EXEMPLARS OF CONTEMPORARY INDUSTRIAL RELATIONS RESEARCH

INTRODUCTION TO VOLUME 9

David Lewin and Bruce E. Kaufman

ADVANCES IN INDUSTRIAL AND LABOR RELATIONS

Volume 9 of *Advances in Industrial and Labor Relations* (AILR) contains eight papers that imaginatively analyze such dimensions of contemporary industrial relations as computer telephony; skill-based payment systems; institutional approaches to the firm; North American union philosophies and policies; the evolution of worker attitudes; dual and unilateral loyalty; wildcat strikes and shop-floor governance; and the consequences of strike-replacement legislation. The first four papers in this volume were selected from among those submitted to the second annual Advances in Industrial and Labor Relations/Industrial Relations Research Association (AILR/IRRA) paper competition, while the four other papers were selected from among those submitted directly to the editors of AILR. All papers were, of course, subjected to AILR's regular double-blind anonymous refereeing process. In order to guide readers of Volume 9, brief synopses of each of the eight papers are provided below.

Advances in Industrial and Labor Relations, Volume 9, pages 1-21.

ISBN: 0-7623-0586-X

Payment Systems in Computer Telephony Work

The first paper, by Sue Fernie and David Metcalf, analyzes the predictions of the new economics of personnel (NEP) and the British institutional school (BIS) regarding firms' (employers') choices of payment systems. The principal choice in this regard is between a performance-based pay system and a payment-for-time system. According to Fernie and Metcalf, the NEP and the BIS lead to different predictions about choices of payment systems. For example, the NEP predicts that performance-based pay will be chosen when technological change is skill-based and the product market is competitive, while time-based pay will be chosen when employees are represented by a union and are risk averse. By contrast, the BIS leads to opposite predictions about the effects of these variables on the choice of payment systems (i.e., skill-based technological changes and product-market competition will lead to time-based pay, while union representation and employee risk aversion will lead to performance-based pay). Fernie and Metcalf refer to these as areas of disagreement (between the NEP and the BIS).

However, there are several areas of agreement between the NEP and the BIS regarding employers' choice of payment systems. To illustrate, both schools predict "high" use of performance-based pay when the cost of monitoring input/effort, span of control, labor intensity, worker heterogeneity, and pay in an alternative firm are low. Similarly, both schools predict "low" use of performance-based pay when output-measurement costs, supervision intensity/programmability, and the cost of monitoring output quality are high.

To sort out and test these various predictions, the authors rely on data obtained from call centers in four British organizations: a major bookmaker (Bookie), an executive agency of the Department of Social Security (Helpdesk), a department of a London Borough charged with collecting parking fines (Telepark), and the classified advertising department of a major daily newspaper (Paper). The use of data from service-providing organizations distinguishes this study from most other research on firms' choice of payment systems, which relies on data from manufacturing organizations and employees. Occupationally, the authors concentrate their attention on computer-telephony jobs in the four organizations, noting that computer-telephony work is among the fastest growing type of work in Britain where, by the late 1990s, more than one percent of the work force was employed in call centers.

Although there is considerable variation among the four organizations in what may be termed the contextual features of their payment systems—for example, the pay-setting process, uses of job evaluations, and performance appraisal methods—the largest variation is in payment methods and practices themselves. This is perhaps best illustrated in the ratio of performance-based pay to basic pay, which ranges from zero at Bookie to .53 at Paper. Further, performance-based pay is completely team based at Telepark, a mix of team and individual components at Paper, and completely individual at Helpdesk (again, there is no performance-

based pay at Bookie). Using survey and in-depth interview data, the authors provide considerable detail on the factors governing performance-based pay in these organizations, including variation in actual payment by performance appraisal result and the uses of team-based performance (in two of the organizations) to determine actual payments. The most business performance-driven payments to employees exist at Paper, where there is a strong and direct correlation between call center revenue and bonus payments to employees.

Fernie and Metcalf also briefly address the question of whether the organizations they studied follow a strategic approach to human resource management by tying their choice of payment systems to other personnel policies and practices—the so-called bundled approach to human resource management. In this regard, they conclude that there is a strong correlation between performance-based pay and the intensity of performance appraisal. Hence, Bookie has no formal performance-appraisal system and no performance-based pay whereas at the other end of the spectrum, Paper appraises its call-center agents on a daily basis and displays the strongest use of performance-based pay. However, in such areas as employee participation in decision making and 360-degree-type performance appraisal, there is little evidence from the Fernie and Metcalf study that these practices are pursued in close conjunction with performance-based pay.

Concerning specific predictions of the NEP and BIS schools, Fernie and Metcalf conclude that where there is informal monitoring of telephony work by managers, a low span of control, and a high degree of programmability in the job, the use of performance-based pay is low and the use of time-based pay is high. Where monitoring of work is difficult, job programmability is low, and the span of control is high, performance-based pay is emphasized and time-based pay is de-emphasized. The findings with respect to the effects on group size, team-based work, unionization, and certain other variables on the use of performance-based pay in these four organizations are mixed or problematic. On balance, the findings from this study tend to provide relatively strong support for NEP predictions of firms' choice of payment systems.

The NEP does especially well in accounting for the incidence and strength of performance-based pay in three of the computer-telephony organizations studied by Fernie and Metcalf. Though it does less well in accounting for the use of time rates in the fourth organization (Bookie), the NEP's "core predictions concerning monitoring, measurement, programmability, span of control, team production and work group size are all confirmed for Bookie." Thus, Fernie and Metcalf's detailed case study evidence apparently yields considerably stronger support for certain key predictions of the NEP school than the BIS school about employers' choices of payment methods. Note, however, that the strength of this conclusion depends upon the extent to which the NEP and BIS schools lead to clearly different predictions about choice of payment methods, and the authors themselves indicate that there are more areas of agreement than disagreement among these two perspectives in this regard. In any case, the authors rightly claim that they

have gone beyond econometric studies to provide actual rather than proxy measures for such variables as the ratio of performance-based pay to basic pay, measurement of output, and monitoring of employee work effort in studying new and traditional payment systems.

Pay Satisfaction and Skill Acqusition Under a Skill-Based Pay System

The second paper, by Mericle and Kim, is concerned with a specific type of pay method, namely, skill-based pay (SBP). Under SBP, an employee is paid on the basis of the range of work that he or she can perform rather than on the basis of time or actual job performance. Further, SBP is typically posed as contrasting sharply with more traditional job-based pay (JBP) and, as in the organization studied by Mericle and Kim, is often adopted as a replacement for a JBP plan. For the employer, the main benefits of SBP are claimed to be greater work force flexibility and productivity and lower labor costs. For the employee, the main benefits of skill-based pay are claimed to be higher pay, satisfaction with pay, and skill acquisition.

Mericle and Kim are primarily interested in identifying and assessing the correlates of pay satisfaction with SBP and skill acquisition under SBP, which serve as the dependent variables in this study. The four main categories of independent variables (or correlates) specified by Mericle and Kim are employee personal characteristics, employee personality types, employee exposure to workplace innovations and organization-related variables. Control variables include employee-perceived job performance and wage change under SBP.

The research setting for the study consists of two product lines (departments) of a single food-storing-and-processing-equipment manufacturing plant located in the Midwest region of the United States. Employees in one product line (the tank-business area) are represented by the United Steelworkers of America; employees in the other product line (the food-processing area) are represented by the International Association of Machinists. SBP plans were established in both areas in 1991 through negotiations between the two unions and plant management and covered all 450 hourly employees. Under the new pay plan, tank work was divided into six skill blocks with four skill levels each, while food-processing work was divided into three skill blocks with between four and six skill levels each. An employee is required to learn all skills in his or her block before moving to another skill block.

The database for this study consisted of responses from 227 employees to a structured mail questionnaire supplemented with archival records on employee skill acquisition. The results of ordinary least squares regression estimation show that satisfaction with SBP is significantly positively associated with education, growth needs, commitment to the company, perceived knowledge about SBP, attitudes toward workplace innovation and wage increases under SBP, and significantly negatively associated with self-efficacy (i.e., an individual's belief in his

or her capacity to do a particular task) and perceived job performance. The results of ordered probit regression estimation show that skill acquisition under SBP is significantly positively associated with education, perceived knowledge about SBP, and pay satisfaction, and significantly negatively associated with age, commitment to the union, and prior experience with workplace innovations. The last of these findings was unexpected, and the authors' interpret the finding to mean that prior (negative) experience with workplace innovations "may discourage employees from committing to SBP." That such negative experience with workplace innovations may contribute to a broader deterioration of worker attitudes toward the employer is illustrated in the paper by Bruno and Jordan later in this volume.

Concerning implications of their findings, Mericle and Kim propose that employers would do well to promote the general educational attainment of their employees because it is likely to enhance skill acquisition under an SBP plan. Also, and because perceived knowledge of SBP was found to be positively correlated with both pay satisfaction with and skill acquisition under SBP, Mericle and Kim emphasize the importance to employers of effectively communicating SBP-plan concepts, goals, and specific components to employees. Of particular interest is the authors' admonition to management that employees with high commitment to the union be a key target for training in and communication about SBP. These employees were found to be relatively less likely than other employees to acquire skills under SBP, perhaps (as the authors speculate) because of their stronger commitment to JBP and job-control unionism. Whether a better explained and communicated SBP plan will persuade such employees to embrace SBP and workplace innovations more broadly and thereby motivate them to acquire greater skill under an SBP plan is problematic, however, as suggested by related research on workplace innovations.

Determinants and Choices of the Firm's Management of Labor

In the third paper, Gospel sets out to develop a framework for the analysis of the firm with respect to the management of labor. He does so in the belief that, despite the growing attention among industrial relations scholars to human resource management, "the employer side of industrial relations and human resource systems is still insufficiently conceptualized and theorized." Drawing on the seminal works of Commons, Coase and Chandler, among others, Gospel offers several key propositions in developing his framework: (1) in a market economy, the nature of markets will play a large role in shaping product, financial and, most notably, labor decisions and practices; (2) market forces are mediated through the business strategy and structure of the firm; (3) the choice of production technology and the division of labor within the firm also shape management's labor decisions; and (4) in making labor decisions, there are a number of choices open to the employer. Gospel then undertakes to use these ideas to develop and better under-

stand "the nature and determinants of certain labor management decisions in a broad historical and comparative perspective." In this regard, Gospel's subsequent analysis focuses on Britain, France, the United States, Japan, and Germany, with a marked emphasis on the large industrial firm.

In Britain, the management of labor from the early part of the twentieth century to World War II featured externalization marked by extensive subcontracting, occupational systems of apprenticeship, and dealings with unions through employer associations in which wages were set for a whole industry and grievances were processed through external dispute resolution procedures. Following World War II, British firms moved toward labor-management strategies of internalization featuring highly structured internal labor markets, in-house training, single-employer bargaining with unions, and tight labor market-driven wage decisions. During the last two decades, according to Gospel, more competitive product markets, slacker labor markets, increased financial market pressures, and other factors have caused something of a return to strategies of externalization in British firms' management of labor, with an emphasis on subcontracting and outsourcing. However, these same firms continue to practice strategies of internalization in terms of wage-setting and industrial relations with a preference for single-employer bargaining and pay governed by firm-specific performance and profitability.

The French experience with the management of labor during the twentieth century has been somewhat similar to that of Britain, with externalization of employment dominating prior to World War II, internalization of employment developing apace for three decades or so following World War II, and the reemergence of externalized employment relationships during the last two decades. However, the small, family-owned-and-managed enterprise predominated more in France than in Britain and continues to do so, and the recent return to the externalization of employment relationships has been less pronounced in France than in Britain, perhaps due to stronger political and legal constraints and weaker financial market pressures in France than in Britain.

The U.S. experience with the management of labor during the twentieth century has been shaped by large mass product markets and relatively tight labor markets. Early in this century, well developed financial markets and a large stock exchange contributed to a market for corporate control that was considerably more pronounced in the United States than in either Britain or France, yet the United States was especially marked by the development of large hierarchical corporate organizations featuring tight control and coordination, relatively well trained salaried managers, and elaborate internal divisions of labor. Employment-at-will predominated in U.S. labor markets and externalization of the management of labor was strongly practiced prior to World War II. But even before onset of that war, large industrial firms had begun to develop strong internal labor markets marked by in-house training, widespread use of seniority, internal mechanisms of dispute resolution, and comparatively extensive benefit programs. And, while such internal-

ization was thought by many to derive from the rapid growth of unionism and collective bargaining in the 1930s and 1940s, quite similar practices characterized large non-union enterprises. But as with Britain and France, the last two decades have witnessed a marked return to externalization of the management of labor in U.S. firms, with outsourcing and reductions in force having been so widespread as to have virtually overturned long-term implicit employment contracting. Major increases in global competition, financial market efficiency, and technological change are among the key factors influencing these developments in the management of labor in U.S. enterprises.

The Japanese experience with the management of labor can be distinguished from those of Britain, France, and the United States in that early in the twentieth century Japanese firms followed internalization strategies. During this period, Japanese national markets were largely protected, firms relied little or not at all on stock markets as sources of capital, and growth and market share were emphasized over profitability or return on investment as company objectives. Concerning the management of labor, Japanese firms provided in-house training and other characteristics of well developed internal labor markets, but employee voice systems were minimal and unconnected to outside influences or forums. This strategy of internalization was extended and expanded following World War II, and Japanese firms came to be known in particular for lifetime employment (even though such employment covered a minority of Japanese workers and many other workers were employed under externalized employment relationships). Trade-union pressures on Japanese enterprises increased considerably following World War II, but even here and despite the so-called Spring wage offensive featuring coordinated bargaining among unions across various Japanese firms and industries, Japan rather quickly became known for practicing enterprise unionism and other elements of firm-specific industrial relations. Indeed, during the 1980s, Japanese manufacturing firms came to be regarded as the world's leaders in practicing lean production, and internalization of the management of labor in Japanese enterprises was widely regarded as responsible for the globally competitive success of these enterprises. Only in the 1990s did the costs of these practices apparently come to outweigh their value, and by the end of the decade Japanese firms were clearly retreating from internalization of the management of labor. Heretofore unheard of reductions in force, including layoffs, were undertaken by Japanese firms, pay was no longer rigidly tied to age and seniority, and many firms began to question their single-minded devotion to growth and undertook Western style restructurings. In other words, Japanese enterprises are now lurching toward externalization of the management of labor in stark contrast to their long tradition of internalization.

The German experience during the twentieth century has featured mixed forms of enterprise control and coordination, according to Gospel. Early on and facing fast-growing product markets, some large German firms were centrally and functionally organized and had well developed management hierarchies featuring

elaborate divisions of labor. These firms depended largely on banks rather than stock markets for financing so that the banks came to own significant portions of German firms and were committed to maintaining the long-term viability of the firms. Consistent with this objective, these German firms were characterized by internalization of the management of labor and adopted such practices as in-house training, extensive benefit systems, and in some cases voluntary-type internal works committees (which in reality provided little voice to employees). Other German firms, however, featured externalization of the management of labor. In metal working, for example, initial worker training was conducted through occupational apprenticeship systems and, what with slower development of mass production systems, there was more reliance on flexible, skill-based production. Both sets of practices were more or less strengthened following World War II. Large firms in such industries as steel, chemicals, and electrical goods remained or became more highly centralized, growth obtained largely from internal sources rather than external capital markets, and employment security, high wages, and even more elaborate fringe benefit systems were widely practiced. Perhaps the most significant development in this regard was new legal requirements for worker representation in the German enterprise, such as through works councils, and such representation came to be broadly accepted by large German firms. Yet, externalization of the management of labor also continued to occupy a prominent place in post-World War II Germany. The system of occupational apprenticeship grew stronger and became institutionalized beyond that found anywhere else in Europe. In addition, bargaining on basic wages and conditions became widespread and agreements were negotiated on a multi-employer basis. Hence, these arrangements marked Germany "with a hybrid system of internal and external coordination." More recently, there have been contradictory pressures on this hybrid system. For example, enhanced global competition and higher unemployment have to some extent weakened internal labor markets in German enterprises, though less so than in Britain and the United States. By contrast, and pulling in the direction of internalization, multi-employer bargaining is undergoing some de-emphasis in German enterprises, and greater emphasis is being placed on company dealings with works councils and other internal negotiation and dispute resolution mechanisms.

All in all, Gospel's paper shows that the firm's management of labor can be usefully analyzed from a twin externalization-internalization perspective. While he acknowledges, indeed underscores, that market forces importantly shape the firm's labor decisions and practices, Gospel also demonstrates through historical analysis of data from five nations that firms face numerous choices when it comes to the management of labor—not simply choices between externalization and internalization, but within each of these two components. Further, over long time periods, nations and firms may move between externalization and internalization as the dominant mode of work force management. Gospel concludes that "Britain and France [are moving] more towards the externalizing end of this spectrum,

[with] the United States and Germany in the middle, and Japan showing more of a tendency towards internalization." Readers may differ with this conclusion, while at the same time appreciating the conceptual framework and historical analysis from which it derives.

Philosophies and Policies of North American Unions

In the fourth paper, Troy analyzes the philosophies of American (i.e., U.S.) and Canadian unions. He begins by pointing out that ideology has played at best a marginal role in shaping the philosophy and policies of American and Canadian unions. Rather, both union movements have twisted and turned so as to adapt themselves to changing situations and contexts, such as industrial unionism of the 1930s and public sector unionism of the 1960s and 1970s. One might refer to this as pragmatic or empirical unionism, but whether or not one agrees with such a characterization it is important to consider another of Troy's propositions, namely, that "unions have a record of being slow to adapt to change." Yet, and also according to Troy, it was not always so.

If there ever was a philosophical underpinning of North American unionism, it was the doctrine of "more" that characterized what Troy refers to as the "old unionism." Under this doctrine, unionism's goal was better material standards for union members obtained by redistributing income from employers to such members. Yet, as students of labor history are well aware, this "philosophy" was itself a pragmatic doctrine born out of the failures of broader based social, reform, and uplift union movements of the mid-to-late nineteenth century in North America. In other words, the union philosophy of "more" is nothing if not pragmatic. In practice, and for a large part of the twentieth century in North America, "more" translated into limitations on the supply of workers to particular occupations, industries and firms, and to taking wages out of competition through the negotiation of standard pay rates specified in collective bargaining agreements. These practices, in turn, imply or require a certain amount of monopoly power in the labor market.

The heyday of such monopoly power was probably in the decade or so immediately following World War II, especially for U.S. unions and their Canadian affiliates. Since then, of course, but especially in the last two decades, whatever monopoly power unions appeared to exercise has waned greatly if not disappeared altogether. This is one reason, perhaps the major reason, why various labor scholars and union practitioners have called for new strategies of labor and trade unionism. Will any such emergent strategy be grounded in a new philosophy? Not likely, if one accepts the arguments and underlying reasoning presented by Troy.

For example, Troy refers to the "new unionism" in both the United States and Canada, by which he means public sector-oriented rather than private sector-oriented unionism. Empirically, the public sector has represented one of the few areas of union growth for the last 50 years or so in the United States and for the

last 25 years or so in Canada. This means that larger proportions of unionized workers in both nations are bargaining with government employers rather than private employers than at any time during the twentieth century! In turn, and as Troy also observes, this means that local and state/provincial union organizations are relatively more important to contemporary North American unionism than national union organizations or labor federations. Further, Troy proposes that in seeking more from government employers, "the new unionism's application is effectively demanding an increased share of the national income spent by government—a redistribution of the national income from the private to the public economy...although that objective is not openly avowed, or may not even be realized, it is nonetheless the result." Troy then labels such unionism "social unionism."

One may then ask if public sector unions' pursuit of "more" differs from that of private sector unions. For Troy the answer to this question is yes because, as he sees it, the old unionism had a limited outlook toward politics and broad social reform, whereas the new unionism seems to have an expansive outlook on these matters. Just how expansive this outlook is, however, may be questioned in light of the rather limited bargaining agendas of most public sector unions in the United States and Canada, the multilateral nature of public sector bargaining which often confounds budgeting and resource allocation processes in ways largely absent from the private sector, and (except in protective services) the rather limited impact of public sector unions on pay, benefits, and management policy and practice. Even in the case of the municipal government of New York City, which suffered a severe financial crisis in the mid-1970s and which Troy and others cite as a leading example of excessive public sector union power, it is actually the case that negotiated pay reductions (concessions) and union members' pension funds were used to bail out New York City government together with a Federal government loan guarantee that was negotiated between Federal officials, on the one hand, and both elected officials and union officials in New York City on the other hand!

Troy strongly rejects the claims of some scholars that Canadian unions' philosophies are grounded in ideological pre-determined goals. He convincingly shows that Canadian unions have recently undergone numerous changes in organizational structure, membership patterns, bargaining objectives, and negotiation tactics to the point where everything and nothing can be "explained" by ideologically based predetermined goals. While it is true that numerous Canadian unions have disaffiliated from their parent American bodies—some 70 percent of Canadian private sector union members are presently in unions that have no formal ties to U.S. unions, compared to perhaps 40 percent in 1980—the Canadian experience with unionism closely parallels that of the United States. In both nations, the public sector has grown in importance and in union membership relative to the private sector, both pubic and private sector unions appear guided by the philosophy of "more" whether they are in fact old or new unions, and there is ample evidence that the market is quite effective and growing more so in curbing whatever

excesses may attach to private and public sector unions. Indeed, the question of preserving a viable union movement in the twenty-first century is as pressing a question in Canada as it is in the United States, at least for those who believe that free unionism is an important component of political democracy and market capitalism. Troy believes that no new philosophy will emerge to guide U.S. or Canadian unions in the next century, and also that "the new millennium will be an age of increasing competition [and therefore] the monopolistic conditions necessary for unions to formulate and apply new philosophies either in the private or public sector become moot." Whether or not they agree with these views, readers should pay close attention to the provocative analysis and interpretations Troy offers concerning U.S. and Canadian unionism.

The Evolution of Worker Attitudes at Mitsubishi Motors

In the fifth paper, Bruno and Jordan analyze the evolution of worker attitudes at the Mitsubishi Motors automobile manufacturing plant located in Bloomington/Normal, Illinois. The plant opened in 1989 as a joint venture between Mitsubishi Motors and Chrysler, and was known as Diamond Star. Two years later Mitsubishi Motors bought Chrysler's 50-percent stake in the joint venture and has operated the plant continuously since then as part of Mitsubishi Motors Manufacturing of America. However, Chrysler continues to contract with Mitsubishi to have several of its products, for example, the Chrysler Sebring and Eagle Talon, produced in the plant. About 3,000 workers are currently employed at the plant and are represented by the United Automobile Workers (UAW) union.

Bruno and Jordan frame their analysis by reviewing prior research on lean production, and make the important observation that this putatively high-involvement work system does not automatically result in employee empowerment and satisfaction. Indeed, one closely related study of Canadian automobile workers in two lean production and two traditional manufacturing plants found "no support for the hypothesis that lean production empowered workers or improved the quality of working life." More broadly, say Bruno and Jordan, existing research provides a rather complex story in which worker perceptions of lean production and its impact on work and working conditions differ by facility and over time. These authors' main objective is to examine trends in employee satisfaction and attitudes toward work organization at Mitsubishi Motors so as to develop a broader understanding of the relationship between lean production and employee satisfaction.

When the Bloomington/Normal plant opened in 1989, a survey of workers conducted by Chapman, Elhance, and Wenum found overwhelmingly positive views among workers concerning their experiences at Diamond Star. It is against those data that Bruno and Jordan set their findings from a 1997 survey of workers at the same plant (now known as the Mitsubishi Motors plant). The authors' data come from 1,090 fully usable returned surveys, or a response rate of 36 percent. Note

that the four-page, 64-question survey was mailed to the homes of 3,000 bargaining unit members by the UAW local union. Fully half of the respondents had eight years of seniority at the plant, meaning that they had worked in the plant when the first survey was done. Therefore, the authors have some basis for their claim that "it is very likely that the survey reflects a direct comparison of changing attitudes over time."

In the 1989 survey, some two thirds of the workers reported highly positive attitudes toward their work environment and about 50 percent had positive attitudes toward their group leaders. Further, more than half of the respondents believed that work at Mitsubishi would aid in their personal growth, and 87 percent had a favorable impression of Mitsubishi's products. Eight years later, the survey findings were very different. In 1997, only one quarter of the respondents viewed their work environment positively and only 22 percent rated their group leaders positively. Further, less than 30 percent of the respondents to the 1997 survey believed that working at Mitsubishi had enhanced their personal development, and less than half had a positive impression of the company's products. Whereas in 1989, nearly half the workers had a positive attitude toward upper management at Mitsubishi, in 1997 less than seven percent of the workers had such a positive attitude. And, longer service employees expressed significantly more dissatisfaction with Mitsubishi as a place to work than shorter service employees. Supplementing their survey findings with structured interviews, Bruno and Jordan conclude that employee dissatisfaction with Mitsubishi was especially pronounced in three areas: lack of trust in management, lack of control over their work, and the conversion of lean production to "mean" production. The researchers then conducted more detailed analysis of their survey data in order to better understand these sources of employee dissatisfaction.

When asked specifically in 1997 about management's trustworthiness, almost three quarters of Mitsubishi's workers responded "not very" or "not at all." These workers seemed to believe that management did not really desire employee participation in decision making, despite formal company statements to the contrary. When queried about the fairness of management's workplace policies, well over half of Mitsubishi's workers answered "unfair" and "very unfair." By contrast, only 2.4 percent of the workers said that management's workplace policies were "very fair" and another 19 percent said they were "fair." Qualitative comments offered by the respondents indicated that management's inconsistent behavior toward individual employees, failure to hold quality circle meetings, and lack of encouragement of group leaders and supervisors to more fully involve employees in decision making underlay these negative views. These workers' concern about the lack of viable quality circles also influenced their view that they had relatively little control and power within the Mitsubishi lean production system. Thus when asked to rate their experience in working on a quality circle project, almost 60 percent of the respondents described it as "unfavorable" or "very unfavorable," compared to only about 11 percent who described it as "very favorable" and

"favorable." When asked who benefits most often from quality circle projects, 58 percent of the workers said "management" compared to only 11 percent who said "workers" and 30 percent who said "everyone." These workers also expressed highly negative attitudes toward the practice of Kaizen (i.e., continuous improvement) at Mitsubishi Motors.

On the conversion of lean production to mean production, half or more of the respondents reported that their jobs had become more tense over the last two years, they felt more tired at the end of a work shift, their workload had gotten heavier, and their work pace was faster. About one quarter of the respondents also indicated that the degree of job rotation had decreased in the previous two years. When asked about staffing at Mitsubishi Motors, the 1997 survey found that a majority of the workers believed that there were too few people in their respective areas to complete assigned work and that there was inadequate staff relief to attend to personal matters. Forty percent of the respondents said that there was "too little" and "far too little" time to get assigned work done, and more than 71 percent of the respondents indicated that had to work as fast as they could for at least half a work shift to get their work done. In addition, almost 60 percent of the workers at Mitsubishi Motors said that they experienced physical pain during half the time, most days and/or all days of their work shifts, and more than 75 percent said that they some, little, or no ability to vary their pace of work.

These and related findings reported by Bruno and Jordan create a strong impression of deteriorated lean production and worker attitudes at Mitsubishi Motors. In particular, the attitudinal data obtained in 1997 yield strikingly different findings and conclusions from those reported eight years earlier when the Mitsubishi (Diamond Star) plant opened. In attempting to explain their findings, Bruno and Jordan point out that the UAW local union at Mitsubishi has been extraordinarily supportive of lean production, team production, and other elements of a high-involvement work system at the plant. Correspondingly, Mitsubishi's management permitted union recognition (in 1988) on the basis of authorization cards rather than a formal union representation election, and issued not a single anti-union communication during the union's organizing drive at the plant. Hence, the deterioration of lean production and worker attitudes at Mitsubishi Motors apparently rests elsewhere than in union-management relations.

In this regard, Bruno and Jordan make two important concluding points. First, the plant itself has performed poorly in recent years, suffering from substandard out-sourced parts production, extended in-plant repair work, and poor JD Power ratings (of automobile products). Second, management at Mitsubishi Motors is increasingly perceived by workers to be acting primarily in its own self-interest. While this is perhaps to be expected of any management, it was Mitsubishi's management itself that introduced the lean production system into the plant and thereby raised worker expectations that they would be substantially empowered. Failure to meet those expectations together with declining business performance thus seem to account for the deteriorating lean production system and declining

worker attitudes at Mitsubishi Motors. Bruno and Jordan's account of the Mitsubishi Motors experience in this regard should provide strong pause to those who support lean production and worker empowerment as major "solutions" to problems of business performance and labor-management relations.

Dual Loyalty, Unilateral Loyalty, and Labor Relations Outcomes

In the sixth paper, Magenau and Martin explore an industrial relations phenomenon that lurks under the surface of most of the papers summarized to this point, namely, employee loyalty. The main objectives of Magenau-Martin's paper are to determine: (1) if dual loyalty and unilateral loyalty are valid, factorially distinct concepts, and (2) if these measures of loyalty are helpful in predicting certain labor relations outcomes. The authors define dual loyalty (DL) as a psychological state existing to the degree that a worker is loyal to both the employer and the union. Unilateral loyalty (UL) is defined as the degree to which a worker holds more loyalty to one organization than the other.

As Magenau and Martin observe, there has been a substantial amount of theoretical and empirical research on loyalty in the context of work organizations and industrial relations. Early research focused on the question of whether or not workers could simultaneously hold loyalty to a union and an employer or whether loyalty to the one barred loyalty to the other. Generally speaking, substantial evidence has been adduced that workers can indeed hold such dual loyalty. More recent research has focused on the links between dual loyalty and industrial relations/human resource innovations, notably cooperative labor-management programs. Empirically, the evidence for such linkages is mixed or problematic.

Of particular concern to Magenau and Martin are the several different operational definitions of DL and UL that have been used by researchers, which are carefully reviewed in this paper. For some time, the most popular measures of dual loyalty combined separate employer- and union-loyalty scores. Later, emphasis was placed on the interaction of employer-loyalty and union-loyalty scores as alternative measures of DL and UL, but there has been considerable debate about the validity of such interaction scales and terms. Consequently, in this paper, Magenau and Martin develop and test new alternative direct measures of both DL and UL, and ground these measures in the dual concerns model of problem-solving behavior.

For this purpose, Magenau and Martin use survey data obtained at two points in time from shop stewards and rank-and-file local union members employed in the retail food industry in a mid-Western state as well as data from a separate survey of a sample of rank-and-file members of the same union employed by 25 firms in a variety of locations. In this regard, the sample sizes varied from 217 to 825, and the response rates ranged between 20 and 79 percent. The main variables of interest in this study, including DL, UL, employer loyalty, union loyalty, job satisfaction, union instrumentality, union-management relations, and influence on

employer, were measured by multi-item scales, with the three-item scales for DL and UL being newly developed by the authors in this research.

Empirically, Magenau and Martin found their DL and UL scales to be highly reliable, with reliability estimates exceeding .70 for all three data sets. Indeed, and except for the union activities variable, the reliability estimates met or exceeded .70 for all the main variables of interest in this study. Further, confirmatory factor analyses of single and multiple factor solution models using LISREL with maximum-likelihood estimation found the measures of DL and UL to be distinct and separate from measures of employer loyalty, union loyalty, and union-management relations. Chi-square tests as well as goodness of fit, non-normed fit and incremental fit indexes served as the specific criteria for assessing the several LISREL analyses performed by the authors.

Having confirmed the validity and reliability of their DL and UL measures as well as other variables in this research, Magenau and Martin then proceed to test for the effects of DL and UL on labor relations outcomes. The outcome measures used by the authors are willingness (in days) to strike over three separate issues, namely, job security, working conditions, and pay, as well as willingness to use violence during a strike. These willingness measures were also constructed using multi-item scale survey data. The results of hierarchical regression analyses performed on the data show that DL and UL explain significant variance in strike willingness beyond that explained by employer loyalty and employee loyalty alone, by the interaction of these two variables, and by union-management relations. By itself, DL was found to be significantly negatively associated with willingness to use violence during a strike—in fact, DL was the strongest predictor in this regard—but not of the other strike attitude measures. In the case of UL, there were significant positive coefficients on this variable for all four measures of strike attitudes.

On the basis of these findings, Magenau and Martin conclude that DL and UL explain unique variance in attitudes toward striking after controlling for other relevant variables, and that "DL and UL are useful independent variables in labor relations research." While these conclusions appear warranted on the basis of the evidence they provide, the reader will recognize that the outcome measures used by Magenau and Martin are limited to adversarial dimensions of union-management relations. A logical next step in this research program, therefore (and one noted by the authors), is to analyze relationships between DL/UL and union-management cooperative programs or high-involvement work practices (such as those at Mitsubishi Motors) more broadly.

Wildcat Strikes, Ideology, and Shop Floor Governance

The seventh paper, by Devinatz, uses a "twin" case study approach to illuminate the phenomenon of wildcat strikes. Although there is a substantial case study literature and a more limited econometric literature on wildcat strikes, Devinatz

judges the extant research to fall short in examining "how a union might use wildcat strikes in its attempt to shape the shop floor dispute resolution system." This, therefore, is the focal issue of the author's paper, and he brings to this research the perspective that strike leaders' ideologies are central to understanding how they use wildcat strikes to shape regimes of shop floor governance. To "test" this hypothesis, Devinatz analyzes two major periods of wildcat strike activity in a UAW local union, the first having occurred in 1951-1952, the second over the period from 1970 to 1975.

To begin his analysis, Devinatz proposes that institutionalized (collective) bargaining is a necessary condition for shop floor contractualism. One version of such contractualism, or governance, takes the form of contract language and a grievance procedure as mechanisms for the joint regulation of shop floor conditions and the resolution of workplace disputes. Another version of shop floor governance, according to the author, is informal or fractional bargaining in which foremen, shop stewards and informal work groups reach extra-contractual agreements in the process of settling workplace disputes. If such informal bargaining breaks down or is otherwise inadequate, workers may exercise their power and respond by taking extensive work breaks, slowing down production, or conducting wildcat strikes.

With this as background, Devinatz turns to the first of two case studies analyzing wildcat strikes conducted by members of UAW Local 6, which represents workers at the International Harvester Corporation's Melrose Park, Illinois manufacturing plant. During the period of the first wildcat strike in this plant, 1951-1952, a five-year (1947-1952) collective bargaining agreement was in effect which contained a five-step grievance procedure and forbade the union from conducting strikes over unresolved grievances. Nevertheless, during this period, the grievance procedure at Melrose Park was widely viewed by workers and union officials as being highly ineffective. The company refused to settle many grievances at lower steps of the procedure, stalled in applying and in some cases accepting arbitrator decisions, and fired two "permanent" arbitrators (in 1950 and 1951, respectively). Local 6's leadership responded by organizing and leading a variety of wildcat strikes, which largely took the form of work slowdowns rather than actual walkouts.

Later, when the union's leaders sought a strike vote to make work stoppages legal and the company wrote a letter to workers urging them to use the grievance procedure rather than force to resolve workplace disputes, union members ignored both appeals and conducted additional wildcat strikes, including walking off the job. Management then responded by firing a shop steward for alleged insubordination and by reducing workers' job classifications and piece rates. The union, in turn, took a strike vote and the members conducted the first legal strike in the United States over piecework and production standards during the life of a collective bargaining agreement. This two-month strike ended in a major victory for the union, according to Devinatz, with piecework rates raised by 25 percent

and single day work job classifications increased from one to three labor grades. However, as the author also points out, International Harvester soon cracked down on any and all types of wildcat strikes and, by 1953, union officials themselves abandoned the use of wildcat strikes at the plant. Devinatz concludes that Local 6's leaders used wildcat strikes on a tactical rather than principled basis in 1951-1952, and also that because their objective was to promote shop floor contractualism these strikes can be considered "contractualist" wildcat strikes.

By contrast, the wildcat strikes of 1970-1975 were conducted by members of UAW Local 6 in opposition to both the institutionalization of collective bargaining and shop floor contractualism. For this reason, Devinatz regards these strikes as "political" wildcat strikes. Their origins can be traced to two key developments in 1970 in the Melrose Park plant. First, International Harvester closed its Tractor Works in Chicago, and the workers employed there were transferred to the Melrose Park plant. These workers, members of UAW Local 1301, had a strong and long record of industrial militancy. Second, a new political action group of workers in the Melrose Park plant formed in early 1970, soon began publishing an opposition newspaper (*The Workers Voice*), and adopted the name of Workers Voice Committee (WVC). According to Devinatz, the WVC "can be described as possessing politics of a Marxist-Leninist orientation, inspired by the Detroit-based League of Revolutionary Black Workers." More to the point, perhaps, the committee was opposed in principle to institutionalized bargaining and advocated fractional bargaining as the appropriate regime of shop floor contractualism.

The leadership of the WVC was multi-racial and considerably younger than that of UAW Local 6. Combined with the entry of tractor workers into the plant and the hiring of many new workers, more of the elected shop stewards at Melrose Park were young, militant and aggressive. The company (and to some extent the union) saw this new leadership as a major threat and responded in kind to their new militancy by firing certain shop stewards. The first of these firings occurred in the summer of 1970 and precipitated a series of wildcat strikes, allegedly involving overtime issues. While seeking redress for the fired shop steward, the WVC's leaders expressed no confidence in shop floor contractualism or the underlying grievance and arbitration procedures in the collective bargaining agreement. Unlike the leaders of UAW Local 6 in the 1950s, the WVC's leaders of the 1970s believed that the major issue was not the way in which these procedures were implemented at International Harvester, but the procedures themselves. The grievance procedure, they claimed, served to prevent workers from exercising their power on the shop floor, and Local 6's leaders were criticized for being party to shop floor contractualism at Melrose Park. The WVC advocated immediate settlement of grievances on the job by workers themselves and supported the tactics of fractional bargaining—slowdowns, working to rule, and walking off the job—to bring this about. Devinatz judges the WVC to have followed "a principled use of wildcat strikes rather than...only as a tactical weapon at selected times," thereby distinguishing the WVC from Local 6 of the 1950s.

Additional firings of shop stewards soon followed, and a series of walkouts, allegedly over the lack of heat in the plant, were organized by shop floor activists over the next several months. Soon, other wildcat strikes over issues of discipline, managerial harassment and discrimination ensued, and often involved all workers in a particular department. Sometimes management chose to reinstate dismissed shop stewards, and in such instances striking workers returned to work. But the larger pattern of wildcat strikes continued through the mid-1970s. In one instance in late 1975, involving the firing of a young African-American shop steward, 900 workers walked off the job, but Local 6's leaders undercut the workers' militancy by holding a strike vote and, one week later, ordering the workers to return to work at the beginning of the second shift. At about the same time, the WVC ceased publishing its newspaper. These factors, combined with a nationwide economic recession, contributed to a waning of wildcat strikes in the Melrose Park plant, though as Devinatz points out these wildcat strikes may be regarded as a precursor to the legal, six-month national strike conducted by the UAW against International Harvester at the end of the 1970s. By that time and facing new global competitive pressures, International Harvester began selling off parts of its operations, including in the mid-West, and worker militancy and wildcat strikes gave way to fear of job loss and more quiescent worker behavior.

Despite the differences between the contractualist and political wildcat strikes at Melrose Park in the two time periods studied, Devinatz identifies certain similarities between them and larger lessons than can be learned from them. For example, in both cases wildcat strikes occurred largely because of the ineffectiveness of the grievance and arbitration procedures. In the first instance, the strikes occurred because these procedures were regarded as ineffectively implemented, while in the second instance they occurred because unionists believed that they failed to provide workers with industrial justice, even when operating effectively. Similarly, according to Devinatz, both sets of wildcat strikes did not occur spontaneously but, instead, were purposely organized and planned by leaders who commanded the respect of participating workers. Earlier on, this role was played by the union's Shop Committee, while later on it was played by militant shop stewards and leaders of the WVC. From these experiences, Devinatz further concludes that "wildcat strike leaders' ideology is crucial in their attempts to shape shop floor governance regimes." Whether the author's analysis fully supports this conclusion can be judged by the reader, but it should be added that management's ideology also plays a role in the development and evolution of any system of shop floor governance.

An Investment-Bargaining Model of Strike Replacement Legislation

The eighth and final paper in this volume, by Budd and Wang, presents a new sequential investment-bargaining model of strike replacement legislation and wages. The authors begin by briefly discussing recent attempts by the U.S. Con-

gress to enact limitations or bans on employers' use of replacement workers during strikes. While none of these efforts have resulted in legislation, certain U.S. states have enacted restrictive striker-replacement laws. Moreover, certain Canadian provinces have been especially active in this area. For example, British Columbia and Quebec laws forbid employers from hiring anyone to do bargaining unit work while members of that unit are engaged in a legal strike, and also place certain restrictions on the use of other current employees to do "struck" work. Ontario had a similar law in effect which was repealed in 1995. Manitoba and Prince Edward Island ban the use of permanent strike replacements, while allowing the use of temporary replacements and existing employees to perform struck work. Certain of these provinces also restrict the use of what are known as professional strikebreakers. These various examples are useful for illustrating the range of legislative restrictions on the use of strike replacements that may exist.

Then Budd and Wang move on to consider various information-bargaining models that have been used by labor economists to frame labor-management negotiations and strikes. All of these models assume information asymmetries between a labor union and a firm, but they differ in terms of their equilibrium states. In the screening model, for example, the union does not know the firm's true profitability and therefore presents the firm with a concession or resistance schedule in which the union's acceptable wage settlement declines with the duration of the strike. High profit firms agree to high wage settlements in return for no strikes, while low profit firms endure long strikes to achieve low wage settlements. Here, the union uses a concession schedule to screen firm profitability. In the signaling model, a similar process occurs but it is the firm that signals its profitability by the length of the strike that it is willing to incur. A lower profit firm will endure a longer strike than a higher profit firm in order to signal its relatively low profitability to the union. In the attrition model, both the union and the firm have a fixed per period cost of delay. Each party delays until one concludes that the other party's cost of delay is smaller and at that point concedes. In all of these models, however, the result of strike replacement restrictions is the same, namely, wages will increase relative to the level of wages that will prevail in the absence of such restrictions.

It is also the case that each of these information-bargaining models assumes that the capital stock is constant, and it is in this regard that Budd and Wang's model represents a departure from extant treatments. In their model, investors choose the amount of capital to invest in the enterprise. Once this investment is known, the firm and the union bargain over the wage rate to be paid to workers. Strike replacement restrictions will affect the expected utilization of both capital and labor's bargaining power. Investment thereupon responds to strike replacement restrictions, but because such responses are allowed to vary one derives ambiguous predictions about the effect of strike replacement laws and policies on wage settlements. Stated another way, in the Budd and Wang model the effects of strike

replacement restrictions on bargained wages may range from positive to neutral to negative.

Budd and Wang formalize all of this in a series of equations in which initially the units of capital and the wage are determined simultaneously in a "first best" solution to joint profitability and utility maximization by the firm and the union. In this case, strike replacement restrictions reduce capital investment while the bargained wage depends on labor's bargaining power. If wages and the capital stock are not determined simultaneously, however, less capital is invested when bargaining occurs after investment decisions. This is because investors fear that labor will exploit a large sunk investment to serve its own purposes. Adding striker replacement restrictions to this mix (equation) results in still further reductions in capital investments, which in turn will affect the contract wage rate. The key result here is that the derivative of the equation is ambiguous so that, depending on specific parameter values, new restrictions on the use of strike replacements may increase or decrease the wage. In sum, when capital is held constant, Budd and Wang's model yields the same prediction as other information-bargaining models, namely, wages will rise with strike replacement restrictions. But if wage and investment decisions are not made simultaneously and capital is allowed to adjust, "the results of previous modeling efforts are potentially reversed."

The authors then proceed to conduct a series of exercises showing how different combinations of their model's parameters and different signs and values on the derivatives lead to a variety of impacts of strike replacement restrictions on wages. Again, these impacts vary from highly positive to highly negative depending on capital investors' decisions in response to the restrictions. Beyond this, Budd and Wang also briefly discuss the applicability of their model to other widely debated labor policy issues. These include proposals to weaken current restrictions on secondary boycotts and picketing and changes in the legality of union security clauses and union organizing and certification processes. The model can be applied to these issues because its parameters represent rent-splitting (bargaining power) and productivity and are thus generalizable beyond the specific issue of strike replacement restrictions taken up in this provocative paper.

Conclusion

Taken as a whole, the eight papers included in Volume 9 of *Advances in Industrial and Labor Relations* provide fresh perspectives and new evidence on important contemporary industrial relations issues and problems. Some of these papers, such as those by Fernie and Metcalf, Mericle and Kim, Bruno and Jordan, Magenau and Martin, and Devinatz, emphasize empirical evidence, while other papers, such as those by Gospel, Troy, and Budd and Wang, are relatively more conceptual in nature. Some of the papers feature deep historical analysis while others employ recently obtained survey and interview data. Certain of the papers focus on single case examples while others cover several organizations and

worker groups. And, the disciplines represented among authors of papers in this volume range across industrial psychology, history, political science, labor economics and management. We believe that this collection of papers provides readers with leading examples of conceptual frameworks, empirical approaches, research designs and methodologies that significantly advance the study of industrial relations.