Gainsharing in Managing and Compensating Human Resources

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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 the results of Center research, conferences, and projects available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

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There is one thing professors and professionals in industrial relations can be absolutely certain of: concepts and techniques recycle. Profit sharing and gainsharing are cases in point.[1] Both possess long histories and the arguments advanced by advocates and skeptics also have a historic ring.

Systematic historical data on the use of these techniques are difficult to obtain. In 1916, a Bureau of Labor Statistics survey of manufacturing firms reported 60 profit sharing plans in use (BLS, 1920). The National Industrial Conference Board found 134 profit sharing plans to describe in 1934 (NICB,1934, 1937). More recently, the Bureau of Labor Statistics survey (1984) of 195 employers reported 19% used profit sharing and 2% used some form of gainsharing (i.e., Scanlon or Improshare) The American Productivity Center's (O'Dell & McAdams, 1987) survey of 1600 firms reported that 32% used profit sharing and 13% used gainsharing. Mitchell & Broderick's (1987) survey of 545 firms reported about 50% used profit sharing and only 6% gainsharing.[2]

Data aside, the current renewed interest in gainsharing is reflected in the attention the topic receives at professional meetings, in journals and the business press.

Advocates of gainsharing assert that sharing financial gains with employees accomplishes several things. Among these are: improved employee morale, which enhances loyalty and commitment (Bullock & Lawler, 1984; Schultz & McKersie, 1973) increased flow of innovative ideas from employees (Doyle, 1983), and contribution to more efficient operations and the organizations financial success (O'Dell, 1984 Metzger, 1975; Lesieur, 1958).

In addition, during business downturns pay increases which are

contingent on profits and/or productivity buffer the pressures to reduce employment levels. In conventional pay plans (e.g., merit or across the board) pay increases increase base pay. Wages are a fixed cost, at least in the short run. With gainsharing, a portion of the pay increase becomes variable. Thus making pay increases contingent on profits and efficient operations can reduce pressures to cut employment levels during economic downturns. In practice, once these plans are implemented, managers do not have a choice of substituting reduced pay increases for employment. With gainsharing, pay increases are automatically reduced during times of poor economic performance. If gainsharing and employment were actually substitutes, a choice between the two options would exist at the point of implementation as well as at the decision to adopt gainsharing.

The variability of pay increases under gainsharing is a two edged sword; the uncertainty for employees inherent in these plans has long been a major concern. Without gains or profits to share, variable plans are in reality risk and loss sharing programs. This is not a recent argument. In 1939, John L. Lewis, president of the CIO, labelled profit sharing a "delusionary snare" for employees. The variability in bonus payments, a central feature of these plans, creates uncertainty and threatens employees' financial well-being. Income security for employees, the criticism goes, depends on stable rather than variable income.

Other common concerns raised by skeptics included; (1) establishing acceptable performance standards, (2) changing those standards in response to new work design and technological improvements and (3) employees' vulnerability to the vagaries of management decision making (i.e., new product designs or capital investment decisions) which bear directly on

the financial performance of the business.

Agreement does exist on one feature of variable pay programs: these techniques do not operate in a vacuum. They are part of the broader philosophy underlying the nature of the employment relationship. The purpose of this paper is to reflect and elaborate on this point on which all parties seem to agree: that gainsharing and other variable pay techniques are part of an overall pattern of human resource policies and practices. Whatever one's perspective, be it a researcher, manager, union official or policy analyst; variable pay techniques, to be properly understood, need to be placed in the overall context of human resource policies and practices. The next section of this paper is a brief summary of the current state of research. In the following two sections, gainsharing is examined in the context of various approaches to managing and compensating human resources.

GAINSHARING RESEARCH: A BRIEF REVIEW

From a research perspective, gainsharing is a set of practices in need of research and in search of theory. The literature is dominated by descriptions of various plans and prescriptions on how and when to use them. The rhetoric is mainly by advocates. Hammer (1987) argues that what is missing is an understanding of (1) what the effects of gainsharing plans are (2) under what conditions are these effects most likely (and least likely) to occur and (3) why do they work (or not work). Answers to these three questions are provided in the extensive literature on gainsharing. But readers need to be aware that the answers are typically based on personal experience or beliefs; answers based on more systematic

study are harder to find.

Few theories incorporate gainsharing or direct the research to search for answers to these three questions. Both economic and psychological models are relevant. According to Hammer (1987), psychologists feel that the effects of making pay contingent on performance is well understood through learning theory and in existing models of employee motivation (Campbell & Pritchard, 1978). However, she points out that gainsharing goes beyond the individual subjective utility calculations assumed in these models. Gainsharing is based on assumptions about the behaviors of groups as well as individuals. And very little is known about work group behaviors, their motivations and their effects on individual employees.

Economic models do focus on explaining observed differences in earnings and occupational attainment as well as the effects that these differences have on worker's behavior. Occupational mobility, decisions to invest in training and education, and decisions to join and/or leave firms are examples of behaviors of interest in economic research. Some studies of the effects of various human resource policies and practices on the financial performance of firms have begun to appear (Ehrenberg & Milkovich, 1987). Much of the compensation related work has focused on studying the relationships between executive pay plans and the firm's financial and market performance (Murphy, 1985, 1986; Larcker, 1983; Gomez-Mejia & Tosi, 1987). But most of this work also overlooks work groups or teams as meaningful units of analysis (Milkovich & Rabin, 1988).

Theory development may seem irrelevant to those faced with making decisions and negotiating contracts. But it is necessary to find adequate answers to the three issues posed above. Further, the theories we apply

to human resource management determine what we look for, how we interpret what we see, and what we do not see. Existing economic and psychological theories seldom incorporate the influence of groups and therefore the effects of gainsharing on employees or firms.

Even absent theoretical development, there is a body of research on gainsharing. It has come in three waves. The first originated at Massachusetts Institute of Technology with its historical connections to proponents such as Scanlon and Lesieur, and at Michigan State and Scanlon Plan Associates (Lesieur, 1958; Ruh, et al., 1973). Beyond dissertations and technical reports, little of this work has been published. The research focuses on the Scanlon plan, and reports that introduction of a Scanlon plan initially increases employee suggestions for work improvements, reduces costs, improves quality and fosters a more cooperative relationship between employees and management.

A second wave of research on gainsharing came from two surveys conducted in the early 1980s. A New York Stock Exchange survey revealed that approximately 15% of all U.S. companies with 500 or more employees had some form of productivity sharing plan; over 70% of these firms reported that gainsharing led to improved productivity. Based on the <u>opinion</u> data of this type, the NYSE Office of Economic Research concluded "on the basis of the <u>evidence and the theory</u>, it appears that gainsharing can play an important role in motivating people to be more productive" (emphasis added).

The other survey, a GAO Report, concluded that "the results of productivity sharing plans suggest that these plans offer a viable method of enhancing productivity at the firm level." This conclusion was based on information obtained from interviews with 36 firms. Of these, only

24 firms provided some financial data, only 9 firms indicated they made <u>any</u> formal assessment of these plans and only 4 of these could document their analysis. Nevertheless, the oft quoted GAO results are that gainsharing improved performance by 17.3% at 13 firms with sales less than 100 million and by 16.4% in the 11 firms with sales of 100 million or greater. Since the results are based on interviews with adopters of these plans, the results are open to some question.

The third wave involves a series of more recent studies on gainsharing which again focuses primarily on Scanlon plans. Bullock & Lawler (1984) reviewed 33 case studies to identify 3 factors which they hypothesized to influence gainsharing plan success: (1) structural factors (measurement standards, eligibility, bonus share) (2) implementation factors (use of consultants, employee involvement in design and implementation) and (3) situational factors (plant size, union status). They concluded that the bonuses were granted based on performance improvement (no detailed explanation provided), a high degree of employee participation in planning was involved, and plant size didn't seem to matter. Bullock & Lawler stated that over half of these cases reported tangible results of benefit to the employer. However, any differences regarding the structural, implementation and situational properties of successful versus unsuccessful cases were not observed.

Schuster (1983, 1984a, 1984b) in the most extensive studies of gainsharing plans, examined 9 Scanlon, 7 Rucker and 8 Improshare plans based on monthly productivity, employment, absenteeism and turnover data over 5 years. Twenty-eight facilities were included. About half of the sites with data available showed significant improvements in productivity

(output per employee) immediately after the plan's introduction. These improvements occurred more often in sites with plant wide rather than team based bonuses, causing Schuster to observe that plant wide is preferable due to potential inequities which arise from differences in team bonuses. Schuster also suggested that unsuccessful programs tended to have (1) infrequent bonus payments, (2) management that attempted to adjust the standards and bonus formulas without employee participation and (3) absence of union-management cooperation.

With the exception of Schuster's studies, most of the earlier research is rather poorly designed, and the statistical analysis reported is not adequate to judge the appropriateness of the conclusions drawn. A cautious conclusion is that gainsharing is associated with productivity improvements. This is based on Schuster's work and the positive halo reflecting from the other studies. However, other factors could as easily account for the results. These include changes in work design, introduction of new technologies, improved hiring and training practices, differences in base pay and other characteristics which are part of any firm's broader approach to compensating and managing human resources. Little useful information about the other human resource policies and practices or the total compensation received by employees was reported in the research. Gainsharing's role in the overall context of human resource management policies is the topic that we turn to next.

GAINSHARING AND HUMAN RESOURCE STRATEGIES

Gainsharing is often prescribed under two very divergent approaches to managing human resources.[3] The first, labelled a "High Commitment"

or "High Involvement" strategy, has been the focus of much rhetoric in industrial relations (Lawler, 1986). A high commitment strategy emphasizes mutual trust between employees and managers, extensive employee participation in decision making and an open management style which includes sharing detailed financial and operations data (Lawler, 1986; Walton, 1985).

The philosophical foundation of the high commitment strategy lies in the human relations movement (Likert, 1961) participative management (McGregor, 1960) industrial democracy (Kochan, Katz & McKersie, 1986) and egalitarian organization cultures (Lawler, 1986). Personnel practices in this approach include: job enlargement and enrichment, heavy investment in semiautonomous work groups and self-management work teams, flexitime, a high degree of communications and information sharing. Direct supervision is replaced by facilitation. Control of employee behaviors is accomplished primarily through peer pressure rather than supervisory and hierarchically derived directives.

The pay practices prescribed under the high commitment strategy are intended to support the above characteristics. These include (1) base pay determined by the work related skills or knowledge employees possess (e.g., knowledge based pay for factory workers, maturity curves for engineers and scientists); (2) variable pay plans consistent with the importance of work teams, peer relationships, and the awareness of and commitment to the firm's financial success (e.g., gainsharing and profit sharing). Pay schemes which emphasize individual employee contributions and performance (merit increases, individual based incentives) are deemphasized, as are practices typically used to determine base pay on narrow job classification. For example, job evaluation is replaced by

skill evaluation procedures.

The approach followed at Borg Warner exemplifies this high commitment strategy. Borg Warner recently installed a pay plan consistent with a high commitment strategy. The facility, which assembles drive chains for transmissions, is organized into semi-autonomous work teams with 6 to 8 employees in each team. Base pay is determined by the work-related skills which each employee can demonstrate; base pay is set according to the highest skill each employee possesses rather than the job each performs. Employees perform any tasks on the team for which they are qualified. The key is that base pay is linked to their highest certified skill rather than the tasks or jobs performed. Thus, these plans increase work force flexibility (i.e., issues of working "out of job classification" do not arise). This flexibility in turn can reduce the employment levels required for given production levels.

In addition to base pay determined by skill, Borg-Warner employees' pay has two additional components. Quarterly gainsharing bonuses based on each team's performance and a company-wide profit sharing with bonuses paid as a percent of each employee's base pay.

So the Borg-Warner compensation plan adheres to the prescriptions of a high commitment strategy: (1) workforce flexibility and new skill acquisition are recognized through skill based plans, (2) team work, peer-supervision and team performance, are supported through gainsharing plans, and (3) commitment and sensitivity to corporate financial performance are supported through profit sharing.

Another, in many ways a diametrically different approach to managing human resources, also prescribes gainsharing. Labelled by Dyer (1988)

as the "Inducement Strategy," it aims to insure high levels of employee performance through reliable work behaviors and low cost production. Perhaps best characterized as the "carrot and stick" approach, its philosophic origin lies in scientific management and assumptions about "economic man."

Inducement strategies may be used by firms which compete by becoming the lowest cost producer with a quality product; its focus is on cost minimization. High levels of control over both product quality and employee work behaviors are required. Few resources are directed toward developing employee skills beyond those required on current jobs. The emphasis seems to be on operating the existing technology as efficiently as possible; there may be little interest in R&D beyond engineering improvements in current operations.

Variable compensation is the inducer or "carrot" prescribed by this strategy. Gainsharing, individual incentives (piece rates, performance bonuses) and profit sharing are all common techniques. Sizable pay increases are contingent on high performance; high performance is defined for individual employees (performance ratings linked to individual bonuses) as well as team performance (gainsharing) and the performance of the entire firm (profit sharing).

At Lincoln Electric, for example, individual incentives have been installed for every production job as well as the sales force (commissions). All support staff and management is on a conventional merit pay plan. Profit sharing, for which all employees are eligible, is not allocated to employees according to their earnings. Rather, profit sharing bonuses are based on each employee's performance rating. So even with a group

based incentive (corporate profits), individual bonuses are allocated according to individual performance. Bonuses at Lincoln Electric typically equal or exceed regular pay; total earnings of over $40,000 for factory employees are common.

The emphasis on individual versus group behaviors is one difference in the inducement and commitment strategies. While both may use profit sharing in an attempt to link employees to the welfare of the firm, the commitment strategy does so based on individual earnings (determined by skill or job levels); the inducement strategy does so through individual performance ratings.

Other human resource strategies do not place the same emphasis on variable pay. Dyer & Holder (1988) and Foulkes (1986) point out that firms such as 3M, IBM, Hewlitt Packard and Eli Lilly reserve variable compensation for selected employee groups such as executives sales and top level managers. Dyer & Holder (1988) characterize these firms as following an "Investment Strategy" to manage their human resources. Respect for the individual, personal growth, internal equity and justice and high performance expectations are emphasized. High achievers (high school and college grade point averages used as hiring standards), employee competence (large expenditures on training and development) and workforce flexibility through retraining and redeployment are prescribed by this strategy. Rather than following the participation-facilitation emphasized in the high commitment strategy, an investment strategy focuses on closer control and performance standards.

A compensation plan using this strategy may include: (1) base pay determined by the salary paid for particular jobs (job evaluation or

straight time wages), and (2) individual performance based increases (performance ratings, merit increases or merit awards). Variable pay such as profit sharing and performance bonuses based on corporate financial performance are typically limited to higher level managers whose decisions directly affect corporate performance. However, in some firms, all employees participate in profit sharing.

The conclusion to be drawn from the foregoing is that gainsharing is embedded in the overall nature of the employment relationship. Many successful firms follow very diverse approaches to managing their human resources. Gainsharing is a dominant feature in some of these approaches, but not in others. And gainsharing plans themselves are diverse and employed for various ends. Further, it is important to note that the various human resource strategies referred to above are drawn from experience and case studies rather than empirical analysis. More rigorous analysis has only begun (deBejar & Milkovich, 1986).

These various human resource strategies discussed above do not exist in isolation. They are responses to experienced and anticipated pressures in the firm's external and internal environment. Economic pressures, legislative and regulatory directives, technological imperatives for work design and organization structures, union and employee expectations and even fads which sweep through management all affect the patterns of policies and practices which constitute human resource strategies.

GAINSHARING AND THE COMPENSATION SYSTEM

Gainsharing is part of the exchange between employees and employers. The nature of the exchange may be formalized through collective bargaining,

or it may be informal and implied, but an exchange occurs. Service and effort are rendered in exchange for returns. These returns include training, experience, status and self esteem (Roberts, 1986). But compensation occupies a dominant place. Consequently, to understand gainsharing and its possible effects also requires an understanding of its position in the total compensation system. In the next section of the paper gainsharing's relationship to two basic compensation policy decisions is examined: competitiveness in the market, and internal equity within the pay structure.

Competitiveness in External Markets

The first policy choice, the degree of competitiveness, refers to positioning a firm's compensation relative to its competitors. Leading, meeting and following competition are the conventional options (Milkovich & Newman, 1987). However, experience suggests that the choice is more complex particularly with firms using gainsharing plans.

The mix of different pay forms offered (base pay, individual incentives, gainsharing, profit sharing, benefits, and so on) affects the firm's pay posture relative to competitors. The use of gainsharing or merit bonuses (which do not roll into base) rather than merit increases (which do roll into base pay) give different signals in the market. For example, in an effort to control labor costs and link pay increases to performance, AT&T replaced merit increases with merit "awards". These awards do not roll in base pay. IBM, on the other hand, retains the more conventional form of merit increases. If both these firms make equivalent dollar offers to college graduates, the difference in their forms of pay

seems likely to establish different competitive positions.

The point is that the risk-return tradeoff inherent in the various forms of pay signals both applicants and current employees, and presumably affects their behaviors. Consider two pay plans, Lincoln Electric and another hypothetical firm. Both plans offer employees the opportunity to earn $40,000. The Lincoln Electric plan has a base of $20,000 and the potential to double that via gainsharing. The other firm offers a $25,000 base with the potential to earn $15,000 through gainsharing. Whether the two plans have equivalent competitive positions depends on the risk-return tradeoffs for prospective employees. Lincoln Electric seems to be signalling a riskier opportunity, but it depends on the probability of receiving the bonuses. The hypothetical firm's offer of $25,000 base is a certainty, but the likelihood of earning the $15,000 bonus needs to be considered, too. Perhaps more risk adverse individuals will choose one firm over the other. But which offer is less risky depends on the likelihood of receiving the bonus, the size of the bonus, plus the base pay.

Obviously, the greater the proportion of total pay linked to gainsharing, the less income security an employee has. Japanese employees typically receive between 20 and 60% of their total compensation as gainsharing bonuses. How differences in uncertainty of earnings affect employee behaviors such as the decision to join, to leave, to work smarter, or to unionize is based only on conjecture. Common sense suggests that high base coupled with a high probability of earning a large bonus will be very appealing. The effects of different permutations of these factors are not well understood.

In addition to affecting employee work behavior, the risk-return tradeoff of gainsharing affects the competitiveness of a firm's pay. To understand these effects an offer of the opportunity to share financial gains needs to be considered in the context of the level of the base pay, the likelihood of sharing in the gains (or loss), the mix of other forms in the pay system and what other firms in the markets are offering. Similarly, a tax policy designed to encourage gainsharing through preferential tax treatment would need to consider the compensation system in toto. Firms following an "Investment" human resource strategy that does not emphasize gainsharing may be disadvantaged compared to firms following "High Commitment" or "Inducement" strategies under tax policies which favor variable compensation. In addition the possibility of substitutions between gainsharing and investments in employee training or other personnel policies need to be examined.

Internal Equity and Pay Differentials

The nature of the internal pay structure is another policy choice faced in compensation. It involves pay differentials among jobs, occupations and skill levels within organizations. The focus of current interest regarding internal pay structures includes approaches for reducing the number of job classifications and pay levels, replacing rigid work rules associated with detailed job descriptions, and remedying pay equity concerns of women and minority employees.

Bonuses paid under gainsharing may also create differentials. By design, differential gains experienced by different work teams or among various facilities will yield differential bonus payments. For example,

the Owatonna Tool Company, which manufactures hydraulic tools for automotive repair, organizes its plants into semi-autonomous teams of six to eight employees. Each team is responsible for assembling specific product lines, and each has its own performance standards. Each team member receives a base wage based on the skills required to perform a set of tasks. Team bonuses are determined by comparison of the team's actual performance per quarter against a standard which includes production, quality and safety factors.

Bonus differentials are common among the teams. Some portion of the bonus differences is attributable to factors directly under the team's control, but a portion is also attributable to differences in product lines, tolerances specified by customers, and the abilities of team members to insure that all its members are "pulling together." Some teams have had the opportunity through attrition to hire new members, others have not. The effect of these bonus differentials on each team's spirit, trust, openness or other factors considered important under a high commitment strategy has not been systematically examined. It would seem that gainsharing plans which create differentials among teams and/or subunits would have a different effect on employees from those plans that do not. Emphasis on egalitarianism and internal equity creates pressure to insure that all teams have equal opportunities to share in gains. This ideal is often difficult to attain. Different products, different skill compositions, and different machinery are commonplace occurrences among teams within single facilities. Owatonna Tool has a steering committee which consists of a member from each team. The committee attempts to balance factors among the various teams. But some of the factors which

create differences are simply part of the situation and are difficult to adjust.

CONCLUDING OBSERVATION

Understanding gainsharing requires understanding the broader patterns of human resource policies and practices within which gainsharing operates. Managers, union officials and employees all need to recognize that adopting gainsharing schemes without consideration of other pay practices and the firm's overall approach to employee relations is shortsighted. Analysts contemplating policy recommendations to legislative bodies also need to recognize this broader context in which gainsharing plays a part. Many successful firms adopt human resource strategies in which gainsharing simply does not make sense. Researchers need to develop models that include many of the factors discussed in this paper. Attempting to understand gainsharing through many existing models limits what we think is relevant and how we interpret what we see. The patterns of human resource policies as well as the business strategies and external conditions in which the firm operates need to be included in any examination.

Footnotes

1. For convenience, the term gainsharing will be used in this paper to refer to all forms of variable compensation, including profit sharing. Distinctions among the various techniques will be used to report specific data or develop a point. In the compensation field, gainsharing and profit sharing are treated as two related but distinct techniques. Gainsharing usually refers to group-based incentives in which the bonus payment is determined by comparing the group's actual performance against a predetermined standard. Standards may be defined as costs, quality, quantity, safety, absenteeism and so on. Profit sharing extends beyond work groups to include all employees in a profit center or an organization. Some threshold level of profits is the standard with profit sharing.

2. Differences in results among the American Productivity Center (1987) and Mitchell & Broderick (1987) surveys are probably attributable to sample differences. Mitchell & Broderick relied heavily on firms which file IRS Form 5500, required if deferred compensation is used. The APC relied on American Compensation Association membership, a much broader cross section of U.S. firms.

3. The discussion of various prototypical human resource strategies relies heavily on recent work by Dyer & Holder (1988).

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