).²⁹

Although expectancy theory treats outcome valences as additive, there has been some suggestion that extrinsic (e.g., monetary) rewards contingent on performance may be nonadditive, actually detracting from intrinsic motivation (deCharms, 1968; Deci, 1972). This is because the key aspect of intrinsic motivation is a feeling of personal causation (DeCharms). Extrinsic rewards may shift the locus of causation to external sources. In other words, the net effect of spending additional dollars on compensation could be a reduction in overall motivation. Methodological problems with Deci's research have been raised by Calder and Staw (1975). Dyer and Schwab's (1982) review concluded that no clear cut pattern of results had emerged to either confirm or disconfirm the original hypothesis of nonadditivity. Subsequently, however, a review and empirical study (Ryan, Mims, & Koestner, 1983) concluded that task and performance contingent rewards do decrease intrinsic motivation because of the controlling nature of the feedback inherent in such rewards. However, Ryan et al. also argued that such effects were likely to found only when the task is interesting and is one "that a person does not typically do to get rewards" (p. 738).

Since then, more empirical research has appeared, but the picture has probably not become much clearer. There has been both supporting (e.g., Jordan, 1986) and nonsupporting evidence (e.g., Scott, Farh, & Podsakoff, 1988) for the nonadditivity hypothesis. Research by Phillips and Freedman (1985) suggests that work values may be a moderating variable. For example, they found, consistent with expectancy theory, that rewards had additive effects for persons with high intrinsic work values, but had nonadditive effects among persons with high extrinsic work values.

Future research on this topic would benefit from attention to the following issues. First, overall motivation and performance need to be measured. Even if contingent monetary rewards are not completely additive, the amount of nonadditivity may not be practically significant. Second, the nature and duration of the tasks used in these studies needs to be reconsidered. For example, coding, proofreading, simple assembly tasks, and the like may not be ideally suited to eliciting high levels of intrinsic motivation. The fact that such tasks last for only 15-60 minutes in several of the studies may limit the research in the same way. A test of the hypothesis among, for example,

scientists and engineers would be very interesting. Third, more agreement on what constitutes intrinsic (versus extrinsic) rewards would be useful (Dyer & Parker, 1975).

Another way of examining the role of pay vis-a-vis other rewards is to look at their relative motivational effects. The Locke et al. (1980) review mentioned earlier examined the motivational impact of four motivational techniques: monetary incentives, goal-setting, participation, and job enrichment. They included only studies that were conducted in the field, used either control groups or before-after designs, and used hard performance criteria (e.g., physical output). Locke et al. found that monetary incentives resulted in the largest median performance improvement (30%), followed by goal-setting (16%), job enrichment (8.75 to 17%), and participation (0.5%). They concluded that money was the most effective motivator. The reason lies in the fact that money "as a medium of exchange...is the most instrumental" (p. 379), a conclusion similar to that of Lawler (1971).

A meta-analysis by Guzzo, Jette, and Katzell (1985) examined the average effects of several types of human resource interventions, including compensation (financial incentives), work redesign, and others. They included studies based on criteria similar to those of Locke et al. (1980), but also looked at two additional productivity criteria (besides physical output), withdrawal (turnover and absenteeism) and disruption (e.g., accidents, strikes). They found that although financial incentives had a substantial mean effect on the three productivity criteria, the variance of the effect was very large, and thus was not statistically different from zero. However, limiting the analysis to only the physical output criterion, they found that financial incentives had, by far, the largest (and statistically significant) mean positive effect. As such, these results are very similar to those of Locke et al.

Special Topics--Suggested Research Directions

1. Executive compensation research needs to continue its focus on the consequences of different executive pay packages. However, it might be useful to supplement the commonly used financial measures of performance with measures of specific behaviors, as well as psychological

outcomes such as goals, values, and philosophies.

2. We believe that equal employment opportunity research should inform public and private policy regarding the main sources of pay differentials based on race and gender. This suggests the need to assess the relative influences of hiring, promotion, and development practices in generating inequality. In addition, "new" benefit programs such as family and parental leave, child care assistance, and flexible working hours need to be examined for their impact on women's (and men's) ability to balance work and family, and advance past the so-called glass ceiling.

Another suggestion is to study the implications of establishing a reputation as an organization that provides equal opportunities for all employees in its pay-setting process. This has two parts. First, how closely linked is actual organization success in equal employment opportunity and affirmative action with applicant and employee perceptions of success? Second, does actual practice (or perceptions) have an influence on attraction and retention and other important outcomes?

3. The international dimensions of compensation is largely uncharted territory. We suggest that further descriptive research on national differences in practices would be useful. Further, equity theory should have many applications in studying the various approaches to compensating foreign service employees.

4. More research needs to be done on how pay interacts with non-monetary rewards. This work would help establish the conditions under which monetary rewards are most likely to have a high return on investment.

GENERAL CONCLUSION

We began this chapter by saying that decisions regarding compensation are among the most important that an organization must make. Figure 1 has provided a general framework for describing specific types of pay decisions and the relevant research evidence. The central focus has been on establishing the consequences for organizations of different compensation decisions or strategies. Although there has been a good deal of progress in the compensation literature, much more, of course, remains to be done. Figure 1 helps summarize some of the key factors to incorporate in future research. We close with a few notes on compensation's place in the larger picture and some general suggestions for the design of future research.

Pay is only one of many decision areas that determine the nature of the employment exchange. Similarly, from a managerial perspective, there are likely to be multiple paths to the same goal. Thus, decisions regarding organization and job design, external staffing, internal staffing, and development can influence many of the same outcomes depicted in Figure 1. These human resource decisions can be viewed as contingency factors that either constrain or enhance the effectiveness of pay decisions. Alternatively, pay decisions can be viewed as the contingency factor. In any case, the main point is that pay decisions are made in a complex world where many other influences are at work. The more that research recognizes this fact, the more valuable its contribution is likely to be.

The different human resource decision areas can also be thought of as alternative levers that can be pulled to achieve a particular objective. This fits well with the return on investment approach that we have suggested at various points in the chapter. The main question to be answered is: Which investment in human resources is most likely to yield the highest return? If the effectiveness of the current workforce is not adequate, should the major investment go toward better screening of applicants, development of training programs, or in designing pay programs that will enhance individual motivation, cooperation, and so on?

This suggests the need for further conceptual development of contingency models. Such

work should focus on generating specific, testable propositions. On the empirical side, we suggest that such research include as many of the following characteristics as possible. First and foremost, the goal should be to capture variation in actual pay practices. This can be accomplished by using multiple employing units (organizations or units within them) or by following changes over time in the same unit(s). Second, research should be longitudinal, not only allowing the study of changes, but also providing the opportunity to track the long term consequences of pay decisions. Third, research should examine multiple pay decisions simultaneously, rather than looking only at individual pay or only at benefits, for example. Based on our review, the benefits and structure decisions have been especially neglected in the empirical research (if not the practitioner) literature. It would be useful to compare the relative effects (and costs) of investments in the different pay decision areas. Finally, future studies should strive to examine the structural process by which compensation decisions and outcomes are linked. To do so, outcome measures will need to be obtained at multiple levels of the organization, including individual, group, unit, and organization levels where possible.

We should emphasize that these features are put forth simply as goals. Obviously, there are often stumbling blocks on the road to designing and conducting such studies. We suggest that one way of enhancing the probability of attaining these goals is to be able to demonstrate to organizations the practical implications of being able to address the types of issues raised in this chapter. This, of course, goes a long way toward building the types of partnerships between industry and academia that are necessary to conduct much such research (see Dunnette, 1990).

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FOOTNOTES

1. Pearce and Robinson (1982) describe strategic decisions as those 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 factors, and (e) have an impact on the long-term performance of the organization. Many compensation decisions meet these criteria, consistent with the important role attached to compensation in recent books on organization strategy (e.g., Peters, 1987; Kanter, 1989; Porter, 1990).

2. These first two factors are the same as two of Alfred Marshall's (Marshallian) conditions affecting the elasticity of the demand for labor.

3. For example, if products change over time, so too will the relevant product market comparisons. If general skills and abilities are considered important and products change, product market comparisons become less important.

4. This, of course, fits nicely with Marxist discussions of the role of the "reserve army." Further, Weisskopf, Bowles, and Gordon (1984, cited in Yellen, 1984) have argued that such things as unemployment benefits have contributed to the slowdown in U.S. productivity growth because of the consequent "loss of employer control due to a reduction in the cost of job loss" (Yellen, p. 202).

5. Notable by its absence will be any direct empirical research on efficiency wage models (because there is little).

6. See Williams and Dreher (1990, Academy Meeting) for an exception.

7. This, of course, does not mean that the equity theory and discrepancy model approaches are identical. For example, under the discrepancy model, perceived actual pay that exceeds perceptions of the "should be" component leads to increased satisfaction. In contrast, equity theory predicts guilt (perceived overreward inequity).

8. Two examples illustrate the importance of the "should be" component. Capelli and Sherer's (1990) study of a two-tier wage plan found that lower tier workers (those paid significantly less for doing the same job) were more satisfied with their pay than the more highly paid first tier workers because the former group had lower comparison standards (e.g., unemployment, lower paying jobs). A second example is the common finding that despite lower

pay levels among women, their pay satisfaction does not usually differ from that of men (Dreher & Ash, 1990).

9. Employment may also be reduced as organizations seek to substitute less expensive production inputs (e.g., new technology) for the costly labor input. Although such substitution may be an efficient response to high labor cost, economic models suggest that efficiency would be higher if labor cost was determined by market forces (and less substitution occurred).

10. Note that the detrimental effects of higher wages depend on the existence of a competitive market. One violation of this assumption may occur when a union has organized the entire product market, thereby taking wages out of competition. The U.S. automobile industry (before the advent of international competition) provides such an example (Kochan & Capelli, 1984).

11. On their face, these findings do not seem to fit well with the basic premise of efficiency wage models that above market pay levels can lead to higher overall efficiency. On the other hand, one could perhaps argue that unions may sometimes "artificially" constrain the expected efficiency advantages of higher pay.

12. In real (versus nominal) dollars.

13. Note that an independent line of work on tournaments has been concerned with the possibility that employees promoted earlier in their careers signal that they are of high ability. Whether this early career success comes about as a result of ability or sponsorship, there is evidence that it has a lasting impact, influencing much later career attainment (Rosenbaum, 1979, 1984; Sheridan, Slocum, Buda, Thompson, 1990), although a study by Forbes (1987) was less supportive. Forbes suggests that significant differences between organizations probably exist. In any case, where early elimination tournaments exist, incentive problems may arise among employees that are passed over early on if they believe they have lost what amounts to the first round of the tournament and are, to a significant extent, overlooked in future promotion decisions.

14. This section draws on Gerhart (1990).

15. The effectiveness of averaging over time depends on the source of errors (and their independence over time). If the errors tend to be independent, they may average out (see Gerhart & Milkovich, 1989). However, if an employee is rated by the same supervisor year after year, the errors will not be independent and will not average out. However, the use of relative ratings (e.g., Guilford, 1954, p. 285) can remove this type of error. As an example of the effect of between-rater differences, Heneman

(1986) found that the correlation between objective performance measures and absolute ratings was .27, with relative (e.g., forced distribution--in effect, adjusted for rater differences in rating levels) ratings, .66.

16. Note also that Konrad and Pfeffer defined productivity as the number of publications. Quality (e.g., based on the journal) and relative contribution (e.g., based on author order) were not considered. Also, teaching performance, an understandably difficult construct to measure, was defined in terms of number of hours. These omissions may have constrained the observed pay--performance relationship.

17. The pattern of results for women was similar.

18. See the Kanfer chapter in this series for a review of expectancy theory.

19. Valences are often taken as a given in compensation, being seen as more strongly influenced by selection decisions. However, compensation (e.g., communication programs) may also have an impact.

20. Not every variable pay plan carries downside risk. In some cases, employees have the opportunity to earn more if objectives are met, but will not have pay deducted if they do not meet the objectives.

21. More information on usage of profit-sharing is available in surveys by the American Compensation Association (O'Dell, 1987), Conference Board (1990), and Bureau of National Affairs (1988).

22. The number of employees participating in ESOPs has grown from 4 million in 1980 to 10 million in 1989 (USA Today, 1989). Some of the organizations that have recently set up ESOPs include Avis, Bell Atlantic, Procter & Gamble, Ameritech, ITT Corp., J.C. Penney, 3M, and Anheuser Busch. Some organizations with more established plans have recently expanded them (e.g., Sears, Mobil). As one example of the tax and financing advantages, dividends on ESOP-owned stock are deductible if paid out in the current year. Their use as a takeover defense is illustrated by considering Delaware, where about one half of all public companies are incorporated (USA Today, 1989). State law mandates that a takeover bid must acquire 85% of stock to gain true control. Thus, an employee ownership stake of 25% or even 15% that votes with the company's management can be difficult to overcome.

23. Conceptually, fit can be viewed as the correspondence or match between pay program and organization context profiles.

24. One caution in interpreting these results concerns the factor analytic results used to derive the compensation strategy measure. Fifteen different dimensions were found to load on a single factor. Gomez-Mejia (1991) selected a single factor based on the eigen-values greater than one rule. Note, however, that this rule only applies to principal components analysis (ones in the diagonal of the input matrix) not to principal factor analysis (communality estimates in the diagonal), which was used by Gomez-Mejia. As such, there is a possibility that more than one factor might underlie the compensation dimensions they analyzed.

25. As of 1989, for example, the corresponding percentages were less than 7% in Japan, and just over 8% in Canada and Germany (Fortune, 1991).

26. These typically differ because of group discounts for employers.

27. The growth of institutional ownership and the pressures on their investment managers for short-term results is argued to be another important culprit (Graves & Waddock, 1990).

28. One possibility, that women simply negotiate less over starting salaries, did not receive support in one study of graduating MBAs (Gerhart & Rynes, 1991).

29. However, as discussed earlier, importance assessments can vary significantly with the size of market variability of the attribute in question (Rynes et al., 1983). For example, if all job opportunities offer the exact same pay, pay will essentially have zero statistical importance in predicting job choice. The implication is that the importance of pay and other attributes may differ across different labor markets.

Table 1. Degree of Success in Achieving Most Important Objectives

<u>Degree of Success</u>	<u>Type of Program</u>			
	<u>Profit Sharing</u>	<u>Individual Gainsharing</u>	<u>Individual Incentive</u>	<u>Small Group Incentive</u>
Very successful	33%	29%	29%	30%
Successful	42	46	49	48
Partially successful	17	25	23	20
No success	<u>8</u>	—	—	<u>3</u>
Totals:	100%	100%	100%	100%

Source: Conference Board, 1990

Table 2. Hourly Compensation Costs Expressed in U.S. Dollars^a

	1985	1987	1989
United States	100 %	100 %	100 %
Japan	50	83	95
Germany	74	125	130
Sweden	75	112	121
United Kingdom	48	67	76
Mexico	16	12	12 ^b
Singapore	19	17	19
Taiwan	11	16	19

Source: Capdevielle, P. (1989, June). International comparisons of hourly compensation costs. Monthly Labor Review, pp. 10-12.

^aIncludes "pay for time worked, other direct pay, employer expenditures for legally required insurance programs and contractual and private benefit plans, and for some countries, other labor taxes" (Capdevielle, 1989, p. 10).

^b1987 data

Table 3. Annual Percent Changes^a in Productivity, Hourly Compensation, and Unit Labor Costs, 1960 - 1985

	Manufacturing Productivity ^b	Hourly Compensation	Unit Labor Costs (US \$)	Unit Labor Costs (local currency)
United States	2.7	6.5	3.7	3.7
Japan	8.0	11.9	3.6	5.3
Germany	4.8	9.1	4.1	5.5
Sweden	4.7	11.2	6.2	4.0
United Kingdom	3.5	12.1	8.3	5.0

^aRates of change based on the compound rate method

^bOutput per hour

Source: Neef, A. (1986, December). International trends in productivity and unit labor costs in manufacturing. Monthly Labor Review, 12-17.

Table 4. Annual Percent Changes^a in Productivity, Hourly Compensation, and Unit Labor Costs, 1985 - 1989

	Manufacturing Productivity ^b	Hourly Compensation	Unit Labor Costs (US \$)	Unit Labor Costs (local currency)
United States	4.7	3.5	-1.1	-1.1
Japan	5.0	4.0	-1.0	13.5
Germany	1.0	4.2	3.2	15.4
Sweden	1.1	7.7	6.5	14.5
United Kingdom	5.0	7.3	2.2	8.3

^aRates of change based on the compound rate method

^bOutput per hour

Source: Calculated from Monthly Labor Review tables, June 1991.

Figure Captions

Figure 1. Compensation Decisions and Consequences

Figure 2. Example of Lorenz Curve for Measuring Inequality

Figure 3. Egalitarian versus Hierarchical Structures

Figure 4. Skill/knowledge-based versus Job-based Structures

Figure 5. Classification of Individual Pay Plans

Figure 6. Merit Increase Grid Example

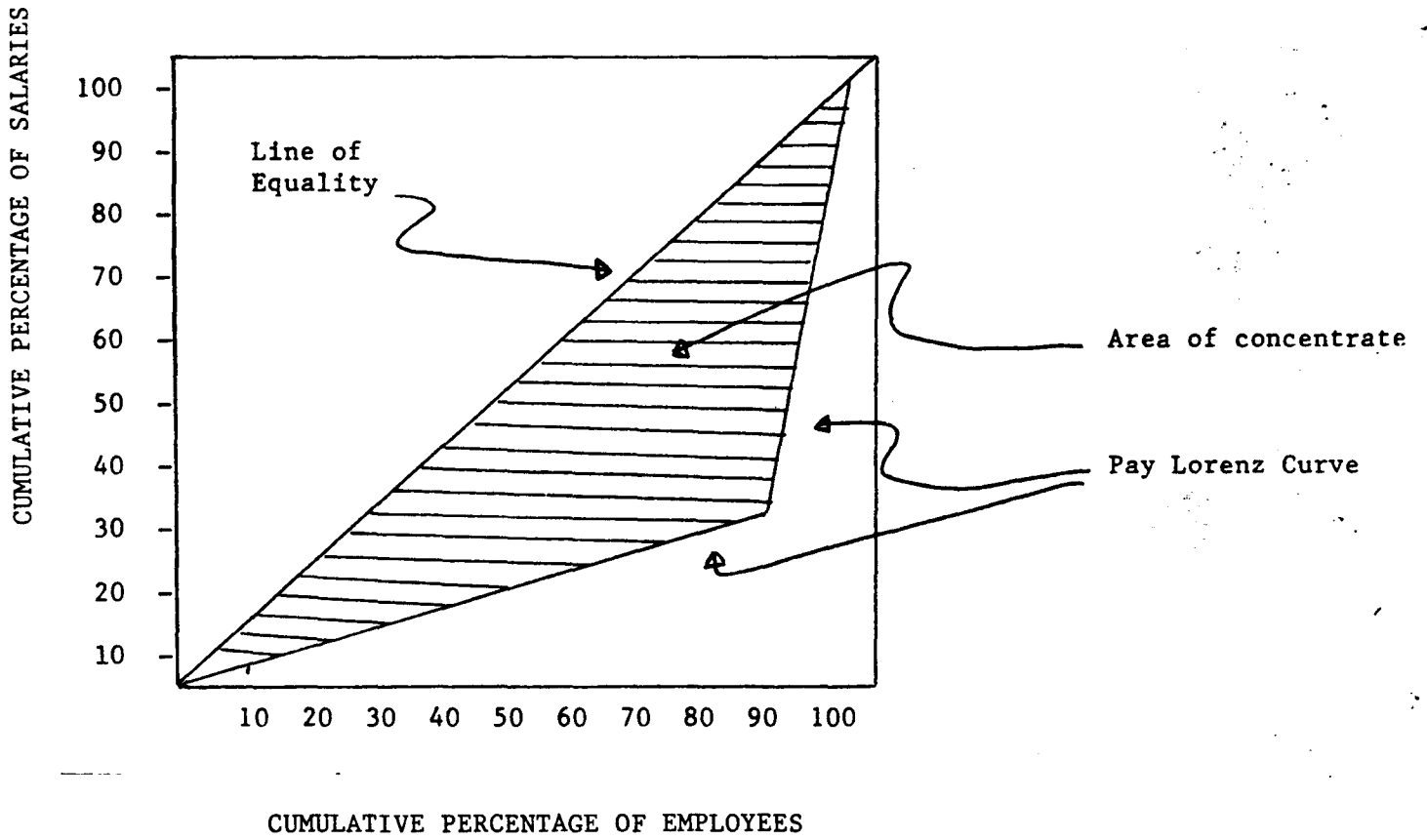
Figure 7. Study Design Example

PAY DECISIONS ----->	INDIVIDUAL -->	UNIT ----->	ORGANIZATION
	OUTCOMES	OUTCOMES	OUTCOMES
Level	Attraction	Output (physical or value)	Profits
Structure	Retention	Labor Costs	Sales
Individual	Skills	Productivity	Market Share
Benefits	Attitudes	Staffing Level	Stock Performance
Special Topics	Performance	Staffing Fluctuations	Profit-sharing
Non-monetary Rewards	Flexibility	Quality	Culture
Executive Pay		Client/Customer Satisfaction	Adaptability
Equal Employment			
Opportunity			
International			
Administration			

CONTINGENCY FACTORS

Organization	Job	Individual	External
Business Strategy	Level	Education	Competition
Human Resource Strategy	Function	Experience	Economic Conditions
Product Market	Complexity	Professionalization	Regulation
Technology	Programmable	Alternative Opportunities	Public Opinion
Size		Values/needs	Globalization
Location		Abilities/skills	
Organization of Work		Personality	
Interdependence			
Decentralization			
Workforce Diversity			
Unions			
Marshallian Conditions			

Lorenz Curve



Continuum

Properties

distinct structures

levels

differential

rate of progress

Egalitarian

fewer

fewer

narrower

slower

Hierarchial

more

more

wider

faster

KNOWLEDGE BASED

JOB BASED

STRUCTURE	Skills/Knowledge	Work Performed
MANAGER'S FOCUS	Employee Carries Wage Regardless of Tasks	Job Carries Wage Regardless of Employee
EMPLOYEE FOCUS	Pay Increases Linked to Skill Acquisition	Pay Increases Linked to Promotions
PROCEDURES	Assess Skills, Value Skills	Assess Jobs, Value Jobs
ADVANTAGES	Flexibility, Reduced Workforce	Pay Linked to Value of Work Performed
LIMITATIONS	Potential Personnel Bureaucracy (Hold- ing Rates, Maxing Out), Cost Controls	Potential Personnel Bureaucracy, Inflexibilities

EFFECT ON BASE COMPENSATION

LEVEL OF PERFORMANCE MEASUREMENT

Individual

Group

Added In

Merit Pay

Not
Added In

Merit Bonus
Piece Rate
Commission

Gainsharing
Profit Sharing
Ownership

Performance Rating	Percentage of Employees	Position in Salary Range				
		Low 1	2	Quintile 3	4	High 5
Outstanding	6%	9%	8%	7%	6.5%	5%
Exceeds expectations	20%	7%	6%	5.5%	5%	4%
Fully satisfactory	70%	5%	4.5%	4%	3.5%	3%
Needs some improvement	3%	1%	1%	1%	1%	No increase
Unsatisfactory	1%	No increase	No increase	No increase	No increase	No increase

* Employees distributed across performance ratings

Source: Adapted from George T. Milkovich and Alexandra K. Wigdor (Editors), Pay for Performance. Washington, D.C.: National Academy Press, 1991.

DESIGN EXAMPLE--INDIVIDUAL PAY

ORG 1	PAY PROGRAM	SUCCESS	CONTINGENCY FACTORS
Unit 1	Merit Pay (strong)	Quality, Perf., etc.	Growth Strat.
Unit 2	Merit Pay (weak)	Quality, Perf., etc.	Growth Strat.
Unit 3	Merit Bonuses	Quality, Perf., etc.	Growth Strat.
Unit 4	Gainsharing	Quality, Perf., etc.	Growth Strat.
Unit 5	Profit-Sharing	Quality, Perf., etc.	Growth Strat.
Unit i	Pay Plan i	Quality, Perf., etc.	Growth Strat.

ORG 2

Unit 1	Merit Pay (strong)	Quality, Perf., etc.	Maint. Strat.
Unit 2	Merit Pay (weak)	Quality, Perf., etc.	Maint. Strat.
Unit 3	Merit Bonuses	Quality, Perf., etc.	Maint. Strat.
Unit 4	Gainsharing	Quality, Perf., etc.	Maint. Strat.
Unit 5	Profit-Sharing	Quality, Perf., etc.	Maint. Strat.
Unit i	Pay Plan i	Quality, Perf., etc.	Maint. Strat.

ORG 3

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.
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ORG i