

# Unionization, Union Involvement, and the Performance of Gainsharing Programs

Dong-One Kim et Paula B. Voos

Volume 52, numéro 2, 1997

URI : <https://id.erudit.org/iderudit/051168ar>  
DOI : <https://doi.org/10.7202/051168ar>

[Aller au sommaire du numéro](#)

Éditeur(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (imprimé)  
1703-8138 (numérique)

[Découvrir la revue](#)

Citer cet article

Kim, D.-O. & Voos, P. B. (1997). Unionization, Union Involvement, and the Performance of Gainsharing Programs. *Relations industrielles / Industrial Relations*, 52(2), 304–332. <https://doi.org/10.7202/051168ar>

## Résumé de l'article

Nous traitons ici de la question de savoir d'abord si la présence syndicale influence le rendement d'un programme de partage des gains et, ensuite, si la participation du syndicat à l'administration du programme en favorise le succès.

Nous adoptons quatre perspectives théoriques pour examiner ces questions : (1) un modèle de coût agence/transaction basé sur la théorie économique néoclassique ; (2) un modèle monopolistique basé sur l'analogie entre le monopole syndical et le monopole sur le marché du produit ; (3) un modèle institutionnel ou de voix collective, et (4) un modèle à deux visages où les syndicats sont en même temps des monopoles et des voix collectives.

Les deux premiers modèles insistent sur les influences négatives des syndicats sur le partage des gains. À l'opposé, le modèle de la voix collective prédit un impact positif des syndicats sur le rendement du partage des gains, surtout si cette voix s'exprime par une implication dans l'administration de tel programme. Le dernier modèle suggère que les syndicats peuvent aider ou nuire au rendement du partage des gains, selon lequel des deux visages prédomine. Comme le modèle de la voix collective, ce dernier modèle prédit qu'une insistance plus grande sur la voix collective, par des exercices conjoints, va accroître l'efficacité du programme.

Nous avons vérifié empiriquement ces théories en colligeant des données auprès de 217 établissements aux États-Unis et au Canada qui ont vécu des programmes de partage des gains (sur les 622 originalement pointés). Nous utilisons l'analyse de régression multiple pour estimer les relations entre la présence syndicale, son implication dans l'administration des programmes et l'efficacité de ceux-ci.

Les données de base incluent les évaluations managériales du succès des programmes. Deux variables dépendantes sont utilisées : l'une simple, l'autre composée. Pour cette dernière, nous recourons à la mesure des moindres carrés. Quant à la première, nous utilisons l'analyse probit. Nous appliquons notre analyse tant à l'échantillon global qu'à des sous-échantillons selon le statut syndical.

Les résultats des études empiriques démontrent deux situations syndicales divergentes de façon très similaire quelle que soit la mesure d'efficacité de programme utilisée. Là où les syndicats ne sont pas impliqués dans leur administration, les programmes de partage de gains dans le secteur syndiqué connaissent moins de succès que ceux en milieu non syndiqué.

L'inverse est également vrai. Tout cela suggère que l'implication syndicale est cruciale pour le succès de tels programmes dans le secteur privé. De plus, pour ces régressions n'impliquant que l'échantillon syndiqué, la participation syndicale dans l'élaboration du programme est un prédicteur positif et significatif du succès de celui-ci. En somme, vu l'effet négatif sur tels programmes de la non-participation syndicale, nos résultats concordent le plus avec le modèle des deux visages de l'organisation syndicale. Là où les syndicats ne supportent pas le partage des gains, qu'ils en soient exclus ou qu'ils y soient hostiles pour toutes sortes de raisons, le caractère monopolistique de ceux-ci domine et les programmes connaissent alors moins de succès qu'en milieu non syndiqué.

Là où les syndicats appuient le partage des gains et là où la gérance accepte l'approche conjointe, le volet de la voix collective des syndicats va prédominer.

Notre étude démontre de plus que le rendement des programmes de partage des gains est relié de façon significative aux variables de contrôle suivantes : la taille du groupe bonus, la sorte de plan de bonus, l'environnement industriel, vote ou absence de vote lors du lancement d'un plan et la quantité de formation donnée aux employés. Les équipes d'employés et les comités sur la qualité de vie au travail sont en relation significatives et positives avec la performance du partage des gains dans le sous-échantillon syndiqué seulement. Cela peut servir d'appui à la position qui veut que l'implication des employés a plus de potentiel en milieu syndiqué à cause de la fonction de voix collective des syndicats. Les résultats démontrent également que des programmes extensifs d'implication des employés produisent de meilleurs résultats en partage du travail que les programmes moins rigoureux.

Au-delà des preuves à l'appui et à rencontre des différentes théories, la présente étude est forte de conséquences pour l'entreprise et pour les syndicats. Il n'est en apparence pas sage pour les entreprises d'isoler les syndicats dans l'opération de tels programmes, de les exclure de leur administration ou d'utiliser tel programme comme menace au syndicat. Telle stratégie risque de mettre en péril le programme de partage des gains et ainsi causer de sérieuses pertes d'investissements humains et financiers. Les gestionnaires canadiens et américains auront tendance à sous estimer le rôle positif des syndicats dans ces programmes de partage de gains, rôle prouvé sur lequel on doit insister.

Les syndicats devraient prendre note de ces résultats. Apparemment, les programmes de partage de gains produiront plus de bénéfices monétaires pour les membres (par des accroissements de productivité) si le syndicat y est activement impliqué. Garder ses distances, être en opposition ou en attente ne semblent pas être des positions optimales pour le syndicat lorsque l'entreprise propose un programme approprié de partage des gains. En plus, certaines indications existent à l'effet que la participation syndicale à l'élaboration de tel programme contribue à son succès.

En conclusion, les syndicats ne sont ni bons ni mauvais pour le partage des gains. Leur influence dépend de leur degré de support pour tel programme et de leur implication active dans son administration. Tant les théoriciens que les praticiens en relations industrielles doivent réaliser la complexité de la relation entre syndicats et programme de partage des gains.

# *Unionization, Union Involvement, and the Performance of Gainsharing Programs*

DONG-ONE KIM  
PAULA B. VOOS

*This study empirically examines the relationships between union status, union involvement, and the performance of gainsharing programs. Using survey data from 217 establishments in the U.S.A. and Canada, the authors evaluate the predictions of various competing theoretical perspectives: the agency/transaction cost approach, the monopoly model, the institutional voice model and a “two faces” model of labour organization. Ordered-probit and OLS regression results show that gainsharing programs with union involvement in program administration resulted in better perceived performance than average programs in the nonunion sector. However, gainsharing programs in the union sector without union involvement had worse outcomes than those in the nonunion sector. These two divergent situations resulted in union status itself having an insignificant relationship with program performance. These results are most compatible with the “two faces” model.*

Gainsharing is increasingly common in American corporations, even though in many companies it does not cover a majority of employees. One study (cited in Appelbaum and Batt 1994: 65) found an increase from 12 to 21 percent of firms in a fixed sample used gainsharing between 1991 and 1992; Lawler, Mohrman and Ledford (1992) report an increase from 26% to 39% of Fortune 1000 firms using gainsharing to some extent between 1987 and 1990.<sup>1</sup>

- 
- KIM, D.-O., School of Business, State University of New York-Oswego and Korea University.
  - VOOS, P.B., Industrial Relations Research Institute, University of Wisconsin, Madison, Wisconsin.

1. In this study, gainsharing is defined as a group-based contingent compensation plan, often combined with an employee involvement component. Gainsharing is often confined to a

Despite the familiar assertion that unions have generally been less than enthusiastic supporters of gainsharing (Kochan, Katz, and Mower 1984; Ross and Ross 1990; Zalusky 1986), recent studies show that gainsharing is more, or at least equally, common in unionized companies. For example, Eaton and Voos (1992), in their analysis of 308 firms, found that 18.4% of unionized firms (33 out of 174) were operating gainsharing, while 11.2% of non-union firms (15 out of 134) had gainsharing. Globerson and Parsons (1988) found 53% of 92 companies in their sample implementing Improshare to be unionized. Finally, Kaufman (1992) reported that 61% of 82 companies implementing Improshare were unionized.

However, the relationship between unionism and the performance of gainsharing has not been rigorously investigated. There is only fragmentary evidence regarding how union status itself and/or union involvement in gainsharing programs affect the outcomes of such programs. Empirical studies of these issues first appeared in the early 1990s and, to date, findings have not been consistent. Kaufman (1992), analyzing 112 responses from users of Improshare Plans, found some evidence that Improshare may be more successful in unionized establishments than in nonunion ones. In an analysis of 841 manufacturing firms in Michigan, however, Cooke (1994) found that gainsharing programs contributed more to profitability in nonunion firms than in unionized firms, even though productivity improvements were greater in union firms.<sup>2</sup> In earlier work, Cooke (1992) found that employee involvement programs with joint union-management administration were significantly more effective than programs with sole management administration in the union sector, but it is not clear whether or not the same would be true for gainsharing programs. Clearly, it is premature to draw conclusions regarding the impact of unionism on the effectiveness of gainsharing from this small number of studies.

In this study, we first survey various propositions on the relationship between union presence, union involvement in administration ("jointness"), and the effectiveness of gainsharing programs from the perspective of several major theoretical models. The respective predictions of each model are then assessed using survey data from 217 establishments with gainsharing experience in North America. Unfortunately, since only 4.6% of the programs

---

minority of employees — only 3% of firms reported that more than 40% of their employees were covered by gainsharing (Lawler, Mohrman, and Ledford 1992). According to O'Dell and McAdams (1987), 73% of the current 211 gainsharing programs identified by a survey of the American Compensation Association have been initiated since 1980.

2. Among firms operating gainsharing or profit-sharing, Cooke found that value-added per employee was higher in unionized firms than in similar nonunion firms. However, because wage differences were even greater, profits were lower in unionized firms.

(10 programs) were located in Canada, we are not able to analyze U.S./Canada differences in the operation or success of these programs. One key issue which do we examine is whether or not gainsharing is more effective in union or nonunion establishments. Another involves the impact of union involvement or non-involvement in program administration.

### ***MODELS LINKING UNIONS AND THE PERFORMANCE OF GAINSHARING PROGRAMS***

It is generally believed that a successful gainsharing program requires three conditions: an equitable bonus scheme, an employee involvement system, and the philosophy of cooperation (e.g., Frost, Wakely, and Ruh 1974; Graham-Moore and Ross 1990). In other words, gainsharing motivates individual employees by utilizing money as a motivator, by getting them to participate in decision-making, and by strengthening their sense of identity with the company. In a successful gainsharing program, these three components are mutually reinforcing. That is, a higher level of cooperation leads to information sharing and free communication, which in turn leads to effective employee involvement. This employee involvement system improves organizational performance. This increase in performance then results in a financial bonus which rewards or reinforces the philosophy of cooperation.

One can argue that unionization and union involvement in gainsharing influence each of the three mechanisms either positively or negatively. For example, unionism might either increase the power of money as a motivator by guaranteeing a fair distribution of gains, or it might decrease it by reducing the size of bonus due to increased free-rider problems in unionized establishments. Unionism might either help improve the employee involvement program through its collective voice function, or might hinder involvement by blocking the relaxation of work rules. Likewise, unionism might strengthen the cooperative atmosphere by supporting gainsharing, or might be associated with increased adversarialism.

While a number of arguments on the influence of unionism on the performance of gainsharing programs can be found in the literature, it is possible to classify and integrate them into the following competing models: (1) an agency/transaction cost model based on neoclassical economic theory, (2) a monopoly model based on the analogy between unions and product market monopolies, (3) an institutional or collective voice model and (4) a "two faces" model in which unions simultaneously are monopolies and provide collective voice. The first two models regard unions as an obstacle to gainsharing programs, whereas the other two stress the potential beneficial effects of unionism for gainsharing programs, particularly if the union supports the program and is involved in its administration ("jointness").

Table 1 summarizes the theoretical discussion and the predictions of the competing models.

TABLE 1  
Unions, Union Involvement, and the Performance  
of Gainsharing Programs: Four Models

<i>Models</i>	<i>Hypothesized Effects on Performance</i>		
	<i>Gainsharing</i>	<i>With Union-ization*</i>	<i>With Union Involvement**</i>
Agency/Transaction Costs	Negative	Negative	Negative
Monopoly	Positive	Negative	Negative
Institutional Voice	Positive	Positive	Positive
Two Faces	Positive	Uncertain	Positive

\* Gainsharing's impact on performance in union, as compared to nonunion, environments.

\*\* Gainsharing's impact on performance in union environments with union involvement in program administration as compared to its impact on performance in union environments without union involvement.

### *Agency/Transaction Cost Models*

Economists traditionally have been skeptical of a positive effect of gainsharing on organizational performance, except in very small establishments. Based on economic reasoning, agency cost theorists argue that under a group incentive, such as gainsharing, each worker must bear the cost of any additional personal effort, but the benefits of that gain are shared among members of a group (Shepard 1994).<sup>3</sup> This furnishes incentives for individuals to free-ride, since they do not get the full benefit of their additional effort and because, regardless of their own contribution, they can profit from an improvement in group performance due to others' efforts (Cooper, Dyck and Frohlich 1992).

Agency cost theorists argue that the 'classical capitalist firm' is established in order to circumvent this free-riding problem by assigning the task of monitoring to a specialist whose incentive to monitor is his/her claim to the team's 'residual' income. That is, if the monitor is to receive any residual

3. Specifically, under gainsharing workers will receive  $1/n$  of the fruits of any extra effort, and the direct monetary incentive to the individual worker is likely to be close to 0, particularly in large establishments.

profits above prescribed amounts, the monitor will have a strong incentive not to shirk as monitor. It is argued that under gainsharing the benefits of monitoring of a group activity tend to be spread among the bonus group members, and the individual incentive to monitor might be small. Thus, gainsharing may result in labour shirking and inefficient supervision because the rights to the residual are not vested in the central monitor (management) of the establishment (Alchian and Demsetz 1972; Carson 1977).

Further, agency theory postulates that as the number of decision makers or agents increases, the costs of motivation and monitoring increase because of an increase in the agency costs — the costs the owners must pay to motivate the employees to act on their behalf and the costs incurred by the inevitable imperfections in the motivational arrangements. The obvious agency costs are those associated with the reduced incentives for the user to maintain the asset properly, to guard it from theft, and the increased incentives to misuse it (Jensen and Meckling 1976 and 1979).

In the similar vein, transaction cost theorists argue that an increase in the number of decision makers incurs more transaction costs — costs incurred by communication among decision makers and time spent in making and carrying out decisions. Central decision making is viewed as more advantageous than decentralized decision making, especially in large organizations, because the volume of information required by decision-makers expands (e.g., Williamson 1975).

A logical extension of the agency/transaction theory is that a gainsharing program is inherently inefficient because it results in free-rider problems and additional agency/transaction costs. Obviously, when a union is involved in the administration of the gainsharing program, the number of agents and the complexity of decision making will be further increased. The agency/transaction cost hypothesis implies that even the most cooperative union can be an obstacle to improving organizational performance in gainsharing programs (see Table 1).

Some agency theorists, however, have viewed gainsharing as having a positive potential. They point out that group incentives such as gainsharing may reduce monitoring costs borne by the firm, by transferring them to the workers. That is, where monitoring is difficult because of the complexity of work and workers' hidden knowledge/information, gainsharing may be a more efficient arrangement (compared to fixed wage contracts) since gainsharing reduces monitoring costs and provides direct work incentives (Putterman 1984; Stiglitz 1974). Moreover, one can identify circumstances where union environments can improve the performance of gainsharing programs by reducing transaction costs, especially those borne by the corporation. Existing union channels of communication can be used to

communicate with organized employees. Union communication channels can be instrumental in promoting top-down communication (e.g., informing workers of the details of an gainsharing program), as well as bottom-up communication (e.g., conveying their collective opinions to managers in designing and operating an gainsharing program), at a low cost to the firm. Thus, it is notable that reasonable extensions of agency/transaction cost theory might not be so unambiguously negative regarding gainsharing.

Despite these theoretical nuances, the agency/transaction model as developed to date has been primarily interpreted as predicting that gainsharing programs are inherently ineffective because of free-riding and increased agency/transaction costs, and that having more parties involved (with unionism) would cause even greater problems.

### ***The Monopoly Model***

Viewing unions as a monopoly, some claim that unions hamper organizational performance by forcing firms to use more labour than they otherwise would (e.g., Simler 1962). Proponents claim that unions negotiate restrictive work rules which limit management's ability to introduce new technology (e.g., Addison 1984) and force management to adopt inefficient personnel practices (e.g., Kaufman and Kaufman 1987). If unions indeed place restrictions on employers' effort to improve efficiency by using various monopoly-like behaviours, it is not a surprising notion that unions might be a major obstacle to the effective functioning of a gainsharing program.

An extension of the monopoly view suggests that unions might hinder the performance of gainsharing programs by impeding the optimal design and efficient operation of gainsharing programs. For example, when unions are involved in designing programs, the structure and elements of the gainsharing programs might be suboptimal. This would occur if the union's input causes the program to reflect the interest of union members as opposed to firm performance — for instance, by insisting on an employee bonus share that is too high to elicit company commitment. In addition, the union may resist the relaxation of work rules that may accompany gainsharing efforts. If the union places restrictions on gainsharing efforts to improve efficiency, it can become an institutional obstacle to effective program functioning (Cooke 1992; McMahan and Lawler 1994). Another possible negative union impact is a weaker co-worker monitoring effect in union establishments. Union leaders may discourage members from reporting shirking members to supervisors, and/or prohibit team members from disciplining other members. Thus, according to this view, the issue of free riding can be more serious in unionized establishments (Cooke 1994).

The monopoly view suggests that both the existence and involvement of a union would reduce the effectiveness of gainsharing programs. It is noteworthy that, unlike the agency/transaction cost model, the monopoly model implicitly assumes that gainsharing programs can be effective in improving firm performance but that union environments compromise gainsharing effectiveness (see Table 1).

### *The Institutional Voice Model*

According to the institutional voice model, workers in a unionized firm can voice dissatisfaction to the employer through their union, rather than simply exiting the firm in search of better jobs. By communicating the legitimate interests of members to management and by negotiating more satisfactory terms and conditions of employment, unions make employees less likely to quit. Their accumulated skill makes them more productive than workers in the nonunion sector (Freeman and Medoff 1984). Like monopoly theorists, institutional voice theorists typically assume that gainsharing can improve organizational performance.

Based on this line of reasoning, some argue that gainsharing programs have a greater potential when implemented in a unionized workplace, conditional on union support and participation, than in a nonunion workplace. First, union-negotiated gainsharing plans will be more likely to provide equitable financial rewards. Second, unions provide a mechanism by which workers can utilize their collective voice in the design and operation of a program on a long-term basis. This improves program design, according to the institutionalists, because workers have knowledge overlooked by managers. It also means that programs are more balanced. That is, gainsharing programs in union companies are more likely to be concerned with enhancing the quality of worklife and other direct worker goals, along with increasing productivity. All this aids program survival. Third, unionized workers are more secure in criticizing existing practices, requesting information from supervisors or managers, and in challenging management's proposed solutions. Fourth, a union can be instrumental in educating employees and communicating with workers about the gainsharing program, which improves its functioning. Finally, unions are in a position to insure that employers do not abandon such plans unilaterally. Unionized firms provide a more stable environment in operating gainsharing, especially when management turnover is high (Eaton and Voos 1992; Kelley and Harrison 1992).

In settings where unions are not involved in designing and administering gainsharing programs, however, some of the positive effects from the collective voice mechanism may not be realized. For example, some unions may allow a gainsharing program launched by management to go on while



distancing themselves from it. This might occur for ideological reasons or because union leaders believe the particular program implemented would, on balance, disadvantage their members (e.g., by increasing the intensity of work without having sufficient off-setting benefits). Other unions may oppose gainsharing programs or even attempt to destroy them, especially if the union believes management's true intent is to undermine the institutional integrity of the union (Verma and McKersie 1987). When unions do not participate in the gainsharing programs, institutional voice theorists would expect that gainsharing programs would be less effective in accomplishing their objectives. In summary, the institutional voice model predicts that gainsharing programs have more potential in union than in nonunion environments, and that union involvement in gainsharing administration will result in better outcomes (see Table 1).

### ***The Two Faces Model***

According to this approach, unions have two faces: a "monopoly" face, which relies on the use of bargaining power to raise wages and achieve other worker goals; and a "voice" face, which involves the simultaneous provision of collective voice to the employees of the firm (Freeman and Medoff 1984). Applied to gainsharing, this approach could be viewed as an amalgam of the monopoly and institutional voice approaches, with the ultimate impact of unions on gainsharing effectiveness depending on whether the monopoly aspect or the collective voice aspect predominates.

Like both the monopoly and institutional voice models, the underlying assumption here would be that gainsharing can increase firm performance. Whether or not gainsharing does so in the unionized firm depends on the union's goals, its bargaining power, the approach it chooses to take to the gainsharing program, and its ability to provide a vibrant channel of communication between employees and the employer. Gainsharing might be globally more (or less) successful in union establishments in this model depending on whether the collective voice (or monopoly) aspect of unionism predominates. Since collective voice contributes to gainsharing success, however, union involvement in program administration becomes particularly critical for gainsharing success in the two faces model (see Table 1).

### ***OTHER DETERMINANTS OF THE PERFORMANCE OF GAINSHARING PROGRAMS***

In testing these theories empirically, it is necessary to hold constant other factors besides unionization or union involvement in program administration, factors which theoretically or empirically might be expected to

influence the overall performance of gainsharing programs. The variables potentially related to the performance of gainsharing programs which are controlled for here include: employee involvement (specifically the use of employee suggestions, employee teams, labour-management committees or QC/QWL groups), the use of employee vote, training, bonus group size, types of gainsharing formulas, and type of industry. The hypotheses for each of these variables and their rationales follow.

### *Employee Involvement*

While some gainsharing programs rely on employee involvement (EI) to pursue organizational improvement utilizing employee ideas and input, others do not. Gainsharing programs with formal involvement mechanisms are expected to lead to better outcomes than those without formal EI. EI can improve the outcomes of gainsharing for the following reasons: (1) it provides an opportunity to utilize employees' untapped knowledge and skills (Miller and Monge 1986); (2) it provides employees with greater intrinsic rewards and improves employee commitment to organizational goals, which may increase worker effort (Miller and Monge 1986); and (3) it generates group interaction and peer pressure to prevent shirking by worker-worker monitoring (Levine and Tyson 1990). Although these positive effects can be offset by costs associated with EI (e.g., reorientation and training costs [Cooke 1992] and greater transaction and monitoring costs due to the increased number of decision-makers [Levine and Tyson 1990]), the positive effects of EI should outweigh their negative ones. Previous research generally suggests that the EI component has positive effects on the performance of gainsharing (Bullock and Tubbs 1990; Gowen and Jennings 1991; Rosenberg and Rosenstein 1980; White 1979).

Employee involvement is accomplished in diverse ways in different gainsharing programs: employee suggestions, employee teams, labour-management committees, and QC/QWL groups are all common. While all of these programs are called EI, they are not identical — some are relatively minor interventions and some involve major restructuring of the workplace.<sup>4</sup>

---

4. Employee suggestion systems solicit suggestions from individuals on improving work practices. QC/QWL typically involve meetings of volunteers to suggest changes, although in a unionized company this same term may be used to refer to a structure with both workplace-level groups and higher-level union-management committees. Labour-management committees are composed of employee representatives and managers. They meet periodically to evaluate and act on suggestions contributed by individuals, to review business problems, to formulate plans for improving performance and to administer bonus plans (where applicable). Finally, employee team systems are characterized by a high level of involvement over a wide range of issues and a new form of work organization. They usually include a reduction in job classifications, cross-training, and team responsibility for some or all functions like material handling, maintenance, quality control and/or certain personnel decisions.

Each has distinctive pros and cons. While low-level EI systems (e.g., an employee suggestion system) are easy to implement without changing the existing work organization and/or organizational hierarchy, such systems provide only a low level of autonomy or participation in decision-making. While high-level EI systems (e.g., employee teams) guarantee a high level of autonomy and involvement, they can be difficult to implement in traditional, hierarchical organizations since they require fundamental restructuring of existing work organization.

In this study, the effect of each EI program is measured separately by utilizing four separate categorical variables (employee suggestion; employee teams; LM committees; and QC/QWL groups); obviously, a particular workplace could use more than one of these options. All forms of involvement were hypothesized to have a positive impact, but the more far-reaching forms (e.g., employee teams) should have a larger effect than the less extensive forms (e.g., employee suggestion schemes).

### ***Employee Vote***

In some organizations, employees are allowed to vote on whether or not gainsharing will be introduced. Because gainsharing success requires active employee participation, it is important that employees “buy into” the system, and decide that they want to see it succeed. Employees’ participation in deciding to implement a gainsharing system may enhance their commitment to the program (Jenkins and Lawler 1981). Their majority approval in a vote also serves as a good indicator of their overall motivation for and commitment to gainsharing. Thus, employee vote is expected to have a positive relationship with gainsharing performance.

### ***Training***

While some establishments provide employee training when the gainsharing program began, others do not. It was hypothesized that employee training enhances the performance of gainsharing, since training provides information to organization members about how gainsharing will work and what their role will be in the program. The rationale is that if employees clearly understand the gainsharing program, they will recognize the link between their efforts and gainsharing success. Presumably this strengthens their motivation to work harder and “smarter.” Also, when training provides employees with techniques in problem-solving, it enhances their ability to make a positive contribution to the success of the program.

### ***Gainsharing Group Size***

Some gainsharing programs cover all employees in an organization, while others cover only a specific group of employees (e.g., employees in

a particular department within the organization). Thus, there can be several gainsharing groups in an organization.<sup>5</sup> Previous studies focused mainly on the relationship between organization size and gainsharing outcomes, with conflicting findings (e.g., Kaufman 1992; White 1979). We focus on the size of the bonus group, rather than the size of the organization, since the former is conceptually related to the concept of "free riding." Many of the gainsharing programs in our sample are in larger firms with programs in particular locations or particular portions of an establishment.

It was hypothesized that small bonus groups will have better outcomes than large ones. The rationale was that individual workers in a small bonus group may perceive a stronger linkage between individual efforts and rewards and devote more effort to gainsharing than those in a large bonus group. Gainsharing provides an incentive for employees to work cooperatively and to monitor the efforts of co-workers (Weitzman and Kruse 1990). In a small bonus group, shirking workers are easily detected and co-worker sanctions can be more effective.

### ***Gainsharing Formulas***

Gainsharing programs differ in their bonus calculation methods. While custom-designed formulas tailored to the specific needs and situations of individual establishments have been implemented, standard gainsharing formulas are also available. These include Scanlon Plans (using labour-cost ratios), Modified Scanlon Plans (using production-cost ratios), Rucker Plans (using value-added ratios), and Improshare Plans (using unit-per-hour ratios). So far, very few studies have examined the relationship between types of formula and gainsharing performance. This merits investigation, although formal hypotheses concerning the various formulas were not developed.

### ***Type of Industry***

Although gainsharing programs were originated and have been heavily utilized in manufacturing industry, gainsharing has recently spread to other sectors, including mining, communications, retail, financial services and hospitals (e.g., Markham, Scott and Little 1992). While some believe that

---

5. The present sample shows that larger establishments are more likely to have more than one gainsharing programs than smaller establishments. That is, 29% of larger establishment (i.e., employing more than 400 employees) were reported to have more than one gainsharing programs, only 13% of smaller establishments (i.e., employing equal to or less than 400 employees) used multiple gainsharing programs. A t-test shows that the mean difference is significant at .05 level (one-tailed test).

gainsharing will work only in organizations where some type of tangible product is manufactured (Lawler 1986), few studies have examined industry differences.<sup>6</sup> In this study, the traditional belief that gainsharing is more likely to be effective in manufacturing is tested.

## ***RESEARCH METHODS***

### ***The Data***

First, establishments with gainsharing experiences were identified by contacting (1) gainsharing consultants and researchers, (2) unions, (3) labour education institutions, and (4) the U.S. Department of Labor. This provided a list of 622 establishments in the U.S.A. and Canada which had experience with a gainsharing program either currently or in the past. A survey was then mailed to a human resources or industrial relations manager at each establishment. Survey recipients were asked questions concerning the characteristics of their establishments, the features of their gainsharing programs, specifics of implementation, their evaluation of gainsharing success, and labour union involvement. Out of 622 surveys mailed in June 1992, 334 (58.4%) were returned; after excluding responses with missing data, 217 remained in the current sample.

Previous surveys on gainsharing provide some clues as to the representativeness of this nonrandom sample. While 22.6% of gainsharing programs (49 of 217 programs) in the present sample had been discontinued, previous surveys generally report 15–25% discontinuation ratios. In this regard, the most representative sample was gathered by Markham, Scott and Little (1992). In their 1991 random survey of 10,000 human resources professionals drawn from the membership list of the Society for Human Resource Management, respondents reported that 39 of 258 gainsharing plans identified by the survey had been discontinued (15.1% discontinuation ratio). Kaufman (1992) found that 23.2% of companies in his sample that implemented Improshare eventually discontinued it, while Fein (cited in Kaufman [1992]) estimated that 15–20% of Improshare programs were discontinued.

The mean age of all programs in our sample is 6.28 years, with continuing programs (6.33 years) being slightly older than discontinued programs

---

6. Bullock and Tubbs (1990), in their correlation analysis based on 33 reported case studies, found insignificant associations between manufacturing industry and gainsharing success. Markham, Scott, and Little (1992), again in a univariate analysis, did not find systematic differences between manufacturing and other contexts in terms of bonus payouts, participant satisfaction, or program longevity.

(6.11 years).<sup>7</sup> Clearly, maintaining a gainsharing program is a serious problem for gainsharing practitioners who seek to improve organizational performance using gainsharing. If gainsharing is a strategy to accomplish long-term improvements in productivity, product and service quality, quality of working life and labour-management relationships, it is important to understand why some gainsharing programs persist while others fail and what factors facilitate or inhibit the survival of gainsharing (Goodman and Dean 1995). This issue cannot be fully addressed in this paper – we merely note that our sample is similar to others with regard to the issue of discontinuation.

Second, 52.5% of the establishments in the present sample were unionized. Clearly our sample is more heavily unionized than the universe of private companies, even large private companies, in the U.S. and Canada. However, other surveys have also found that gainsharing is particularly common in unionized establishments. For example, Globerson and Parsons (1988) found that 53% of 92 companies implementing Improshare were unionized. Cooke (1988), based on a data set of 131 manufacturing firms in Michigan, found that while 9.0% of union firms used gainsharing, only 1.8% of nonunion firms operated gainsharing. The re-analysis of Finseth's (1988) data by Eaton and Voos (1992) shows that 46.3% of unionized firms listed in the COMPUSTAT data set operated gainsharing, compared to 25.6% of nonunion firms. Analyzing the General Accounting Office data set, Eaton and Voos (1992) also found that unionized companies are significantly more likely to use gainsharing than nonunion companies – 33% of unionized companies and 15% of nonunion ones operated gainsharing. The above comparisons suggest that, while our sample is not random, it is reasonably representative at least with regard to continuation/discontinuation and union status.

### *Measures*

The variables used in this study were measured by the questions in the mail survey. Definitions and descriptive statistics of dependent and independent variable can be found in Table 2.

---

7. Most continuing programs (146 of 168 continuing programs; 86.9%) are less than 10 years old, while some programs are as old as 41 years. Two-to four-year old programs are most common (62 programs) among continuing programs, which reflects the widespread experimentation with gainsharing in recent years. No discontinued program had existed longer than 19 years, and a majority of programs (41 of 49 programs; 83.7%) were discontinued before 10 years of existence. Interestingly, the greatest number of programs were discontinued at age 4 (11 programs), followed by age 3 (8 programs).

To measure the effectiveness of gainsharing programs, two dependent variables were utilized. First, a single-item measure was utilized (single measure). Respondents were asked the following question: "The gainsharing program at your establishment turns (turned) out to be overall \_\_\_\_\_" (Very successful=4; successful=3; neither successful nor unsuccessful=2; unsuccessful=1; very unsuccessful=0).

In addition, a more complex scale was developed to measure the total effectiveness of the gainsharing programs (composite measure). The following five objectives common to gainsharing programs (Cotton 1993; Gowen 1991; Schuster 1983 and 1984) were utilized in developing the composite measure: (a) improving productivity, (b) reducing production costs, (c) improving quality of products, (d) improving employee compensation, and (e) improving labour relations.

Since each establishment may have different objectives in implementing a gainsharing program, in determining the total effectiveness of the program it was necessary to assign a weighted value to each of the above objectives. The composite measure is the sum of the values that multiply the relative importance of each objective by the degree of success in accomplishing that objective.<sup>8</sup> The correlation analysis shows that these two dependent variables (composite and single measures) are highly correlated; the correlation coefficient is .78 between the two dependent variables.<sup>9</sup>

### ***Analysis***

Both measures of gainsharing performance – single and composite – were used to test the various hypotheses. For the composite measure, ordinary least squares (OLS) was employed. For the single measure, ordered probit analysis was used. The ordered probit technique avoids arbitrary assumptions about scale, explicitly recognizing the ordinality of categorical dependent variables, and generates consistent estimates under fairly general

---

8. The procedure to calculate this scale is composed of three steps. First, respondents were asked to choose one among three response categories (less important: coded 1, important: coded 2, and very important: coded 3) in indicating the importance of the five objectives of gainsharing programs. The relative importance of each objective was computed by dividing the importance of each objective (1, 2, or 3) by the sum of all five responses on the importance of objectives. Then, respondents were asked to state the degree of success in each of the five objectives, and the degree of success (i.e., 1 through 5) was multiplied by the relative importance of each objective. The final score of this scale was calculated by adding up these values that multiply the relative importance of each objective by the degree of success in accomplishing that objective.

9. The composite and single measures are also positively correlated with another effectiveness measure of gainsharing, the average ratio of the gainsharing bonus to employees' normal wages. The correlation coefficients of composite and single measure with the bonus ratio are .52 and .33 respectively. Both coefficients are significant.

TABLE 2  
Variable Definitions and Descriptive Statistics

<i>Variables</i>	<i>Variable Definitions and Categories</i>	<i>Mean</i>	<i>S. D.</i>	<i>Range</i>
Pooled Sample (N=217) Composite Measure	Sum of the values that multiply the degree of success (e.g., very successful =5; very unsuccessful =1) in accomplishing each of five objectives in implementing gainsharing (improving labour productivity, reducing production costs, improving quality of products, improving employee compensation, and improving labour relations) by the relative importance (very important=3; less important=1) of each of the five objectives.	.61	.14	.29-.96
Single Measure	The gainsharing program at your establishment turns (turned) out to be overall _____. (Very successful=4; successful=3; neither successful nor unsuccessful=2; unsuccessful=1; very unsuccessful=0)	2.56	1.09	0-4
Union	Whether or not unions represented production employees (yes=1, no=0)	.53	.50	0-1
Union Involvement (2 variables) Involved Union	Union strongly supported and actively participated in the operation of the program=1; Otherwise=0	.12	.33	0-1
Non-involved Union	Union did not participate in or opposed to the operation of the program=1 Otherwise=0	.40	.49	0-1
Nonunion	Omitted benchmark category			
Employee Suggestion	The employee involvement component of gainsharing includes an employee suggestion system=1; No employee suggestion system=0	.58	.50	0-1
Employee Teams	The employee involvement component of gainsharing includes employee teams=1; No employee team=0	.47	.50	0-1
LM Committees	The employee involvement component of gainsharing includes labour-management committees such as production and screening committees=1; No LM committee=0	.52	.50	0-1
QC and QWL Groups	The employee involvement component of gainsharing includes QC, QWL and other problem-solving/task force groups=1; No QC/QWL group=0	.29	.46	0-1



TABLE 2 (continued)

<i>Variables</i>	<i>Variable Definitions and Categories</i>	<i>Mean</i>	<i>S. D.</i>	<i>Range</i>
Pooled Sample (N=217)				
Employee Vote	An employee election was administered to determine if there would be a gainsharing program in the establishment=1; Otherwise=0	.36	.48	0-1
Training	Whether employee training was provided when the gainsharing program began=1; Otherwise=0	.90	.30	0-1
Gainsharing Group Size (2 variables)				
Small Group	A gainsharing group composed of less than 100 employees=1; Otherwise=0	.32	.47	0-1
Large Group	A gainsharing group composed of more than 500 employees=1; Otherwise=0	.13	.34	0-1
Medium-sized Group	Omitted benchmark category			
Gainsharing Formula Types (4 variables)				
Scanlon Plan	Scanlon plan=1; otherwise=0	.14	.34	0-1
Modified Scanlon Plan	Modified Scanlon plan=1; otherwise=0	.18	.39	0-1
Rucker Plan	Rucker plan=1; otherwise=0	.13	.34	0-1
Improshare Plan	Improshare plan=1; otherwise=0	.36	.48	0-1
Customized plan	Omitted benchmark category			
Manufacturing	Manufacturing=1; otherwise=0	.92	.27	0-1
Union Subsample (N=114)				
Involved Union	Union strongly supported and actively participated in the operation of the program=1; Union did not participate in or opposed the operation of the program=0	.24	.43	0-1
Covered by Labour Agreement	Gainsharing is covered by the labour agreement (or memorandum of understanding) and grievance/arbitration procedure=1; Otherwise=0	.33	.47	0-1
Union Participation in Design	Management and union design the program together (with or without involvement of outside consultant)=1; Management or an outside consultant designed the program=0	.22	.42	0-1
Union's Monitoring Mechanism	The union has a mechanism to monitor the program (such as union officer(s) or a committee responsible for the program)=1; The union has(d) no mechanism to monitor the program=0	.57	.49	0-1

conditions (Amemiya 1981). The analysis was conducted separately on a pooled sample (unionized and nonunion together) and a split sample.

In the regression analyzing the pooled sample, the effect of union presence or absence on the performance of gainsharing programs is assessed with the use of a categorical (0–1) union status variable. In order to examine the question of whether union involvement (or non-involvement) in program administration in unionized establishments leads to better (or worse) outcomes than the average for nonunion establishments, a second set of regressions was estimated. In it, the single 0–1 union status variable is replaced by two categorical variables, one for unions which are involved in gainsharing program administration and one for unions which are not (the nonunion observations are the benchmark reference category). In the regression analysis of the union subsample, involved union is the key independent variable (non-involved union is the benchmark category).

Furthermore, to examine the impact of specific mechanisms of union involvement on the performance of gainsharing programs, three additional variables were created. These measured (1) union participation in designing the gainsharing program, (2) whether or not gainsharing is part of the labour agreement or a memorandum of understanding between union and management and (3) the existence of a formal mechanism for a union to monitor the program. These were included as independent variables in the regression equations analyzing the union subsample.

## ***RESULTS AND DISCUSSION***

Regression results are presented in Tables 3 and 4.

### ***Unions, Union Involvement, and the Performance of Gainsharing Programs***

In the pooled sample (see Table 3), unionization itself appears to have an insignificant relationship with the perceived performance of gainsharing programs in both composite and single measure equations; the coefficient on union status is negative but insignificant. However, the results show that gainsharing programs with union involvement in unionized establishments are significantly more successful than average programs in nonunion firms. Coefficients on the involved union dummy variable are positive and statistically significant both in composite and single measure equations.<sup>10</sup> On the

10. Even without controls for other variables, the mean scores of single and composite measures for the gainsharing programs with union involvement in program administration (3.15 and .66 respectively) were higher than average programs in the nonunion sector (2.63 and .62 respectively). T-tests show that differences between means are significant at .10 and .01 levels respectively.

TABLE 3  
**Relationships with Perceived Performance of Gainsharing Programs**  
**(Pooled Sample; Standard Errors in Parentheses)**

<i>Independent Variable</i>	<i>Dependent Variable: Perceived Performance of Gainsharing</i>			
	<i>Composite Measure (OLS)</i>	<i>Single Measure (Ord. Probit)</i>	<i>Composite Measure (OLS)</i>	<i>Single Measure (Ord. Probit)</i>
Union <sup>a</sup>	-.022 (.021)	-.047 (.163)		
Involved Union <sup>b</sup>			.060** (.032)	.741*** (.265)
Non-Involved Union <sup>b</sup>			-.046** (.021)	-.263* (.175)
Employee Suggestion	.014 (.020)	.008 (.165)	.012 (.019)	-.006 (.169)
Employee Teams	.015 (.019)	.140 (.144)	.015 (.018)	.146 (.149)
LM Committees	-.016 (.018)	-.089 (.140)	-.020 (.018)	-.134 (.145)
QC and QWL Groups	-.012 (.018)	-.058 (.150)	-.007 (.018)	-.005 (.154)
Employee Vote	-.00004 (.0001)	-.0003 (.072)	-.00007 (.0001)	-.0006 (.088)
Training	.015 (.033)	.302 (.246)	.002 (.032)	.199 (.244)
Small Group <sup>c</sup>	.027* (.017)	.185 (.197)	.033** (.016)	.240* (.187)
Large Group <sup>c</sup>	-.027* (.017)	-.184 (.294)	-.033** (.016)	-.239 (.281)
Scanlon Plan <sup>d</sup>	.043* (.022)	.433** (.202)	.047** (.022)	.483** (.197)
Modified Scanlon Plan <sup>d</sup>	-.032 (.020)	-.107 (.157)	-.040** (.020)	-.177 (.165)
Rucker Plan <sup>d</sup>	-.017 (.023)	-.284 (.226)	-.015 (.029)	-.282 (.218)
Improshare Plan <sup>d</sup>	.006 (.017)	-.043 (.136)	.008 (.016)	-.024 (.137)
Manufacturing	.00007 (.00004)	.0007** (.0003)	.00006 (.00004)	.0006** (.0003)
Constant	.601*** (.035)	1.548*** (.290)	.612*** (.034)	1.686*** (.284)
MU(1)		.849*** (.157)		.856*** (.157)
MU(2)		1.498*** (.167)		1.534*** (.166)
MU(3)		2.708*** (.187)		2.813*** (.187)
R <sup>2</sup>	.085		.135	
Log-Likelihood		-299.34		-291.38
N	217	217	217	217

<sup>a</sup> Unionized establishment = 1; nonunion establishment = 0

<sup>b</sup> If union was involved, Involved Union = 1, Non-Involved Union = 0; If union was not involved, Involved Union = 0, Non-Involved Union = 1; and if nonunion establishment, Involved Union = 0, Non-Involved Union = 0

<sup>c</sup> If less than 100 employees, Small Group = 1, Large Group = 0; If more than 500 employees, Small Group = 0, Large Group = 1; If more than 100, but less than 500 employees, Small Group = 0, Large Group = 0

<sup>d</sup> Omitted benchmark category = customized plan

\* p < .10 \*\* p < .05 \*\*\* p < .01 (two-tailed tests for control variables including Scanlon, Modified Scanlon, Rucker, Improshare plans, and manufacturing; one-tailed tests for all other hypothesis-testing variables)

other hand, the results show that gainsharing programs without union involvement in unionized firms are less successful than average programs in nonunion firms. The coefficient on the union non-involvement dummy variable is negative and statistically significant in both models.

Table 4 contains results for union establishments alone. Gainsharing programs with union involvement, not surprisingly, appear significantly more successful than programs without union involvement: coefficients on the union involvement dummy variable are positive and statistically significant at the .01 level in both composite and single measure equations. Among the variables measuring specific mechanisms of union involvement, union participation in design process of gainsharing programs significantly improves the performance of the programs in the single measure equation. The coefficients on the other variables measuring whether or not gainsharing is part of the labour agreement (or a memorandum of understanding) and whether or not a union monitoring mechanism exists, however, are insignificant.

How should the overall results be interpreted in the light of the four competing models? First, as shown in Table 2, evaluation of the performance of gainsharing averaged 2.56 (the item was coded in the following way: very successful=4; successful=3; neither successful nor unsuccessful=2; unsuccessful=1; very unsuccessful=0). That is, on average managers believe that gainsharing programs improve performance, which fits better with the monopoly, institutional, or two-faces models than the agency/transaction cost approach. Second, there is not a significant difference between the overall performance of union and nonunion programs on average in either the OLS or ordered probit regressions. This tends to contradict both the institutional voice model (which predicts a positive coefficient) and the monopoly model (which predicts a negative coefficient).

However, this overall result is apparently the result of two divergent union situations. Gainsharing programs with union involvement in program administration resulted in better perceived performance than average programs in the nonunion sector. However, gainsharing programs in the union sector without union involvement had worse outcomes than those in the nonunion sector. This supports the view that union involvement or non-involvement is critical for the success of such programs in the union sector, which is a key component of both the institutional voice and the "two faces" approach, and directly contradicts the monopoly model. In addition, the significant and positive coefficient on union participation in the design process is further support for the institutional voice or "two faces" approach. Overall, it would seem that the "two faces" model garners the most support.

TABLE 4  
**Relationships with Perceived Performance of Gainsharing Programs**  
**(Union and Nonunion Subsamples; Standard Errors in Parentheses)**

<i>Independent Variable</i>	<i>Dependent Variable: Perceived Performance of Gainsharing</i>			
	<i>Composite Measure (OLS)</i>	<i>Single Measure (Ord. Probit)</i>	<i>Composite Measure (OLS)</i>	<i>Single Measure (Ord. Probit)</i>
	Union Subsample		Nonunion Subsample	
Involved Union <sup>a</sup>	.099*** (.035)	.927*** (.332)		
Covered by Labour Agreement	-.0001 (.0001)	-.183 (.252)		
Union Participation in Design	.006 (.039)	.503* (.373)		
Union's Monitoring Mechanism	-.000001 (.0001)	.0001 (.001)		
Employee Suggestion	-.015 (.029)	-.192 (.284)	.026 (.028)	.087 (.256)
Employee Teams	.041* (.029)	.129 (.233)	-.010 (.025)	.058 (.224)
LM Committees	-.013 (.029)	-.245 (.242)	.001 (.026)	-.006 (.236)
QC and QWL Groups	.043* (.032)	.353 (.305)	-.016 (.027)	-.139 (.232)
Employee Vote	-.0001 (.0002)	-.0008 (.222)	.104*** (.035)	.510* (.349)
Training	-.002 (.045)	.313 (.392)	-.003 (.053)	.505* (.385)
Small Group <sup>b</sup>	.005 (.031)	.159 (.304)	.082*** (.034)	.465* (.339)
Large Group <sup>b</sup>	-.060** (.033)	-.203 (.354)	.046 (.053)	-.427 (.598)
Scanlon Plan <sup>c</sup>	.030 (.034)	.350 (.278)	.060* (.031)	.539 (.331)
Modified Scanlon Plan <sup>c</sup>	-.058* (.030)	-.241 (.289)	-.041 (.029)	-.279 (.252)
Rucker Plan <sup>c</sup>	-.0005 (.039)	-.078 (.340)	-.027 (.030)	-.369 (.337)
Improshare Plan <sup>c</sup>	.028 (.024)	-.031 (.220)	.008 (.025)	.109 (.273)
Manufacturing	.00004 (.00006)	.0002 (.0006)	.0001 (.0001)	.0011** (.0005)
Constant	.562*** (.040)	1.426*** (.350)	.559*** (.056)	1.290** (.501)
MU(1)		.867*** (.235)		.971*** (.271)
MU(2)		1.547*** (.256)		1.720*** (.291)
MU(3)		3.028*** (.314)		2.912*** (.320)
R <sup>2</sup>	.195		.213	
Log-Likelihood		-146.23		-135.76
N	114	114	103	103

<sup>a</sup> If union was involved, Involved Union = 1; If union was not involved, Involved Union = 0

<sup>b</sup> If less than 100 employees, Small Group = 1, Large Group = 0; If more than 500 employees, Small Group = 0, Large Group = 1; If more than 100, but less than 500 employees, Small Group = 0, Large Group = 0

<sup>c</sup> Omitted benchmark category = customized plan

\*  $p < .10$  \*\*  $p < .05$  \*\*\*  $p < .01$  (two-tailed tests for control variables including Scanlon, Modified Scanlon, Rucker, Improshare plans, and manufacturing; one-tailed tests for all other hypothesis-testing variables)

### *Other Regression Results*

Results on control variables will be summarized briefly with a focus on significant findings. Four categorical variables indicating types of EI show only insignificant coefficients in the pooled sample. However, employee teams and QC/QWL groups show significant and positive relationships with the performance of gainsharing in the union subsample. Thus, there is only weak support for the hypothesis that EI is effective in improving the performance of gainsharing programs. Significance in the union sector supports institutionalist arguments that EI has greater potential when implemented in a unionized workplace because of the collective voice function of unionism (Eaton and Voos 1992). The results also support the hypothesis that more extensive EI programs (e.g., employee teams, QC/QWL groups) yield better outcomes in gainsharing than less extensive ones (e.g., employee suggestion).

There is weak evidence that programs set up via employees' majority approval perform better than gainsharing implemented without employee voting. The coefficients show insignificant signs in the pooled and union sample, but are significant and positive in the nonunion samples. Apparently, in unionized establishments voting is less important in affecting program performance than in nonunion establishments. Perhaps in union environments votes are less necessary because the union itself can represent workers' collective views. This would be consistent with institutional voice theory.

The hypothesis that employee training enhances the performance of gainsharing receives weak support. A significant and positive relationship with the performance of gainsharing was found in the nonunion samples, although the coefficients show insignificant signs in the pooled and union sample.

The results suggest that small gainsharing groups had better program performance than larger groups. The small bonus group showed significant and positive signs in pooled and nonunion sample, while the large bonus group had significant and negative signs in the pooled and union samples. Agency/transaction cost theory receives some support from these findings.

Interestingly, Scanlon plans are revealed to be significantly more effective than customized plans, while modified Scanlon plans are found significantly less effective than customized ones. Coefficients on other control variables are typically insignificant. Although it is beyond the scope of this study to systematically explore the strengths and weaknesses of the various gainsharing formulas and their possible fits to specific organizational characteristics, it is interesting to note that some programs perform better than others. One of the future research questions in this field should be an in-depth evaluation of the various bonus formulas in gainsharing programs.

Finally, the results indicate that gainsharing programs worked better in manufacturing organizations than other industries in this sample. The coefficients indicating manufacturing organizations have positive signs in all equations and are significant in pooled and nonunion samples. The results may reflect the fact that experience with gainsharing in manufacturing results in more accumulated knowledge regarding how to operate gainsharing in a manufacturing environment, for instance, how to measure and evaluate group performance. For example, all standard gainsharing formulas (Scanlon, Modified Scanlon, Rucker, and Improshare Plans) were formulated under the assumption of manufacturing settings. This result may indicate the need to improve gainsharing formulas/programs in other sectors.

### CONCLUSION

Using survey data from 217 establishments in the U.S.A. and Canada, this study empirically examined the relationships between union status, union involvement, and the performance of gainsharing programs. Empirical findings were used to assess various competing theoretical perspectives. The study was limited by aspects of the research design: our study relies on managerial assessments of gainsharing performance, and our sample is not random (although it appears to be reasonably representative in some dimensions). Despite these limitations, theoretical, practical and public policy implications can be drawn from the study.

Theoretically, the results are most consistent with the “two faces” model of labour organization — the notion that unions possess both a collective voice face and a monopoly face. Where unions support gainsharing and where management accepts “jointness,” then the collective voice face of labour organization predominates. Where unions do not support gainsharing, either because they are frozen out of its operation or because they are hostile for other reasons, the monopoly aspect of labour organization dominates and programs are less successful than those in nonunion settings.

It is true that these results rest on managerial assessments of program success, and such managerial assessments may be biased upward due to the “social desirability effect” (Bradburn 1983). That is, managers may overestimate or overreport the performance of gainsharing programs. However, there is no reason to believe that U.S. and Canadian managers typically overreport the positive aspects of labour organization! If anything, managers probably are biased toward the view that unions and/or union involvement have negative implications for organizations and presumably for the success of gainsharing programs. Hence our finding that, according to managerial assessments, gainsharing has more positive outcomes when a labour union is involved in its administration than where such involvement is absent is quite striking.

Perhaps the most important theoretical implication of this paper is that unions are not simply bad or good for gainsharing, but that their impact depends on whether or not the union supports the program and is actively involved in administering it. It is important that a theory of labour organization account for this variety. Those who work with agency/transaction cost or other theoretical approaches might take our results as indicating a need to make their models more complex in order to accommodate this diversity of outcomes.

Both union leaders and managers can draw practical implications from this study. Active union participation in appropriate gainsharing programs can benefit union members more than passivity. In the past, some unions have been indifferent or passive regarding gainsharing and have let management assume sole administration and responsibility for the program (Appelbaum and Batt 1994; Zalusky 1986). If gainsharing is more effective with union involvement, it might be better for unions to be involved in administering it, dividing the gains, and then obtaining credit for its achievements.

For management in organized workplaces, it appears wiser to solicit union support and induce union participation than to isolate unions in operating these programs. It would be important not to elicit union opposition to the program by doing something threatening, like appearing to use the program to weaken the union. Such a management strategy risks damaging the gainsharing program itself, potentially resulting in a considerable loss of financial and human resource investment.

Public policy implications of this study are open to two major interpretations. Labour unions and their supporters will argue from our findings that unionization can contribute to more effective gainsharing, particularly when the union is itself involved in and supports the program. In this view, unions need to be strong and active to ensure the success of these programs, increase performance, and improve the compensation of employees. One policy recommendation might be to facilitate the ability of employees to choose union representation, should they so desire.

Alternatively, some will conclude from these results that nonunion workplaces are hampered not by their being nonunion, but by their lack of appropriate collective voice mechanisms. The policy recommendation from this perspective would be that public policy should foster alternative vehicles of employee representation in nonunion companies, so that the benefits of joint program administration be available in a wider variety of workplaces.

## ■ REFERENCES

- ADDISON, J. T. 1984. "Trade Unions and Restrictive Practices." *The Economics of Trade Unions: New Directions*. J. Rosa, ed. Boston: Kluwer Nijhoff.



- ALCHIAN, A. A. and H. DEMSETZ. 1972. "Production, Information Costs, and Economic Organization." *American Economic Review*, Vol. 62, No. 5, 777-795.
- AMEMIYA, T. 1981. "Qualitative Response Models: A Survey." *Journal of Economic Literature*, Vol. 19, 1483-1536.
- APPELBAUM, E. and R. BATT. 1994. *Transforming the Production System in U.S. Firms*. Washington, D.C.: Economic Policy Institute.
- BRADBURN, N. M. 1983. "Response Effects." *Handbook of Survey Research*. P. H. Rossi, J. D. Wright and A. B. Anderson, eds. San Diego, CA: Academic Press.
- BULLOCK, R. J. and M. E. TUBBS. 1990. "A Case-Meta-Analysis of Gainsharing Plans as Organization Development Interventions." *Journal of Applied Behavioral Science*, Vol. 26, No. 3, 383-404.
- CARSON, R. G. 1977. "A Theory of Cooperatives." *Canadian Journal of Economics*, Vol. 10, No. 4, 565-589.
- COLLINS, D. 1995. "Self-Interests and Group-Interests in Employee Involvement Programs: A Case Study." *Journal of Labor Research*, Vol. 16, No. 1, 57-80.
- COOKE, W. N. 1988. "Summary Report of Task 1: Survey of Michigan Business." Report Prepared for Michigan Labor-Management Partnership Project, Michigan Department of Commerce. Institute of Labor and Industrial Relations, University of Michigan.
- COOKE, W. N. 1992. "Product Quality Improvement Through Employee Participation: The Effects of Unionization and Joint Union-Management Administration." *Industrial and Labor Relations Review*, Vol. 46, No. 1, 119-134.
- COOKE, W. N. 1994. "Employee Participation Programs, Group-based Incentives, and Company Performance: A Union-Nonunion Comparison." *Industrial and Labor Relations Review*, Vol. 47, No. 4, 594-609.
- COOPER, C. L., B. DYCK, and N. FROHLICH. 1992. "Improving the Effectiveness of Gainsharing: The Role of Fairness and Participation." *Administrative Science Quarterly*, Vol. 37, 471-490.
- COTTON, J. L. 1993. *Employee Involvement*. London: Sage Publications.
- EATON, A. E. and P. B. VOOS. 1992. "Unions and Contemporary Innovations in Work Organization, Compensation, and Employee Participation." *Unions and Economic Competitiveness*. L. Mishel et P. B. Voos, eds. New York: M. E. Sharpe.
- FINSETH, E. 1988. "The Employment Behavior of Profit-sharing Firms: An Empirical Test of the Weitzman Theory." Unpublished Senior Thesis. Department of Economics, Harvard University.
- FROST, C. F., J. H. WAKELY, and R. A. RUH. 1974. *The Scanlon Plan for Organization Development: Identity, Participation, and Equity*. East Lansing, MI: Michigan State University Press.
- FREEMAN, R. B. and J. L. MEDOFF. 1984. *What Do Unions Do?* New York: Basic Books.
- GLOBERSON, S. and R. PARSONS. 1988. "IMPROSHARE: An Analysis of User Responses." *Recent Developments in Production Research*. A. Mital, ed. Amsterdam, Netherlands: Elsevier Science Publishers.

- GOODMAN, P. S., M. BAZERMAN, and E. CONLON. 1980. "Institutionalization of Planned Organizational Change." *Research in Organizational Behavior*. B. M. Staw and L. L. Cummings, eds. Greenwich, Connecticut: JAI Press.
- GOODMAN, P. S. and J. W. DEAN. 1995. "Making Productivity Programs Last." *Gainsharing and Employee Involvement*. B. Graham-Moore and T. L. Ross, eds. Washington, D.C.: Bureau of National Affairs.
- GOWEN, C. R. 1991. "Gainsharing Programs: An Overview of History and Research." *Journal of Organizational Behavior Management*, Vol. 11, No. 2, 77-99.
- GOWEN, C. R. and S. A. JENNINGS. 1991. "The Effects of Changes in Participation and Group Size on Gainsharing Success: A Case Study." *Journal of Organizational Behavior Management*, Vol. 11, No. 2, 147-169.
- GRAHAM-MOORE, B. and T. L. ROSS. 1990. "Understanding Gainsharing." *Gainsharing: Plans for Improving Performance*. B. Graham-Moore and T. L. Ross, eds. Washington, D.C.: BNA.
- GREENE, W. H. 1990. *Econometric Analysis*. New York: Macmillan Publishing.
- HAMMER, T. H. and R. N. STERN. 1986. "A Yo-Yo Model of Cooperation: Union Participation in Management at the Rath Packing Company." *Industrial and Labor Relations Review*, Vol. 39, No. 3, 337-349.
- JENKINS, G. D. and E. E. LAWLER. 1981. "Impact of Employee Participation on Pay Plan Development." *Organizational Behavior and Human Performance*, Vol. 28, 111-128.
- JENSEN, M. C. and W. H. MECKLING. 1976. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *Journal of Financial Economics*, Vol. 3, No. 4, 305-360.
- JENSEN, M. C. and W. H. MECKLING. 1979. "Rights and Production Functions: An Application to Labor-managed Firms and Codetermination." *Journal of Business*, Vol. 52, No. 4, 469-506.
- KAUFMAN, R. T. 1992. "The Effects of IMPROSHARE on Productivity." *Industrial and Labor Relations Review*, Vol. 45, No. 2, 311-322.
- KAUFMAN, R. S. and R. T. KAUFMAN. 1987. "Union Effects on Productivity, Personnel Practices, and Survival in the Automotive Parts Industry." *Journal of Labor Research*, Vol. 8, 333-350.
- KELLEY, M. R. and B. HARRISON. 1992. "Unions, Technology, and Labor-Management Cooperation." *Unions and Economic Competitiveness*. L. Mishel and P. B. Voos, eds. New York: M. E. Sharpe.
- KOCHAN, T. A., H. C. KATZ, and R. B. MCKERSIE. 1986. *The Transformation of American Industrial Relations*. New York: Basic Books.
- KOCHAN, T. A., H. C. KATZ, and N. R. MOWER. 1984. *Worker Participation and American Unions*. Kalamazoo, MI: Upjohn.
- LAWLER, E. E. 1986. *High-Involvement Management*. San Francisco, CA: Jossey-Bass.
- LAWLER, E. E., S. A. MOHRMAN, and G. E. LEDFORD. 1992. *EI and Total Quality Management*. San Francisco, CA: Jossey-Bass.
- LEVINE, D. I. and L. D. TYSON. 1990. "Participation, Productivity, and the Firm's Environment." *Paying for Productivity*. A. S. Blinder, ed. Washington, D.C.: The Brookings Institution.

- MARKHAM, S. E., K. D. SCOTT, and B. L. LITTLE. 1992. "National Gainsharing Study: The Importance of Industry Differences." *Compensation and Benefits Review*, August, 36-40.
- MCMAHAN, G. C. and E. E. LAWLER. 1994. *Effects of Union Status on Employee Involvement: Diffusion and Performance*. Washington, D.C.: Employment Policy Foundation.
- MILLER, K. I. and P. R. MONGE. 1986. "Participation, Satisfaction, and Productivity: A Meta-Analytic Review." *Academy of Management Journal*, Vol. 29, No. 4, 727-753.
- O'DELL, C. O. and J. MCADAMS. 1987. *People, Performance, and Pay*. Houston, Texas: American Productivity Center.
- OSTERMAN, P. 1994. "How Common is Workplace Transformation and Who Adopts It?" *Industrial and Labor Relations Review*, Vol. 47, No. 2, 173-188.
- PUTTERMAN, L. 1984. "On Some Recent Explanations on Why Capital Hires Labor." *Economic Inquiry*, Vol. 22, April, 171-187.
- ROSENBERG, R. D. and E. ROSENSTEIN. 1980. "Participation and Productivity: An Empirical Study." *Industrial and Labor Relations Review*, Vol. 33, No. 3, 355-367.
- ROSS, T. L. and R. A. ROSS. 1990. "Using Gainsharing for a Union Survival Strategy." *Gainsharing: Plans for Improving Performance*. B. Graham-Moore and T. L. Ross, eds. Washington, D.C.: BNA.
- SCHUSTER, M. 1983. "Forty Years of Scanlon Plan Research." *Organizational Democracy and Political Processes*. C. Crouch and F. A. Heller, eds. New York: John Wiley & Sons.
- SCHUSTER, M. 1984. *Union-Management Cooperation*. Kalamazoo, MI: Upjohn.
- SHEPARD, E. E. 1994. "Profit Sharing and Productivity: Further Evidence from the Chemicals Industry." *Industrial Relations*, Vol. 33, No. 4, 452-466.
- SIMLER, N. J. 1962. "The Economics of Featherbedding." *Industrial and Labor Relations Review*, Vol. 16, No. 1, 111-121.
- STIGLITZ, J. 1974. "Incentives and Risk Sharing in Sharecropping." *Review of Economic Studies*, Vol. 41, 219-255.
- VERMA, A. and R. B. MCKERSIE. 1987. "Employee Involvement: The Implications of Noninvolvement by Unions." *Industrial and Labor Relations Review*, Vol. 40, No. 4, 556-568.
- VOOS, P. B. 1987. "Managerial Perceptions of the Economic Impact of Labor Relations Programs." *Industrial and Labor Relations Review*, Vol. 40, No. 2, 195-208.
- WEITZMAN, M. L. and D. L. KRUSE. 1990. "Profit Sharing and Productivity." *Paying for Productivity*. A. S. Blinder, ed. Washington, D.C.: Brookings Institution.
- WHITE, J. K. 1979. "The Scanlon Plan: Causes and Correlates of Success." *Academy of Management Journal*, Vol. 22, No. 2, 292-312.
- WILLIAMSON, O. E. 1975. *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: Free Press.
- ZALUSKY, J. L. 1986. "Labor's Collective Bargaining Experience with Gainsharing and Profit Sharing." *Proceedings of the Thirty-Ninth Annual Meetings*. Madison, WI: Industrial Relations Research Association, 174-182.

## RÉSUMÉ

### **Syndicalisme, implication syndicale et le rendement des programmes de partage des gains**

Nous traitons ici de la question de savoir d'abord si la présence syndicale influence le rendement d'un programme de partage des gains et, ensuite, si la participation du syndicat à l'administration du programme en favorise le succès.

Nous adoptons quatre perspectives théoriques pour examiner ces questions : (1) un modèle de coût agence/transaction basé sur la théorie économique néoclassique ; (2) un modèle monopolistique basé sur l'analogie entre le monopole syndical et le monopole sur le marché du produit ; (3) un modèle institutionnel ou de voix collective, et (4) un modèle à deux visages où les syndicats sont en même temps des monopoles et des voix collectives.

Les deux premiers modèles insistent sur les influences négatives des syndicats sur le partage des gains. À l'opposé, le modèle de la voix collective prédit un impact positif des syndicats sur le rendement du partage des gains, surtout si cette voix s'exprime par une implication dans l'administration de tel programme. Le dernier modèle suggère que les syndicats peuvent aider ou nuire au rendement du partage des gains, selon lequel des deux visages prédomine. Comme le modèle de la voix collective, ce dernier modèle prédit qu'une insistance plus grande sur la voix collective, par des exercices conjoints, va accroître l'efficacité du programme.

Nous avons vérifié empiriquement ces théories en colligeant des données auprès de 217 établissements aux États-Unis et au Canada qui ont vécu des programmes de partage des gains (sur les 622 originalement pointés). Nous utilisons l'analyse de régression multiple pour estimer les relations entre la présence syndicale, son implication dans l'administration des programmes et l'efficacité de ceux-ci.

Les données de base incluent les évaluations managériales du succès des programmes. Deux variables dépendantes sont utilisées : l'une simple, l'autre composée. Pour cette dernière, nous recourons à la mesure des moindres carrés. Quant à la première, nous utilisons l'analyse probit. Nous appliquons notre analyse tant à l'échantillon global qu'à des sous-échantillons selon le statut syndical.

Les résultats des études empiriques démontrent deux situations syndicales divergentes de façon très similaire quelle que soit la mesure d'efficacité de programme utilisée. Là où les syndicats ne sont pas impliqués dans leur administration, les programmes de partage de gains dans le secteur

syndiqué connaissent moins de succès que ceux en milieu non syndiqué. L'inverse est également vrai. Tout cela suggère que l'implication syndicale est cruciale pour le succès de tels programmes dans le secteur privé. De plus, pour ces régressions n'impliquant que l'échantillon syndiqué, la participation syndicale dans l'élaboration du programme est un prédicteur positif et significatif du succès de celui-ci.

En somme, vu l'effet négatif sur tels programmes de la non-participation syndicale, nos résultats concordent le plus avec le modèle des deux visages de l'organisation syndicale. Là où les syndicats ne supportent pas le partage des gains, qu'ils en soient exclus ou qu'ils y soient hostiles pour toutes sortes de raisons, le caractère monopolistique de ceux-ci domine et les programmes connaissent alors moins de succès qu'en milieu non syndiqué. Là où les syndicats appuient le partage des gains et là où la gérance accepte l'approche conjointe, le volet de la voix collective des syndicats va prédominer.

Notre étude démontre de plus que le rendement des programmes de partage des gains est relié de façon significative aux variables de contrôle suivantes : la taille du groupe bonus, la sorte de plan de bonus, l'environnement industriel, vote ou absence de vote lors du lancement d'un plan et la quantité de formation donnée aux employés. Les équipes d'employés et les comités sur la qualité de vie au travail sont en relation significatives et positives avec la performance du partage des gains dans le sous-échantillon syndiqué seulement. Cela peut servir d'appui à la position qui veut que l'implication des employés a plus de potentiel en milieu syndiqué à cause de la fonction de voix collective des syndicats. Les résultats démontrent également que des programmes extensifs d'implication des employés produisent de meilleurs résultats en partage du travail que les programmes moins rigoureux.

Au-delà des preuves à l'appui et à l'encontre des différentes théories, la présente étude est forte de conséquences pour l'entreprise et pour les syndicats. Il n'est en apparence pas sage pour les entreprises d'isoler les syndicats dans l'opération de tels programmes, de les exclure de leur administration ou d'utiliser tel programme comme menace au syndicat. Telle stratégie risque de mettre en péril le programme de partage des gains et ainsi causer de sérieuses pertes d'investissement humains et financiers. Les gestionnaires canadiens et américains auront tendance à sous estimer le rôle positif des syndicats dans ces programmes de partage de gains, rôle prouvé sur lequel on doit insister.

Les syndicats devraient prendre note de ces résultats. Apparemment, les programmes de partage de gains produiront plus de bénéfices monétaires pour les membres (par des accroissements de productivité) si le syndicat y est activement impliqué. Garder ses distances, être en opposition ou

en attente ne semblent pas être des positions optimales pour le syndicat lorsque l'entreprise propose un programme approprié de partage des gains. En plus, certaines indications existent à l'effet que la participation syndicale à l'élaboration de tel programme contribue à son succès.

En conclusion, les syndicats ne sont ni bons ni mauvais pour le partage des gains. Leur influence dépend de leur degré de support pour tel programme et de leur implication active dans son administration. Tant les théoriciens que les praticiens en relations industrielles doivent réaliser la complexité de la relation entre syndicats et programme de partage des gains.

### LES CAHIERS DU TRAVAIL

Numéro 5, 1996-97

L'Association étudiante des 2<sup>e</sup> et 3<sup>e</sup> cycles en relations industrielles de l'Université Laval, en collaboration avec le Département des relations industrielles et la revue *Relations industrielles*, est fière de présenter un recueil des meilleurs travaux réalisés par les étudiantes et étudiants de deuxième et troisième cycles dans le cadre de leurs cours.

#### *Sommaire*

#### **Le nouveau travail**

Yves Marchand, Yann-Philippe St-Laurent, Marc Vallières et Jacques Verret

#### **L'approche régulationniste : renouvellement théorique**

Serge Bouchard

#### **La rémunération : un support à la stratégie d'entreprise**

Éric Boutet

#### **Les conditions de travail des chauffeurs de camions et l'insécurité routière : le cas particulier de la manutention des marchandises**

Cécile Hamann et Jocelyne Legras

Les essais publiés dans les *Cahiers du travail* sont choisis par un jury de spécialistes réputés pour leurs compétences en relations industrielles.

Un excellent moyen d'encourager la recherche sur les préoccupations actuelles et la réalisation de travaux de qualité en relations industrielles.

ISBN 2-920259-27-X

8,00 \$

En vente à la Librairie Universitaire du Québec Métropolitain  
Pavillon Maurice-Pollack, Cité Universitaire, Québec (Qc), G1K 7P4

Téléphone : (418) 656-2600      Télécopieur : (418) 656-2665

Internet : <http://www.luqm.qc.ca>