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ILR Review

Volume 58 | Number 4

Article 4

July 2005

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Abstract

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Keywords

labor-management cooperation, organizational performance, Australian banks, cooperative labor relations climate, procedural justice, collective bargaining, information sharing, productivity, customer service, absenteeism

Cover Page Footnote

This paper was awarded the Human Resources Division Best Paper Prize at the Annual Academy of Management Conference, Chicago 1999. The research reported herein was supported by an Australian Research Council Grant A79331468. The authors thank Donna Buttigieg for her assistance in the data collection.

LABOR-MANAGEMENT COOPERATION: ANTECEDENTS AND IMPACT ON ORGANIZATIONAL PERFORMANCE

STEPHEN J. DEERY and RODERICK D. IVERSON*

This study examines the antecedents and outcomes of labor-management cooperation. Data were drawn from 305 branches of a large unionized Australian-based multinational banking organization. The authors find that perceptions of a cooperative labor relations climate were positively influenced by procedural justice, the union's willingness to adopt an integrative approach to bargaining, and management's willingness to share information freely with the union. The findings also indicate that a cooperative labor-management relationship contributed to higher productivity and improved customer service. In addition, organizational commitment was found to have a positive effect on branch-level productivity and customer service, and union loyalty was associated with lower absenteeism.

In response to heightened levels of competition, many firms have been forced to restructure work practices and revise their labor-management relations. There has been a sustained effort to enhance work performance, develop more flexible employment arrangements, and reduce labor costs. In unionized environments this has been accompanied by a shift away from traditional forms of arms-length collective bargaining and the adoption of policies

that have involved attempts either to eliminate the union or to make it a partner (Guest and Peccei 2001; Wever 1995). Although some companies have openly sought to challenge the bargaining role of unions and unilaterally introduce changed work practices, others have sought to move toward "mutual gains bargaining" and involve labor in areas of joint decision-making (Friedman 1994; Rubinstein 2000).

There has been widespread experimentation with programs of labor-management cooperation not only in the United States but also elsewhere in the industrialized world (Guest and Peccei 2001; Kochan, Katz, and McKersie 1986; Wright 1995). Quality of work life programs, gain-sharing

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A data appendix with additional results, and copies of the computer programs used to generate the results presented in the paper, are available from the second author at Faculty of Business Administration, Simon Fraser University, 8888 University Drive, Burnaby, BC, Canada, V5A 1S6; riverson@sfu.ca.

plans, and union-management committees have become an established feature of labor relations in many organizations (Cutcher-Gershenfeld 1991; Rubinstein, Bennett, and Kochan 1993; Rubinstein 2000). The introduction of such arrangements has normally been accompanied by an expectation that labor-management collaboration would yield improved organizational performance.

A number of studies have examined the effect of labor-management cooperation on organizational performance (Katz, Kochan, and Gobeille 1983; Shuster 1983; Katz, Kochan, and Weber 1985; Norsworthy and Zabala 1985). However, all of these studies have examined the manufacturing sector, and principally the automotive industry. An assessment of the impact of the union-management relationship on performance outcomes in other organizational settings is therefore warranted. Particularly in need of such an examination is the service sector, where the employee relations climate is considered to be critical to the delivery of a high-quality service (Heskett, Sasser, and Schlesinger 1997). The purpose of this paper is, first, to identify the factors that shape a cooperative labor relations climate within an organization; second, to analyze how that climate affects employee commitment to the union and to the company; and third, to examine the impact of that labor relations climate on organizational performance.

Labor-Management Cooperation

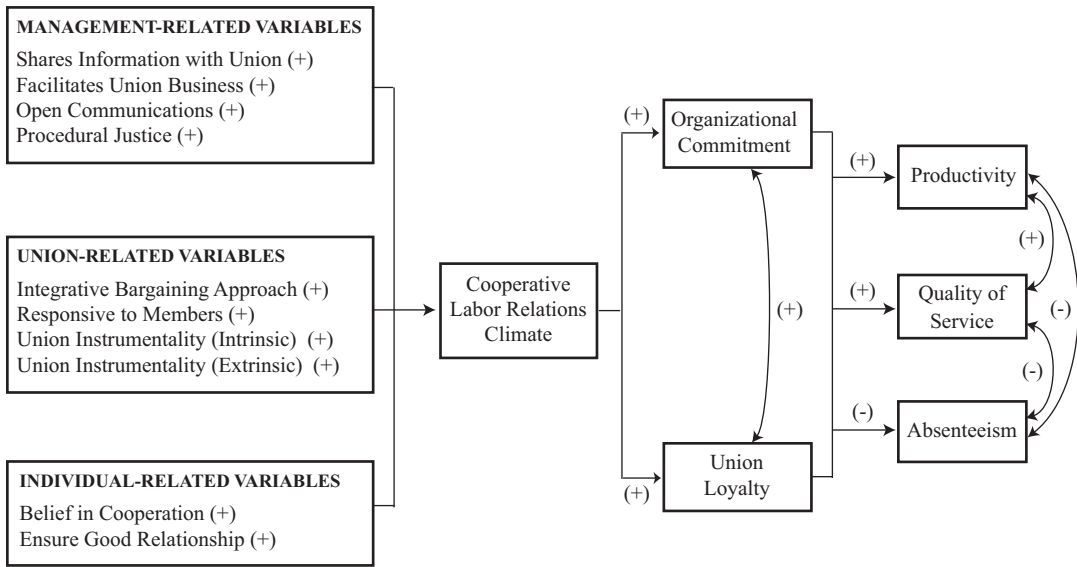
It can be expected that management and labor will seek to enter into a cooperative relationship when they both perceive that their relative utilities would be maximized through this form of behavior (Aoki 1990). Should one or the other of the parties conclude that the net benefits of using their relative power outweigh those derived from collaboration, the formation of a cooperative labor-management relationship will be less probable. This suggests that the parties will choose to cooperate when the gains are greater than the costs, and the net benefits at least match those achievable

through more traditional or adversarial relationships (Cooke 1990).

What are the possible benefits and costs of cooperation to the parties? The main potential benefits from management's perspective lie in improvements in productivity and service quality. Through labor-management cooperation, it is possible that production systems can be made more efficient, unnecessary overheads eliminated, and greater efforts made to minimize waste and enhance the use of capital equipment (Kelley and Harrison 1992; Peterson and Tracy 1992). Moreover, cooperative relationships may increase employee commitment to the organization and stimulate new ways of raising customer satisfaction, thereby enhancing loyalty and customer retention (Hallowell 1996). Furthermore, a cooperative labor relations climate may lead to lower absenteeism and employee turnover (Harrison and Martocchio 1998). There are also potential costs to management from cooperative arrangements with labor. These may include a perceived loss of authority, power, and status for managers and supervisors, inappropriate compromises necessary to maintain consensus, and unproductive time spent in meetings (Siegel and Weinberg 1982; Jacoby 1983; Cooke 1990).

The potential benefits to workers and their union representatives could take the form of enhanced financial benefits and a higher quality of work life (Cooke 1990; Kelley and Harrison 1992). Labor-management cooperation could also help to prevent or ease employment cuts, effort increases, and wage reductions (Jacoby 1983). Furthermore, unions could secure greater constituent commitment if members believe that the benefits could not have been achieved by means other than union-management cooperation (Barling, Fullagar, and Kelloway 1992). However, cooperation with management can also present employees and their representatives with potential costs. It is possible that the union could be co-opted by management, thereby weakening its traditional bargaining role and dissipating membership loyalty. In addition, cooperative programs with em-

Figure 1. Causal Model of Organizational Performance.



ployees may be used to undermine the union or to weaken grievance procedures and hence the authority of the union to resolve grievances (Kochan, Katz, and Mower 1984; Hammer and Stern 1986; Cooke 1990).

Explanatory Model

Given the above considerations, we predict that certain attitudes and practices will contribute to a more cooperative labor relations climate. Furthermore, we hypothesize that a number of positive organizational outcomes will result from the formation of such a climate. These relationships are set out in diagrammatic form in Figure 1. The variables are defined in Table 1.

We hypothesize that three groups of variables affect the quality of the labor relations climate. These pertain, first, to the attitudes and behavior of management toward the union and the employees; second, to the role and approach of the union as a collective bargaining agent; and third, to the beliefs and actions of the employees as

organizational participants. Specifically, we expect that the labor relations climate will be more cooperative where management freely *shares information with the union* and helps to *facilitate union business*. This prediction is consistent with the literature. Cooperative labor-management relations have been associated with “particular managerial attitudes” toward industrial relations practices (Voos 1989). These include a willingness to communicate openly and fairly with the union, an acceptance of the need to seek union input into organizational decisions, and a reluctance to use human resource practices to weaken employees’ allegiance to the union.

We also predict that the labor relations climate will be more cooperative where management has *open communications* with its employees and shows a willingness to share information with them and invite their comments and views on issues of concern (Peterson and Tracy 1992; Voos, Eaton, and Belman 1993). If management is viewed as opportunistic, that will diminish the commitment of employees and their represen-

Table 1. Variable Definitions.

<i>Variable</i>	<i>Definition</i>
<i>Organizational Performance</i>	
Absenteeism	The non-attendance of employees for scheduled work (Chadwick-Jones, Nicholson, and Brown 1982)
Quality of Service	Overall caliber of service provided
Productivity	Extent of labor efficiency (for example, monthly workload / available hours)
<i>Intervening Variables</i>	
Union Loyalty	Degree of pride in union (Gordon et al. 1980)
Organizational Commitment	Degree of loyalty to the organization (Porter, Steers, Mowday, and Boulian 1974)
Cooperative Labor Relations Climate	Degree to which parties have respect for each other's goals and settle problems jointly (based on Dastmalchian, Blyton, and Adamson 1989)
<i>Management-Related Variables</i>	
Shares Information with Union	Extent to which information is exchanged between management and the union (Dastmalchian, Blyton, and Adamson 1989)
Facilitates Union Business	Degree to which management makes it easy for the union to conduct business (Angle and Perry 1986)
Open Communications	Extent to which management shares information with employees (Dastmalchian, Blyton, and Adamson 1989)
Procedural Justice	Fairness of procedures designed to determine the outcomes an employee receives (Moorman 1991)
<i>Union-Related Variables</i>	
Integrative Bargaining Approach	Extent to which the union plays a constructive negotiating role
Responsive to Members	Degree to which the union representative in the branch is responsive to the needs and concerns of members (Sverke and Sjöberg 1992)
Union Instrumentality (Intrinsic)	Degree to which individuals believe that the union has been influential in achieving improvements in intrinsic aspects of work (for example, in making the work interesting)
Union Instrumentality (Extrinsic)	Degree to which individuals believe that the union has been influential in achieving improvements in extrinsic aspects of work (for example, in improving wages and working conditions)
<i>Individual-Related Variables</i>	
Belief in Cooperation	Extent to which the individual believes that the union and management should work closely together
Ensure Good Relationship	Degree to which the individual accepts responsibility for ensuring that the union-management relationship is good
<i>Control Variables</i>	
Female	Proportion of women employed at the branch
Full-Time	Proportion of full-time employees at the branch
Branch Transfers	Extent of movement of employees between branches
Branch Size	Number of equivalent full-time staff at the branch
Training	Number of days of formal in-house training
Manager Member	Manager is a union member

tatives to collaboration (Voos 1989). We also expect that *procedural justice* will be associated positively with a cooperative labor-management relationship. Where employees perceive that the processes for determining outcomes are fair and that management is willing to accept its obligations under the collective bargaining arrangements, a relatively cooperative labor relations climate will be more likely (Ichniowski 1986; Fryxell and Gordon 1989).

Labor-management cooperation will also be shaped by the behavior of the union. A cooperative motivational orientation has been identified as crucial to the process of integrative bargaining (Walton and McKersie 1965). We therefore expect that the labor relations climate will be more cooperative where the union adopts a problem-solving or *integrative approach to bargaining* that emphasizes the common or complementary interests of the parties. However, there is also research indicating that unions must be seen to be responsive to the needs of their members and must be viewed as effective in obtaining the benefits of cooperation (Hammer and Stern 1986; Cooke 1989; Newton and Shore 1992). Not infrequently, the failure of cooperative arrangements has been associated with a belief among rank-and-file members that the union has been co-opted by management and is incapable of effectively pursuing their interests (Jacoby 1983; Peterson 1993). The successful development and survival of collaborative programs requires that the parties are able to juxtapose cooperation and collective bargaining (Cooke 1990). Should collective bargaining be undermined by cooperation, it is likely that the union will retreat from the process (Hammer and Stern 1986). We therefore hypothesize that a cooperative labor relations climate will be associated with positive perceptions about the *responsiveness* of the union to its members and its effectiveness in achieving valued goals for its members, such as improvements in the work environment (*union instrumentality—intrinsic*) and in wages and working conditions (*union instrumentality—extrinsic*).

A cooperative labor-management relationship requires the support and commitment of individual employees as well as management and the union (Walton et al. 1994). A willingness by individuals to support joint problem-solving and to contribute to the process of labor-management cooperation is important (Peterson and Tracy 1992). Consequently, we expect that the labor relations climate will be more cooperative where employees believe that unions and management should work together (*belief in cooperation*) and where they feel they have a responsibility to ensure that the relationship is constructive and effective (*ensure good relationship*).¹

¹The model's six control variables are proportion of female employees, proportion of full-time staff, branch transfers, branch size, training, and managers' union membership. We expect that those branches with a greater proportion of *female* employees will tend to have a more collaborative labor relations environment. Union-management cooperation is more successful where there is a higher level of commitment and mutual trust between the parties (Cooke 1989), and women are more likely than men to express support for their union (Gordon et al. 1980) and to be committed to their employing organization (Mathieu and Zajac 1990). Branches with higher proportions of *full-time* staff could be expected to have a less cooperative labor relations climate. Full-time employees tend to be less organizationally committed and to have less positive work attitudes than part-time workers (Tansky, Gallagher, and Wetzel 1997). The concept of "partial inclusion" suggests that individuals (such as part-time workers) who have more limited contact with their organization will be more cooperative and supportive of the organization's policies and practices than individuals who are more exposed to the organization's social systems (such as full-time workers) (Eberhardt and Shani 1984). *Branch transfers* could be expected to have a negative association with cooperative labor relations. Branches with larger proportions of transferees likely will have greater work force instability, less well-structured relationships, and less familiarity with labor relations processes, and hence greater potential for conflict. Research suggests that bank *branch size* will be associated positively with more cooperative labor relations. Voos (1985) found that medium-size to large bargaining units had a higher probability of having good labor-management relations than small bargaining units. The receipt of greater formal *training* was expected to be associated with greater organizational commitment and union loyalty and perceptions of better labor-management

In the model we also hypothesize that a cooperative labor relations climate will be associated with greater *organizational commitment* and *union loyalty*. Gordon and Ladd (1990:62) suggested that workers who view the union-management relationship as positive will be more likely to engage in "irrevocable and volitional acts supportive of both union and management." This is consistent with studies that have reported increased levels of organizational commitment and union loyalty in circumstances where the industrial relations climate has been seen as harmonious (Angle and Perry 1986; Sherer and Morishima 1989). In a climate of industrial disharmony, however, it is possible that both parties could suffer a loss of attachment. As Meyer and Allen (1997:100) noted, "Frequent and/or serious conflicts will reduce the level of affective commitment to both entities, perhaps to the point that the person will want to leave one or both." On the other hand, where a union is seen as delivering benefits to its members through cooperation, it can expect to be rewarded through greater loyalty (Dyer, Lipsky, and Kochan 1977). Moreover, where a firm's labor relations practices—including its relationship with the union—are viewed as fair, and motivated by a concern for employee interests, one might expect to find a higher level of organizational commitment (Koys 1988).²

relations. In Australia, unions have had a positive effect on the supply of formal employer-provided training, particularly where they have been active in the workplace (Kennedy, Drago, Sloan, and Wooden 1994). This has been particularly evident in the finance sector, where training has been a major item in union-management negotiations. Finally, in those branches where *managers were union members* we would expect to find a better labor relations climate. These managers could be expected to find more collaborative union-management solutions to work-related problems and actively seek to resolve any union-management differences that may arise.

²It is plausible that the ordering of this hypothesized relationship could be reversed and that higher levels of organizational commitment and union loyalty could be associated with perceptions of a more cooperative labor relations climate. In this sense, a greater commitment to both parties could result in a more positive assessment of the relationship between them.

Finally, in terms of organizational outcomes we hypothesize that organizational commitment and union loyalty will be related positively to *productivity* and *quality of customer service* and negatively to *absenteeism*. Although the empirical support for a positive association between organizational commitment and organizational performance is only modest (Benkoff 1997), the services marketing literature indicates that organizational commitment should lead to higher-quality customer service (Heskett et al. 1997; Schneider and Bowen 1985, 1995). The research suggests that organizational commitment is also associated with lower absenteeism (Steers and Rhodes 1978). Employees who identify more strongly with their organization's goals and values tend to have better work attendance (Meyer and Allen 1997).

There is little theory to guide our predictions about the outcomes of union loyalty. However, in the context of the existing cooperative arrangements in the company that emphasize information-sharing and joint problem-solving and involve the participation of union members in those jointly sponsored endeavors (see below), we hypothesize that union loyalty will be associated with higher productivity and enhanced customer service. We also expect that union loyalty will lead to lower absenteeism (Klandermans 1989). Unions can encourage more productive behavior by promoting an environment of "positive peer pressure" at the workplace (Delaney 1996). In addition, the "collective voice" function of the union can improve communications and morale within the organization (Freeman and Medoff 1984; Mefford 1986). Thus, in the context of a cooperative labor-management relationship, internalized feelings of obligation to the union may be associated with more functional organizational behavior that may include lower absenteeism (Rubinstein 2000).

Methods

Research Setting

The setting for this research is an Australian-based international banking organiza-

tion that owns businesses in Europe, North America, and Australasia. It is heavily unionized in Australia, where over two-thirds of the non-managerial work force are members of the Finance Sector Union (FSU). The company is also highly innovative in its human resource policies. In particular, it has strongly emphasized information-sharing, employee participation, and the use of regular employee surveys and feedback. It has also encouraged stock ownership. The bank has a collaborative and well-established working arrangement with the FSU. It provides considerable information to the union about its forward plans on a regular and systematic basis. Moreover, it has not sought to restrict the union's membership activities. The FSU, for example, has access to the bank's fax machines in every branch in Australia. This has assisted the union with communication to its membership and lay officials. Over the past five years the union has been successful in its collective bargaining activities and has achieved wage increases above the industry average at its last two bargaining rounds. Moreover, unlike at most other major banks in the country, these wage increases have been achieved without any industrial action.

Attitudes and Organizational (Branch) Level Performance

In our examination of the relationship between employee attitudes and performance, it should be emphasized that the unit of analysis is the organizational branch office rather than the individual. There are several reasons for this. First, the performance measures (productivity and quality of service) in our study have been collected at the branch level and are consistent with commonly used indicators in the industry (Ryan, Schmit, and Johnson 1996). Second, organizational performance cannot be considered as merely the sum of individual performances (Guzzo and Shea 1992). It may be influenced by exogenous factors, such as cooperation between employees, that may not be apparent in individual performance measures (Ryan et al. 1996). Finally, there is theoretical support

for aggregating individual attitudes and linking them with organizational performance. Research indicates that employees within organizational units tend to share similar attitudes due to their common experiences (James, Joyce, and Slocum 1988) and that these attitudes become increasingly homogeneous over time (George and James 1993). Moreover, the branches in this study are geographically isolated from one another and are treated as independent entities by the bank (Klein, Tosi, and Cannella 1999).

Data Collection

In the first stage of the project (Time 1: February 1995), a multiple-item survey was administered during working hours to a random sample of 5,978 employees from the various branches of the bank in Australia. The survey was endorsed by both management and the FSU. Surveys were coded with identification numbers so that the researchers could measure employees' attitudes over time and match survey responses to branch performance data. The survey instructions stressed that participation in the study was voluntary and confidential. By the closing date, 3,654 questionnaires had been returned, representing a response rate of 61%. The sample consisted of 2,363 union members and 1,217 non-union members (the numbers do not sum perfectly due to missing data).

In the second stage (Time 2: February 1996), 2,388 employees out of 3,100 responded (480 employees had left the branch network during the year). The response rate was 77%; 1,631 of the respondents were union members (411 of whom were managerial union members) and 638 were non-union members. No differences in response rates between Time 1 and Time 2 were observed for union and non-union members ($\chi^2(1) = .041, p > .05$).³ The study

³Additional analyses were undertaken to investigate the possibility of "survivor bias" between Time 1 and Time 2. Of the original sample of 2,363 union members in Time 1, 1,750 were non-managerial union

focused on union members because of the specific attitudinal information sought on issues such as union loyalty, union instrumentality, and the bargaining approach adopted by the union. It is important to note also that the percentage of our final sample who were union members was not significantly different from the unionized percentage of the bank's work force ($\chi^2(1) = 2.233, p > .05$).

In the third stage (Time 3), the branch effectiveness data (on productivity, quality of service, and absenteeism) were obtained from company records for a period of six months following the second survey. It should be noted that the exogenous variables (the management, union, and individual-related variables) were measured at Time 1. The intervening variables of cooperative labor relations climate, organizational commitment, and union loyalty were measured one year later (Time 2), while the branch performance data were measured in the following six months (Time 3).⁴

members. Based on the criteria of having at least two respondents and 30% of non-managerial union members per branch, and incorporating respondent drop-out (including turnover), our final sample in Time 2 comprised 990 respondents. The independent samples *t*-test (two-tailed) comparison between these two groups (760 non-repeat respondents and 990 repeat respondents) on our variables revealed no statistically significant differences [shares information with union: $t(1748) = .21, p > .83$; facilitates union business: $t(1748) = .01, p > .99$; open communications: $t(1748) = -.45, p > .66$; procedural justice: $t(1748) = 1.62, p > .11$; integrative bargaining approach: $t(1748) = -1.61, p > .11$; responsive to member: $t(1748) = .83, p > .41$; union instrumentality (intrinsic): $t(1748) = 1.32, p > .19$; union instrumentality (extrinsic): $t(1748) = -.303, p > .76$; belief in co-operation: $t(1748) = -.86, p > .39$; and ensure good relationship: $t(1748) = -1.17, p > .24$.] These results give us confidence that the findings in our study were not a function of sample mortality.

⁴Although we were not able to directly determine the impact of attrition (between Time 1 and Time 2) on branch productivity, we were able to examine the mean values for employee performance (ranging from 5 for outstanding to 1 for unsatisfactory) supplied by the bank. We applied the approach as recommended by Murphy and Myers (1998). The critical $F(\alpha = .05)$ for the minimum effect null hypothesis (that is,

We used a longitudinal design to collect our data at three points in time because we believed that this would allow us to make stronger causal inferences (see Finkel 1995). The temporal sequencing of the data collection was based on two factors. The first related to the requirements of the firm. The organization was willing to provide us with access to the employees only once a year for administration of the attitudinal survey, because of the disruption it caused to the bank's work schedules (the questionnaire took approximately 40 minutes to answer). We also believed that a 12-month period (between Time 1 and Time 2) would allow us to capture the impact of our antecedent variables on our three intervening variables, labor relations climate, organizational commitment, and union loyalty. Further, the 12-month period ensured that seasonal differences were stable (Hagenaars 1990). The second reason for choosing the particular time intervals for the collection of the data was that an 18-month period (Time 3) was viewed as a sufficient span of time to establish the effect of employee attitudes on performance outcomes (Katz and Keefe 1992). We also chose to use a longitudinal design—as opposed to a cross-sectional analysis—because it avoided the problem of method bias in relation to the collection of the attitudinal data (Menard 1991).

Sample

The sample consisted of 305 bank branches, comprising 990 unionized employees (69% female and 74% full-time). The average age, tenure, and education of employees were 31.11 years (S.D. = 4.92), 8.59 years (S.D. = 3.33), and 10.82 years (S.D. = 1.73), respectively. Each branch had multiple respondents. The final sample consisted of bank branches with at least two

that survivor bias accounts for no more than 5% of variance in employee performance) was 122.399. As this exceeded the traditional critical F of 5.741, we can be at least 95% confident that the difference in employee performance was negligible.

Table 2. Descriptive Statistics and Correlations Among Variables.

Determinants	No. of Items	Means	S.D.	1	2	3	4	5	6	7
1. Absenteeism	1	40.80	29.41	—						
2. Quality of Service	1	89.34	11.84	-.173	—					
3. Productivity	1	96.17	8.65	-.208	.110	—				
4. Union Loyalty	3	3.31	0.47	-.112	-.015	.072	.875			
5. Organizational Commitment	9	3.36	0.38	-.016	.174	.110	.093	.920		
6. Cooperative Labor Relations Climate	6	3.30	0.32	.042	.050	.086	.300	.367	.901	
7. Shares Information with Union	4	3.20	0.28	-.073	.137	.123	.192	.301	.340	.664
8. Facilitates Union Business	2	3.37	0.40	-.018	.150	.135	.124	.237	.207	.383
9. Open Communications	1	3.50	0.69	.027	.028	.100	-.035	.244	.172	.377
10. Procedural Justice	4	2.69	0.51	-.098	.061	.151	.078	.415	.316	.398
11. Integrative Bargaining Approach	2	3.40	0.40	-.083	-.039	.042	.411	.040	.298	.235
12. Responsive to Members	2	2.91	0.59	-.162	.049	.030	.260	.150	.141	.177
13. Union Instrumentality (Intrinsic)	3	2.63	0.40	-.184	-.078	.118	.364	.107	.201	.237
14. Union Instrumentality (Extrinsic)	3	3.43	0.37	-.104	-.048	.058	.478	.070	.274	.264
15. Belief in Cooperation	3	3.54	0.45	.016	.017	.078	.184	.123	.218	.277
16. Ensure Good Relationship	1	3.35	0.51	-.023	-.062	-.009	.280	.066	.225	.312
17. Female	1	0.69	0.28	-.029	.000	.215	.238	.110	.203	.093
18. Full-Time	1	0.74	0.26	.082	-.079	-.290	-.219	-.206	-.210	-.072
19. Branch Transfer	1	0.29	0.29	.084	-.006	-.132	-.105	-.023	-.101	.041
20. Branch Size	1	3.24	1.51	-.194	-.154	-.354	-.194	-.035	.017	-.099
21. Training	1	8.66	9.27	.049	.061	.088	.049	.117	-.030	.088
22. Manager Member	1	0.44	0.33	-.116	.043	-.003	.070	.119	.075	.132

Notes: N = 305; reliabilities are reported along the diagonal. Correlations above [.094] are significant at p < .05, one-tailed test.

respondents. Furthermore, we stipulated that those respondents had to represent at least 30% of the non-managerial union members of that branch. There were an average 3.24 (S.D. = 1.51) union members per branch.

Measurement

A 5-point Likert-type scale format (5 = Strongly Agree; 1 = Strongly Disagree) was used to measure employee perceptions of each item, except where noted. Established scales were used in addition to those that we formulated. The reliability of the multiple measures was computed by estimating Cronbach's Alpha (Cronbach 1951). As indicated in Table 2, all of the scales showed acceptable reliability (see diagonal) (Cortina 1993). The descriptive statistics and correlations among measures are contained in Table 2.

Time 1

Management-related variables. *Shares information with union* was measured by four

items from Dastmalchian et al.'s (1989) openness scale, including "The parties exchange information freely in this organization" and "Management often seeks input from the [union] before initiating changes." *Facilitates union business* used two items from Angle and Perry's (1986) dual commitment scale (one of which, for example, was "The [company] makes it easy to conduct union business"). *Open communications* was operationalized by one item, "Management at my workplace has an 'open door' policy, sharing information with staff and inviting comments and suggestions" (Dastmalchian et al. 1989), while *procedural justice* was measured by a shortened (4-item) version of the scale by Moorman (1991), including items such as "[The organization] has procedures to ensure that decisions affecting staff are made with consistency."

Union-related variables. *Integrative bargaining approach* was measured by two items developed by the researchers, including "The [union] has played a constructive role in negotiating and managing changes introduced under enterprise bargaining." The variable *responsive to members* used a

Table 2 (cont'd)

8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
.649														
.300	—													
.251	.392	.911												
.174	.066	.110	.633											
.213	.099	.166	.317	.952										
.127	.057	.285	.464	.347	.861									
.222	-.042	.192	.643	.317	.512	.664								
.140	.183	.070	.228	.235	.149	.301	.804							
.151	.081	.141	.272	.295	.299	.357	.116	—						
.162	.055	.162	.192	.076	.181	.196	.098	.179	—					
-.081	-.071	-.206	-.126	-.104	-.203	-.096	-.076	-.108	-.388	—				
-.013	-.079	.027	-.088	.008	-.112	-.119	-.097	.072	-.151	.219	—			
-.139	-.030	-.131	-.020	-.212	-.258	-.085	-.044	-.079	-.201	.208	.063	—		
.022	.107	.057	-.079	.042	-.035	-.014	.001	.092	.074	-.102	.019	-.213	—	
.274	.216	.146	.093	.210	.023	.082	.130	.041	.011	.085	.098	-.254	.089	—

two-item scale derived from Sverke and Sjöberg (1994); one of the items was "The union representatives at my workplace pay attention to demands put forward by members." The measures of *union instrumentality* were expanded from Deery, Erwin, and Iverson (1999) and focused on the influence of the union in improving the intrinsic aspects of the job (for example, "The union has helped to make my job interesting") and the extrinsic aspects (for example, "The union protects employees from unfair dismissals" and "The union improved my working conditions").

Individual-related variables. *Belief in cooperation* was measured by three items developed by the researchers, including "It is important for unions and management to work together" and "Unions should not work too closely with management" (R). The variable *ensure good relationship* was operationalized by one item, "It is every employee's duty to ensure that the relationship between the [union] and management is good" (Angle and Perry 1986).

Control variables. The control variables consist of *female* (measured as the percentage of women, with 1 = female and 0 = male), *full-time* (measured as the proportion of full-time employees, with 1 = full-time and 0 = part-time or casual), *branch transfer* (assessed as the proportion of respondents who had changed branches between the two surveys, with 1 = yes and 0 =

no), *branch size* (estimated by the logarithm of full-time equivalent staff at each branch), *training* (focusing on the number of days of training, and measured by the item, "How many days, on average, of formal in-house training (that is, classroom/computer based) have you had at the bank, per year?"), and *manager member* (measured by one item, "Is your superior (that is, manager) a union member?" with 1 = union member and 0 = non-union member).

Time 2

Intervening variables. The first intervening variable, *cooperative labor relations climate*, was measured by the 10-item harmony component from Dastmalchian et al.'s (1989) industrial relations climate scale. Items included "A sense of fairness is associated with union-management dealings in this place" and "The [union] and management work together to make this a better place in which to work." *Organizational commitment* was operationalized by the 9-item short form of Porter et al. (1974), while *union loyalty* was assessed by three items from Gordon et al. (1980), including "I feel a sense of pride in the [union]."

Time 3

Organizational performance. Three performance measures were collected from

organizational records for each branch. *Productivity* was defined as the ratio of labor input to output (measured by the electronic recording of standard tasks with given time values). The productivity measure was based on the volume of transactions and the available time to complete them. The bank captured the 1,700 possible events (transaction codes) that occurred in the business. These represented 1,000 defined tasks that were related to 80 core banking processes such as lending (business loans, personal loans). A time was assigned to each of the 1,000 tasks. The time allocation to tasks was calculated in one of two ways: observation with a stop-watch, or MODAPS (Modular Application of Predetermined Time Standards), which developed standard times for basic administration events. The two processes were merged to calculate a total time for each task. The productivity measure was calculated by dividing the total available hours (measured by the number of employees multiplied by the number of hours worked) by work load (measured by the number of tasks multiplied by the total time required to complete the tasks).

Quality of service was measured on a 100-point check-list relating to customer service. A mystery shopper survey was conducted at each branch by a market research firm. Surveyors entered the branch, conducted transactions, and scored the branch on all aspects of their experience. This included branch tidiness, ready availability of deposit/withdrawal slips, the greeting they received from the staff member, whether issues were appropriately referred to other members of the branch team, and the level of product knowledge of the staff member who served them. All items were scored on a five-point scale (5 = outcome fully met; 1 = outcome not met at all) and given an equal weighting. The scores were then converted into an index (out of 100) for each branch.

Absenteeism was assessed by the average number of hours absent per month per full-time employee at each branch.

Analysis

Confirmatory factor analyses (CFA) with Linear Structural Relations (LISREL) (Jöreskog and Sörbom 1996a) were conducted to assess the structure of all multiple-item variables. The convergent validity (the degree of association between measures of a construct) of the model was supported, as was the discriminant validity (the degree to which measures of constructs are distinct). Anderson and Gerbing (1988) recommended a nested approach. Essentially this involves specifying a null model (a model with each of the items made independent), which provides a baseline. The second model hypothesizes that only one general factor (unidimensionality) underlies the items. Finally, these models are compared to the theoretical or substantive model of interest. The hypothesized eleven-factor model—the factors being union loyalty, organizational commitment, cooperative industrial relations climate, shares information with union, facilitates union business, procedural justice, integrative bargaining approach, responsive to member, union instrumentality (intrinsic and extrinsic), and belief in cooperation (see procedures as suggested by Bagozzi and Yi 1988)—was found to fit the data significantly better than both the null model ($\Delta\chi^2(96) = 20398.02, p < .001$) and the one factor model ($\Delta\chi^2(55) = 12306.91, p < .001$). The parameter estimates (factor loadings) were all statistically significant ($p < .05$) and ranged from .55 to .89.

Discriminant validity was tested by calculating the difference between one model that allowed the correlations between the constructs to be constrained to unity (that is, perfectly correlated) and another model that allowed the correlations between the constructs to be free. This was carried out for one pair of constructs (with multiple items) at a time. The variables for intrinsic and extrinsic union instrumentality, for example, exhibited discriminant validity ($\chi^2_d(1) = 359.06, p < .001$). Discriminant validity of the eleven-factor model was also affirmed by the factor correlations ranging from .10 to .68, which were not within two

standard deviations of unity (Bagozzi and Yi 1988). The measurement model had a goodness-of-fit (GFI) of .905, a normed comparative fit index (CFI)—which avoids the underestimation of fit (Bentler 1990)—of .912, and a root-mean-square error of approximation (RMSEA) of .055 (Browne and Cudeck 1993). As the indices indicated an accepted fit of the measurement model, it was appropriate to estimate the structural model. However, before proceeding to the structural model, we first assessed the appropriateness of aggregating the data to the branch level.

Following the procedures recommended by James, Demaree, and Wolf (1984, 1993) and Kozlowski and Hattrup (1992), we calculated within-group interrater reliability (*r_{wg}*). The range in *r_{wg}* values (single and multiple items) from .762 to .942, with an average of .857, provided adequate support for aggregation (James et al. 1984, 1993; Kozlowski and Hattrup 1992). In addition, for data aggregation we rely on *r_{wg}* in preference to intraclass correlations (ICCs), recognizing that it is “a fallacy [to interpret] agreement estimates based on aggregates (means) as applying to agreement among individuals” (James, Mulaik, and Brett 1982:228).

Due to the problems associated with the non-normal sample distributions of the three performance measures (which suffer from skewing and truncation), we first employed the program of PRELIS (Jöreskog and Sörbom 1996b) to “censor” the variables. The PRELIS correlation matrix was then used as the input to LISREL. This technique is suitable because LISREL produces both a statistical measure of goodness-of-fit—namely, the explained variance (R-square) of the model—and coefficients that can be interpreted as standardized regression coefficients. Finally, a path analysis (decomposed into direct, indirect, and total effects) was undertaken (Alwin and Hauser 1975). The results of the structural model are presented in the following section.⁵

⁵We undertook additional analyses that involved lagging the variables of cooperative labor relations

Results

In this section we examine both the bivariate and multivariate results. A current issue in structural equation modeling is the effect of statistical power (Saris and Satorra 1993). Statistical power refers to the probability of rejecting a false null hypothesis (Type II (β) error). Meaningful effects may be negated when statistical power is low. Employing the SAS program by MacCallum, Browne, and Sugawara (1996), we calculated the statistical power of our model. This entailed inputting the null and alternative values of the RMSEA (ϵ_0 and ϵ_a) (see Browne and Cudeck 1993 for discussion of ϵ_0 and ϵ_a), the α level, degrees of freedom, and sample size. The estimate of power obtained exceeded Cohen's (1988) criterion of .80 (that is, at least 80% probability), indicating the model had sufficient power to detect meaningful parameter estimates.

Correlation Analysis

The correlation matrix is presented in Table 2. In line with our expectations, it can be seen that perceptions of a cooperative labor relations climate were positively associated with the willingness of management to share information with the union ($r = .340$), to facilitate union business ($r = .207$), and to communicate openly with employees ($r = .172$). Furthermore, a positive association existed with procedural justice ($r = .316$).

A number of union-related variables also displayed a statistically significant and posi-

climate, organizational commitment, and union loyalty at Time 1 when they were the intervening variables at Time 2 (Kessler and Greenberg 1981). Controlling on these lagged variables allows us to assess the degree to which the determinants in the model produce change in these three variables from Time 1 to Time 2. Our main objective was to examine the determinants of cooperative labor relations climate, organizational commitment, and union loyalty rather than to investigate what produced changes in these intervening variables from Time 1 to Time 2. Nevertheless, it should be noted that we observed a pattern of statistically significant variables similar to that found in the non-lagged models.

Table 3. LISREL (Standardized Coefficients) for Intervening and Dependent Variables: Hypothesized and Revised Models.^a

Determinants	Cooperative Labor Relations Climate (1)	(2)	Organizational Commitment (3)	(4)	Union Loyalty (5)	(6)	Productivity (7)	(8)	Quality of Service (9)	(10)	Absenteeism (11)	(12)
<i>Control Variables</i>												
Female	.097	.092										
Full-Time	-.107*	-.102*										
Branch Transfer	-.104*	-.106*										
Branch size	.129*	.131*										
Training	-.015	-.021		.105*								
Manager Member	.018	.016										
<i>Management-Related Variables</i>												
Shares Information with Union	.232**	.227**										
Facilitates Union Business	.052	.050		.122*				.125*		.181**		
Open Communications	-.062	-.061										
Procedural Justice	.206**	.205**		.317***								
<i>Union-Related Variables</i>												
Integrative Bargaining Approach	.205*	.221*				.441***						
Responsive to Members	.016	.006										
Union Instrumentality (Intrinsic)	-.121	-.132							.150*			
Union Instrumentality (Extrinsic)	.009	-.013										
<i>Individual-Related Variables</i>												
Belief in Cooperation	.064	.068										
Ensure Good Relationship	.108	.115				.141**						
<i>Intervening Variables</i>												
Cooperative Labor Relations Climate			.408***	.260***	.355***	.145**						
Organizational Commitment							.160**	.121**	.181**	.130**	.017	.012
Union Loyalty							.065	-.019	-.025	-.054	-.108*	-.106*
R ²	.336	.320	.166	.290	.126	.336	.033	.069	.032	.061	.011	.011

Notes: N = 305. The results of the hypothesized model and revised models are contained in the odd- and even-numbered columns, respectively. Chi-square values: hypothesized model χ^2 (87) = 455.855 (p < .05), revised model χ^2 (79) = 334.600 (p < .05).
*Statistically significant at the .05 level; **at the .01 level; ***at the .001 level (one-tailed tests).

tive relationship with branch-level perceptions of union-management cooperation. Employees viewed the labor relations climate as more cooperative where the union was seen to adopt an integrative bargaining approach ($r = .298$), where it was judged as being responsive to the needs of its members ($r = .141$), and where it was perceived as instrumental in delivering improvements to its members in both intrinsic ($r = .201$) and extrinsic ($r = .274$) aspects of work. The two individual-related variables were also positively correlated with perceptions of a cooperative labor relations climate: belief in cooperation ($r = .218$) and perceived duty to ensure that the union-management relationship was good ($r = .225$).

Perceptions of a cooperative labor relations climate were positively related to organizational commitment ($r = .367$) and union loyalty ($r = .300$). Furthermore, organizational commitment had a positive association with both productivity ($r = .110$) and quality of service ($r = .174$). Union loyalty displayed a negative relationship with absenteeism ($r = -.112$). In terms of the other performance variables, productivity and service quality showed a positive association ($r = .110$), while both variables were negatively related with absenteeism ($r = -.208$ and $r = -.173$, respectively).

Multivariate Analysis

Table 3 displays the LISREL VIII results from the estimation of the hypothesized causal model ($\chi^2(87) = 455.855$, $p < .05$; GFI = .898; CFI = .744; RMSEA = .106) (see Figure 1).⁶ Three variables, as predicted by the model, were found to have statistically

significant net effects on cooperative labor relations climate (see column 1 of Table 3). These were the management-related variables *shares information with union* ($\beta = .232$) and *procedural justice* ($\beta = .206$) and the union-related variable *integrative bargaining approach* ($\beta = .205$). These results indicate that where employees believed that the company freely shared information with the union and sought its input in change management, they viewed the labor relations climate as more cooperative. Similarly, where the company was seen to have in place processes and procedures to ensure fair decisions affecting staff, it was more likely that the labor relations climate was perceived as cooperative. The approach taken by the union to its collective bargaining role was also important. An integrative bargaining approach was positively associated with perceptions of a cooperative labor relations climate. The results indicate that 33.6% of the variance in cooperative labor relations climate was explained by the variables in the model.⁷

It can also be seen from columns (3) and (5) of Table 3 that both organizational commitment (16.6% explained variance) and union loyalty (12.6% explained variance) were statistically significantly higher when employees perceived that the climate between management and the union was cooperative ($\beta = .408$ and $\beta = .355$, respectively). Furthermore, organizational commitment (columns 7 and 9) had a positive

⁶It should be pointed out that the bank branch performance data used in the model (productivity, quality of service, and absenteeism) pertained to both union and non-union employees. On the other hand, the respondents in our study were union members only. In order to address the issue of possible contamination, we tested two additional models: first, a full employee (union and non-union) respondent model, and second, the same model augmented with a dummy variable for union member. Both models yielded the same relationships between the intervening variables and the outcome variables as did our

hypothesized model. Cooperative labor relations climate predicted organizational commitment, and organizational commitment predicted higher productivity and higher service quality. In the full employee respondent (union and non-union) model including a dummy variable for union member, we found that the union dummy ($\beta = -.103$, $p < .05$) was associated with a lower branch absenteeism rate. This parallels our union loyalty finding in the hypothesized model. As union employees constituted the vast majority of all employees in the bank (around 65%), we felt that this limited the possibility of the outcome measures being contaminated indicators of union members' performance. We thank the reviewers for their assistance on this matter.

⁷The relationships between the control variables and cooperative labor relations climate were consistent with our expectations.

effect on productivity ($\beta = .160$; 3.3% explained variance) and quality of service ($\beta = .181$; 3.2% explained variance). Union loyalty (column 11) had a negative effect on absenteeism ($\beta = -.108$; 1.1% explained variance).

Revised Causal Model

Table 3 also presents the LISREL VIII results used to estimate the revised causal model. The modification procedure used to fit the LISREL model consisted of two steps. First, all originally hypothesized paths (see Figure 1) were retained, even if they were not statistically significant after analysis. Second, the hypothesized model was expanded by estimating additional causal paths that were indicated by the LISREL VIII modification indices and considered to be theoretically plausible. The goodness-of-fit index for the revised model ($\chi^2(79) = 334.600$, $p < .05$) compared to the hypothesized model ($\chi^2(87) = 455.855$, $p < .05$) indicates a significant improvement in the fit of the model ($\Delta\chi^2(8) = 121.255$, $p < .05$), and suggests that the revised model was better able to represent the relations in the sample data (GFI = .922; CFI = .822; RMSEA = .092).

Modifications made to the hypothesized model involved estimating seven additional paths. In relation to organizational commitment, it can be seen that the two variables *facilitates union business* ($\beta = .122$) and *procedural justice* ($\beta = .317$) were statistically significant (see column 4 of Table 3). In addition, two variables, *integrative bargaining approach* ($\beta = .441$) and *ensure good relationship* ($\beta = .141$), were related to union loyalty (see column 6 of Table 3). Finally, as indicated in column 8 of Table 3, two additional variables, *facilitates union business* ($\beta = .125$) and *union instrumentality* (intrinsic) ($\beta = .150$), had a positive impact on productivity, while *facilitates union business* ($\beta = .181$) also had a similar effect on quality of service (see column 10).

Path Analysis

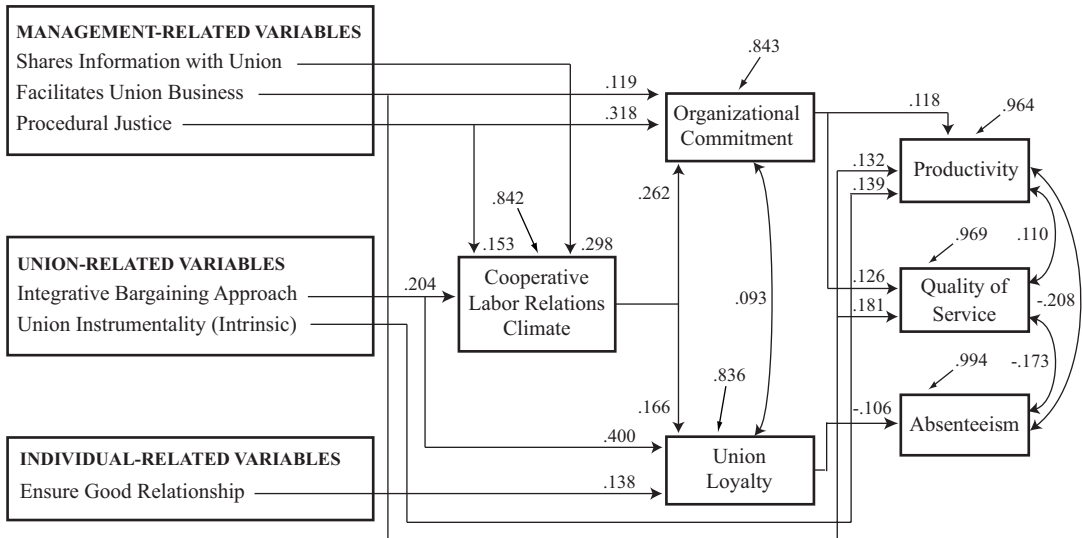
A simplified causal model is presented in Figure 2 ($\chi^2(56) = 302.271$, $p < .05$; GFI =

.925, CFI = .823, RMSEA = .091). This model retains only those variables that have a statistically significant relationship with productivity, quality of service, and absenteeism (for a review of this strategy, see Brooke and Price (1989) and Iverson (1996)). Path analysis allows us to determine whether the overall total (direct and indirect) effects are statistically significant, as some variables in our model may only have indirect effects on the outcomes through cooperative labor relations climate, organizational commitment, and union loyalty. All paths except branch transfer were statistically significant and in the hypothesized direction. We conducted analyses that decomposed the direct, indirect, and total effects of the determinants on productivity, quality of service, and absenteeism, respectively.⁸ An examination of the statistically significant total effects on productivity indicated that the most important variables were *facilitates union business* (.146), *union instrumentality* (intrinsic) (.139), and *organizational commitment* (.118). Other significant factors were *procedural justice* (.042) and *cooperative labor relations climate* (.031). For quality of service, the two most important factors in terms of total effects were *facilitates union business* (.196) and *organizational commitment* (.126). Other variables found to have a significant effect on quality of service were *procedural justice* (.045), *cooperative labor relations climate* (.033), and *shares information with union* (.010). Finally, two variables were identified as having a significant effect on absenteeism: *union loyalty* (-.106) and *integrative bargaining approach* (-.046).⁹

⁸The full results of these analyses can be obtained from the authors on request.

⁹We also tested a more parsimonious model without the exogenous variables (the management, union, and individual-related variables). We found that a cooperative labor relations climate had a statistically significant effect on productivity (.085) and quality of service (.063). Organizational commitment also had a statistically significant effect on productivity (.160) and quality of service (.181), while union loyalty had a statistically significant effect on absenteeism (-.108). These findings are comparable to those observed in the hypothesized model.

Figure 2. Simplified Model of Organizational Performance.



Discussion and Summary

The most important findings in this research relate to the factors that determine organizational performance. The study found that a cooperative labor relations climate was associated with higher levels of branch productivity and service quality. In those bank branches where unionized employees believed that the company and the union had a constructive and positive working arrangement, there appeared to be a greater willingness to exert productive effort and to provide a high standard of customer service. Moreover, a cooperative labor relations climate was associated with greater commitment to the organization and higher levels of loyalty to the union. In turn, it should be noted that organizational commitment had a positive effect on productivity and customer service quality, and union loyalty was associated with lower levels of absenteeism.

The performance of the organization was influenced by certain forms of behavior displayed by the two parties. The actions of management were particularly relevant in

this connection. In those branches where management was seen to facilitate union business and to provide a fair and just system of organizational decision-making, there were significantly higher levels of productivity and customer service quality. In addition, a willingness to share information freely and openly with the union was associated with better customer service ratings. The union's role in affecting the performance outcomes of the organization should also be highlighted. In those branches where the union was seen as having adopted an integrative or problem-solving approach to negotiations and the process of change management, absenteeism levels were significantly lower. Positive perceptions of the union's effectiveness in delivering quality of work life improvements were also associated with higher levels of branch productivity.

These findings demonstrate the important effect of a cooperative labor relations climate on organizational performance and confirm the results of earlier research conducted in the manufacturing sector (Shuster 1983; Katz et al. 1983, 1985;

Bemmels 1987; Ichniowski et al. 1997). The study also provides additional information on the nature and character of the factors that help shape a cooperative climate and affect organizational performance (Cooke 1990; Ichniowski 1992). Perceptions of a cooperative labor relations climate were influenced not only by the propensity of management to be open and trustful with the union, but also by a belief that the workplace was fair and just and that due process was followed. Indeed, procedural justice emerged as an antecedent of the perceived character of the union-management relationship as well as a determinant of the level of branch productivity and customer service quality. In terms of its effect on the performance outcomes, it would appear that notions of procedural justice are associated with a change in employee effort that yields both higher productivity and improved customer service (Ichniowski 1986). Productivity and customer service were also found to be higher where management demonstrated a willingness to facilitate the union's business and not restrict its representative activities in the company. This suggested that in those circumstances where management was perceived as fair in its dealings with employees and the union, the parties were able to develop a relationship that maximized the potential benefits of cooperation (Cooke 1990). It is noteworthy that many of the branch managers were union members. Although this did not affect the labor relations climate, there was evidence that where the branch manager was a union member, employees had more positive perceptions of the level of procedural justice and the openness of communications (see Table 2).

It is also important to note the effect of the union on the performance outcomes. We observed earlier, for example, that instrumentality (intrinsic) had a positive impact on productivity while union loyalty and the adoption of an integrative approach to bargaining were associated with lower levels of absenteeism. Unions can have a positive effect on employees' discretionary effort (Eaton and Voos 1992). They can

improve motivation by helping to reshape management practices and by effecting changes to the organizational rules governing the employment relationship. In our study, positive perceptions of the union's effectiveness in dealing with quality of life issues were associated with higher levels of branch productivity. This may have been the result of a better matching of employee preferences and organizational policies on working life issues in those branches.

When unions are made part of the internal governance system of the organization, they can also help reduce opportunism (Belman 1992). Individual shirking in the form of unscheduled absenteeism, for example, can be reduced through the cooperation and assistance of unions in programs of attendance management (Hundley 1989). Unions can induce more productive work behavior by creating an environment of "positive peer pressure" at the workplace. Our findings indicate that absenteeism—a form of individualistic behavior that can be dysfunctional for the firm and for coworkers—was less likely among employees who exhibited loyalty to their union and who viewed their union as playing a collaborative problem-solving role. In this sense, particular values or norms may emerge in workplaces that discourage "free riding" activities that impose additional work burdens on others. Not unexpectedly, lower levels of branch absenteeism were associated with better service quality and higher productivity.

In summary, this study has shown that cooperative labor relations can yield positive organizational outcomes. Employees are capable of varying levels of effort, which can be affected by the organizational settings in which they work (Mahoney and Watson 1993). Union-management collaboration can encourage employees to engage in behavior that is consonant with the firm's interests but not deleterious to union loyalty (Ichniowski 1992). This has important implications for the labor relations strategies of unionized firms. Managers and unions make choices about the nature and conduct of their relationship. They may choose to adopt an adversarial

approach or to embark on a program of cooperation.¹⁰ Where the parties seek to collaborate, our research indicates that a cooperative labor relations climate is associated with higher levels of performance. Our research also provides insight into how “good” labor-management relations can be created. We find that a cooperative climate was more likely to develop where, first, management accepted the union as a legitimate representative of the collective interests of the membership and treated it as a genuine stakeholder in the organization; second, the union adopted an integrative, problem-solving approach to bargaining; and, third, there were fair and trusted procedures for resolving workplace grievances.

It is important, however, not to overstate the practical implications of our findings. We could explain only a relatively small proportion of the variance in the performance measures.¹¹ Range restriction in

these measures may have impaired our ability to explain greater variance, as well as our capacity to find other significant relationships. Furthermore, it is necessary to acknowledge the difficulties of generalizing from the specifics of a single case study, even though our data were drawn from more than 300 separate worksites. Multiple case studies clearly provide greater external validity. Data from a sample of comparable organizations would further enhance our understanding of the effects of the labor relations climate on organizational performance. Ethnographic research could also help to explicate the relationship between labor-management cooperation, levels of worker effort, and workplace performance. It should also be pointed out that the positive effects of cooperation on workplace performance could dissipate over time. Our performance data were obtained six months after our second attitudinal survey. The collection of data at a later date would have enabled us to ascertain the durability of these improvements. Notwithstanding the limitations of our work, however, this study does provide important empirical support for the proposition that cooperative labor-management relations contribute to improved organizational performance.

¹⁰In our study, the HR department sought to forge a collaborative relationship with the union to ensure its cooperation with organizational and technological changes and to avoid industrial action at times of contract renewal. This collaborative relationship received the strong endorsement of the CEO, who had been a member of the union as a junior staff member in the bank and favored constructive dialogue with the union. In exchange, the union secured regular information about the company's strategic plans, a supportive environment in which to recruit members, and above-average wage increases, obtained partly as a result of the highly profitable position of the bank.

¹¹However, it will be observed that our results supported the mediation role of the labor relations climate in the model. It should also be noted that our explained variance was quite similar to that found in other studies of productivity (for example, Brett,

Cron, and Slocum 1995) and quality of service (for example, Hartline and Ferrell 1996). We also acknowledge that causality is unclear. It is plausible, for example, that organizational performance could be modeled as an antecedent of employee attitudes and that better organizational performance could lead to better employee attitudes such as organizational commitment (for example, Ricketts 2002).

REFERENCES

- Alwin, Duane F., and Robert M. Hauser. 1975. "The Decomposition Effects in Path Analysis." *American Sociological Review*, Vol. 40, No. 1 (February), pp. 37-47.
- Anderson, James C., and David W. Gerbing. 1988. "Structural Equation Modelling in Practice: A Review and Recommended Two-Step Approach." *Psychological Bulletin*, Vol. 103, No. 3, pp. 411-23.
- Angle, Harold L., and James L. Perry. 1986. "Dual Commitment and Labor-Management Relationship Climates." *Academy of Management Journal*, Vol. 29, No. 1 (March), pp. 31-50.
- Aoki, Masahiko. 1990. "The Participatory Generation of Information Rents and the Theory of the Firm." In Masahiko Aoki, Bo Gustafsson, and Oliver E. Williamson, eds., *The Firm as a Nexus of Treaties*. London: Sage.
- Bagozzi, Richard P., and Youjae Yi. 1988. "On the Evaluation of Structural Equation Models." *Academy of Marketing Science*, Vol. 16 (Spring), pp. 74-94.
- Barling, Julian, Clive Fullagar, and Kevin E. Kelloway. 1992. *The Union and Its Members: A Psychological Approach*. New York: Oxford University Press.
- Belman, Dale. 1992. "Unions, the Quality of Labor Relations, and Firm Performance." In Lawrence Mishel and Paula Voos, eds., *Unions and Economic Competitiveness*. Armonk, N.Y.: M.E. Sharpe.
- Bemmel, Brian. 1987. "How Unions Affect Productivity in Manufacturing Plants." *Industrial and Labor Relations Review*, Vol. 40, No. 2 (January), pp. 241-53.
- Benkoff, B. 1997. "Ignoring Commitment Is Costly: New Approaches Establish the Missing Link between Commitment and Performance." *Human Relations*, Vol. 50, No. 6, pp. 701-26.
- Bentler, Peter M. 1990. "Comparative Fit Indexes in Structural Models." *Psychological Bulletin*, Vol. 107, No. 2, pp. 238-46.
- Brett, Joan F., William L. Cron, and John W. Slocum, Jr. 1995. "Economic Dependency on Work: A Moderator of the Relationship between Organizational Commitment and Performance." *Academy of Management Journal*, Vol. 38, No. 1 (February), pp. 261-71.
- Brooke, Paul J., and James L. Price. 1989. "The Determinants of Employee Absenteeism: An Empirical Test of a Causal Model." *Journal of Occupational Psychology*, Vol. 62, No. 1, pp. 1-19.
- Browne, Michael W., and Robert Cudeck. 1993. "Alternative Ways of Assessing Model Fit." In Kenneth A. Bollen and J. Scott Long, eds., *Testing Structural Equation Models*. Newbury Park, Calif.: Sage.
- Cohen, Jacob. 1988. *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Cooke, William N. 1989. "Improving Productivity and Quality through Collaboration." *Industrial Relations*, Vol. 28, No. 2 (Spring), pp. 299-319.
- _____. 1990. *Labor-Management Cooperation*. Kalamazoo, Mich.: W.E. Upjohn Institute for Employment Research.
- Cortina, Jose M. 1993. "What Is Coefficient Alpha? An Examination of Theory and Applications." *Journal of Applied Psychology*, Vol. 78, No. 1 (February), pp. 98-104.
- Cronbach, Lee J. 1951. "Coefficient Alpha and the Internal Structure of Tests." *Psychometrika*, Vol. 16, No. 3 (September), pp. 297-334.
- Dastmalchian, Ali, Paul Blyton, and Raymond Adamson. 1989. "Industrial Relations Climate: Testing a Construct." *Journal of Occupational Psychology*, Vol. 62, No. 1, pp. 21-32.
- Deery, Stephen J., Peter J. Erwin, and Roderick D. Iverson. 1999. "Industrial Relations Climate, Attendance Behaviour and the Role of Trade Unions." *British Journal of Industrial Relations*, Vol. 37, No. 4 (December), pp. 533-58.
- Delaney, John T. 1996. "Unions, Human Resource Innovations, and Organizational Outcomes." In David Lewin, Bruce Kaufman, and Donna Sockell, eds., *Advances in Industrial and Labor Relations*. Greenwich, Conn.: JAI Press.
- Dyer, Lee, David B. Lipsky, and Thomas A. Kochan. 1977. "Union Attitudes toward Management Cooperation." *Industrial Relations*, Vol. 16, No. 2 (May) pp. 163-72.
- Eaton, Adrienne E., and Paula B. Voos. 1992. "Unions and Contemporary Innovations in Work Organization and Employee Participation." In Lawrence Mishel and Paula Voos, eds., *Unions and Economic Competitiveness*. Armonk, N.Y.: M.E. Sharpe.
- Eberhardt, Bruce J., and Abraham B. Shani. 1984. "The Effects of Full-Time Versus Part-Time Employment Status on Attitudes toward Specific Organizational Characteristics and Overall Job Satisfaction." *Academy of Management Journal*, Vol. 27, No. 4 (December), pp. 893-900.
- Finkel, Steven E. 1995. *Causal Analysis with Panel Data*. Newbury Park, Calif.: Sage.
- Freeman, Richard B., and James L. Medoff. 1984. *What Do Unions Do?* New York: Basic Books.
- Friedman, Raymond A. 1994. "Trust, Understanding, and Control: Factors Affecting Support for Mutual Gains Bargaining." *Proceedings of the Forty-Sixth Annual Meeting* (Boston, Jan. 3-5). Madison, Wis.: Industrial Relations Research Association, pp. 23-32.
- Fryxell, Gerald E., and Michael E. Gordon. 1989. "Workplace Justice and Job Satisfaction as Predictors of Satisfaction with Union and Management." *Academy of Management Journal*, Vol. 32, No. 4 (December), pp. 851-66.
- George, Jennifer M., and Lawrence R. James. 1993. "Personality, Affect, and Behavior in Groups Revisited: Comment on Aggregation, Level of Analysis, and a Recent Application of within and between Analysis." *Journal of Applied Psychology*, Vol. 78, No. 5 (October), pp. 798-804.
- Gordon, Michael E., and Robert T. Ladd. 1990. "Dual Allegiance: Renewal, Reconsideration, and Recantation." *Personnel Psychology*, Vol. 43, No. 1 (Spring), pp. 37-69.

- Gordon, Michael E., et al. 1980. "Commitment to the Union: Development of a Measure and an Examination of Its Correlates" (monograph). *Journal of Applied Psychology*, Vol. 65, No. 4, pp. 479-99.
- Guest, David, and Riccardo Peccei. "Partnership at Work: Mutuality and the Balance of Advantage." *British Journal of Industrial Relations*, Vol. 39, No. 2, pp. 207-36.
- Guzzo, Richard A., and Gregory P. Shea. 1992. "Group Performance and Intergroup Relations in Organizations." In Marvin D. Dunnette and Leaetta M. Hough, eds., *Handbook of Industrial and Organizational Psychology*. Palo Alto, Calif.: Consulting Psychologists Press.
- Hagenaars, Jacques A. 1990. *Categorical Longitudinal Data: Loglinear Panel, Trend, and Cohort Analysis*. Newbury Park, Calif.: Sage.
- Hallowell, Roger. 1996. "Southwest Airlines: A Case Study Linking Employee Needs Satisfaction and Organizational Capabilities to Competitive Advantage." *Human Resource Management*, Vol. 35, No. 4 (Winter) pp. 513-34.
- Hammer, Tove H., and Robert 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 (April), pp. 337-49.
- Harrison, David A., and Joseph J. Martocchio. 1998. "Time for Absenteeism: A 20-Year Review of Origins, Offshoots, and Outcomes." *Journal of Management*, Vol. 24, No. 3, pp. 305-50.
- Hartline, Michael D., and O. C. Ferrell. 1996. "The Management of Customer-Contact Service Employees: An Empirical Investigation." *Journal of Marketing*, Vol. 60, No. 4, pp. 52-70.
- Heskett, James L., Earl W. Sasser, Jr., and Leonard A. Schlesinger. 1997. *The Service Profit Chain*. New York: Free Press.
- Hundley, Greg. 1989. "Things Unions Do, Job Attributes, and Union Membership." *Industrial Relations*, Vol. 28, No. 3 (Fall), pp. 335-55.
- Ichniowski, Casey. 1986. "The Effects of Grievance Activity on Productivity." *Industrial and Labor Relations Review*, Vol. 40, No. 1 (October), pp. 75-89.
- _____. 1992. "Human Resource Practices and Productive Labor-Management Relations." In David Lewin, Oliver S. Mitchell, and Peter D. Sherer, eds., *Research Frontiers in Industrial Relations and Human Resources*. Madison, Wis.: Industrial Relations Research Association.
- Ichniowski, Casey, Kathryn Shaw, and Giovanni Prennushi. 1997. "The Effects of Human Resource Management Practices on Productivity: A Study of Steel Finishing Lines." *American Economic Review*, Vol. 87, No. 3 (June), pp. 291-313.
- Iverson, Roderick D. 1996. "Employee Acceptance of Organizational Change: The Role of Organizational Commitment." *International Journal of Human Resource Management*, Vol. 7, No. 1 (February), pp. 122-49.
- Jacoby, Sanford M. 1983. "Union-Management Cooperation in the United States: Lessons from the 1920s." *Industrial and Labor Relations Review*, Vol. 37, No. 1 (October), pp. 18-33.
- James, Lawrence R. 1982. "Aggregation Bias in Estimates of Perceptual Agreement." *Journal of Applied Psychology*, Vol. 67, No. 2 (May), pp. 219-29.
- James, Lawrence R., Robert G. Demaree, and Gerrit Wolf. 1984. "Estimating within-Group Interrater Reliability with and without Response Bias." *Journal of Applied Psychology*, Vol. 69, No. 1 (February), pp. 85-98.
- _____. 1993. "rug: An Assessment of Within-Group Interrater Agreement." *Journal of Applied Psychology*, Vol. 78, No. 2 (May), pp. 306-10.
- James, Lawrence R., William F. Joyce, and John W. Slocum. 1988. "Comment: Organizations Do Not Cognize." *Academy of Management Review*, Vol. 13, No. 1 (January), pp. 129-32.
- James, Lawrence R., Stanley A. Mulaik, and Jeanne Brett. 1982. *Causal Analysis: Models, Assumptions, and Data*. Newbury Park, Calif.: Sage.
- Jöreskog, Karl G., and Dag Sörbom. 1996a. *LISREL 8: User's Reference Guide*. Chicago: Scientific Software International.
- _____. 1996b. *PRELIS 2: User's Reference Guide*. Chicago: Scientific Software International.
- Katz, Harry, and Jeffrey H. Keefe. 1992. "Collective Bargaining and Industrial Relations Outcomes: The Causes and Consequences of Diversity." In David Lewin, Olivia S. Mitchell, and Peter D. Sherer, eds., *Research Frontiers in Industrial Relations and Human Resources*. Madison, Wis.: Industrial Relations Research Association.
- Katz, Harry, Thomas Kochan, and Kenneth Gobeille. 1983. "Industrial Relations Performance, Economic Performance, and QWL Programs: An Interplant Analysis." *Industrial and Labor Relations Review*, Vol. 37, No. 1 (October), pp. 3-17.
- Katz, Harry, Thomas Kochan, and Mark Weber. 1985. "Assessing the Effects of Industrial Relations Systems and Efforts to Improve the Quality of Working Life on Organizational Effectiveness." *Academy of Management Journal*, Vol. 28, No. 3 (September), pp. 509-26.
- Kelley, Maryellen R., and Bennett Harrison. 1992. "Unions, Technology, and Labor-Management Cooperation." In Lawrence Mishel and Paula Voos, eds., *Unions and Economic Competitiveness*. Armonk, N.Y.: M.E. Sharpe, pp. 247-86.
- Kennedy, Sean, Robert Drago, Judith Sloan, and Mark Wooden. 1994. "The Effect of Trade Unions on the Provision of Training: Australian Evidence." *British Journal of Industrial Relations*, Vol. 32, No. 4 (December), pp. 565-80.
- Kessler, Ronald C., and David F. Greenberg. 1981. *Linear Panel Analysis*. New York: Academic Press.
- Klandermans, Bert. 1989. "Union Commitment: Replication and Tests in the Dutch Context." *Journal of Applied Psychology*, Vol. 74, No. 6, pp. 869-75.
- Klein, Katherine J., Henry Tosi, and Albert Cannella, Jr. 1999. "Multilevel Theory Building: Benefits, Barriers, and New Developments." *Academy of Management Review*, Vol. 24, No. 2 (April), pp. 243-48.
- Kochan, Thomas A., Harry C. Katz, and Robert B. McKersie. 1986. *The Transformation of American*

- Industrial Relations*. New York: Basic Books.
- Kochan, Thomas A., Harry C. Katz, and Nancy R. Mower. 1984. *Worker Participation and American Unions*. Kalamazoo, Mich.: W.E. Upjohn Institute for Employment Research.
- Koys, Daniel G. 1988. "Human Resource Management and a Culture of Respect: Effects on Employees' Organizational Commitment." *Employee Responsibilities and Rights Journal*, Vol. 1, No. 1, pp. 57-68.
- Kozlowski, Steve W. J., and Keith Hattrup. 1992. "A Disagreement about within-Group Agreement: Disentangling Issues of Consistency versus Consensus." *Journal of Applied Psychology*, Vol. 77, No. 2, pp. 161-67.
- MacCallum, Robert C., Michael W. Browne, and Hazuki M. Sugawara. 1996. "Power Analysis and Determination of Sample Size for Covariance Structure Modeling." *Psychological Methods*, Vol. 1, No. 2, pp. 130-49.
- Mahoney, Thomas A., and Mary R. Watson. 1993. "Evolving Modes of Work Force Governance: An Evaluation." In Bruce E. Kaufman and Maurice M. Kleiner, eds., *Employee Representation: Alternatives and Future Directions*. Madison, Wis.: Industrial Relations Research Association.
- Mathieu, John E., and D. M. Zajac. 1990. "A Review and Meta-Analysis of the Antecedents, Correlates, and Consequences of Organizational Commitment." *Psychological Bulletin*, Vol. 108, No. 2, pp. 171-94.
- Mefford, Robert N. 1986. "The Effect of Unions on Productivity in a Multinational Manufacturing Firm." *Industrial and Labor Relations Review*, Vol. 40, No. 1 (October), pp. 105-14.
- Menard, Steven. 1991. *Longitudinal Research*. Newbury Park, Calif.: Sage.
- Meyer, John P., and Natalie J. Allen. 1997. *Commitment in the Workplace*. Thousand Oaks, Calif.: Sage.
- Moorman, Robert H. 1991. "Relationship between Organizational Justice and Organizational Citizenship Behaviors: Do Fairness Perceptions Influence Employee Citizenship?" *Journal of Applied Psychology*, Vol. 76, No. 6 (December), pp. 845-55.
- Murphy, Kevin R., and Brett Myers. 1998. *Statistical Power Analysis: A Simple and General Model for Traditional and Modern Hypothesis Tests*. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Newton, Lucy A., and Lynne M. Shore. 1992. "A Model of Union Membership: Instrumentality, Commitment, and Opposition." *Academy of Management Review*, Vol. 17, No. 2 (April), pp. 275-98.
- Norsworthy, J. R., and Craig A. Zabala. 1985. "Worker Attitudes, Worker Behavior, and Productivity in the U.S. Automobile Industry, 1959-1976." *Industrial and Labor Relations Review*, Vol. 38, No. 4 (July), pp. 544-57.
- Peterson, Richard B. 1993. "Labor-Management Cooperation: In Need of an Implicit and Explicit Agreement." *Proceedings of the Spring Meeting* (Seattle, Wash.). Madison, Wis.: Industrial Relations Research Association, pp. 492-95.
- _____. 1992. "Assessing the Effectiveness of Joint Committees in a Labor-Management Cooperation Program." *Human Relations*, Vol. 45, No. 5, pp. 467-88.
- Porter, Lyman W., Richard M. Steers, Richard T. Mowday, and P. V. Boulian. 1974. "Organizational Commitment, Job Satisfaction and Turnover among Psychiatric Technicians." *Journal of Applied Psychology*, Vol. 59, No. 5, pp. 603-9.
- Ricketts, Michael. 2002. "Attitudinal Organizational Commitment and Job Performance: A Meta-Analysis." *Journal of Organizational Behavior*, Vol. 23, pp. 257-66.
- Rubinstein, Saul A. 2000. "The Impact of Co-Management on Quality Performance: The Case of the Saturn Corporation." *Industrial and Labor Relations Review*, Vol. 53, No. 2 (January), pp. 197-218.
- Rubinstein, Saul A., Michael Bennett, and Thomas A. Kochan. 1993. "Reinventing the Local Union: The Partnership between Saturn and UAW Local 1853." In Bruce E. Kaufman and Maurice M. Kleiner, eds., *Employee Representation: Alternatives and Future Directions*. Madison, Wis.: Industrial Relations Research Association.
- Ryan, Ann Marie, Mark J. Schmit, and Raymond Johnson. 1996. "Attitudes and Effectiveness: Examining Relations at an Organizational Level." *Personnel Psychology*, Vol. 49, No. 4 (Winter), pp. 853-82.
- Saris, Willem E., and Albert Satorra. 1993. "Power Evaluations in Structural Equation Models." In Kenneth A. Bollen and J. Scott Long, eds., *Testing Structural Equation Models*. Newbury Park, Calif.: Sage.
- Schneider, Benjamin, and David E. Bowen. 1985. "Employee and Customer Perceptions of Service in Banks: Replication and Extension." *Journal of Applied Psychology*, Vol. 70, No. 3 (June), pp. 423-33.
- _____. 1995. *Winning the Service Game*. Boston: Harvard Business School Press.
- Schuster, Michael. 1983. "The Impact of Union-Management Cooperation on Productivity and Employment." *Industrial and Labor Relations Review*, Vol. 36, No. 3 (April), pp. 415-30.
- Sherer, Peter D., and Motohiro Morishima. 1989. "Roads and Roadblocks to Dual Commitment: Similar and Dissimilar Antecedents of Union and Company Commitment." *Journal of Labor Research*, Vol. 10, No. 3 (Summer), pp. 311-30.
- Siegel, Irving H., and Edgar Weinberg. 1982. *Labor-Management Cooperation: The American Experience*. Kalamazoo: W.E. Upjohn Institute for Employment Research.
- Steers, Richard M., and Susan R. Rhodes. 1978. "Major Influences on Employee Attendance: A Process Model." *Journal of Applied Psychology*, Vol. 63, No. 4 (November), pp. 391-407.
- Sverke, Magnus, and Anders Sjöberg. 1994. "Dual Commitment to Company and Union in Sweden: An Examination of Predictors and Taxonomic Split Methods." *Economic and Industrial Democracy*, Vol. 15, No. 4, pp. 531-64.
- Tansky, Judith W., Daniel G. Gallagher, and Kurt W. Wetzel. 1997. "The Effect of Demographics, Work

- Status, and Relative Equity on Organizational Commitment: Looking among Part-Time Workers." *Canadian Journal of Administrative Sciences*, Vol. 14, No. 3, pp. 315–26.
- Voos, Paula. 1985. "Cooperative Labor Relations and the Collective Bargaining Environment." *Proceedings of the Thirty-Eighth Annual Meeting* (New York, Dec. 28–30). Madison, Wis.: Industrial Relations Research Association, pp. 287–95.
- _____. 1989. "The Practices Consonant with Cooperative Labor Relations." *Proceedings of the Spring Meeting* (Anaheim, Calif.). Madison, Wis.: Industrial Relations Research Association, pp. 483–90.
- Voos, Paula, Adrienne Eaton, and Dale Belman. 1993. "Reforming Labor Law to Remove Barriers to High-Performance Work Organization." *Proceedings of the Spring Meeting* (Seattle, Wash.). Madison, Wis.: Industrial Relations Research Association, pp. 469–77.
- Walton, Richard E., Joel Cutcher-Gershenfeld, and Robert B. McKersie. 1994. *Strategic Negotiations*. Boston: Harvard Business School Press.
- Walton, Richard E., and Robert B. McKersie. 1965. *A Behavioral Theory of Labor Negotiations*. New York: McGraw Hill.
- Wever, Kirsten S. 1995. *Negotiating Competitiveness*. Boston: Harvard Business School Press.
- Wright, Chris. 1995. *The Management of Labour: A History of Australian Employers*. Melbourne: Oxford University Press.