INDUSTRIAL RELATIONS RESEARCH ASSOCIATION SERIES

Proceedings of the Forty-Sixth Annual Meeting

January 3-5, 1994
Boston

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Paula B. Voos, Editor

First edition

Library of Congress Catalog Card Number: 50-13564

ISBN 0-913447-59-5

Price $20.00

INDUSTRIAL RELATIONS RESEARCH ASSOCIATION SERIES
- Proceedings of the Annual Meeting
- Proceedings of the Spring Meeting
- Annual Research Volume
- Membership Directory (every fourth year)

IRRA Newsletter (published quarterly) and IRRA Dialogues (published semiannually)

Inquiries and other communications regarding membership, meetings, publications, and general affairs of the Association, copyright requests, as well as notice of address changes should be addressed to the IRRA national office.

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PREFACE

The 46th Annual Meeting of the Industrial Relations Research Association was held in Boston, Massachusetts from January 3-5, 1994. Attendees and participants were challenged not only by an impressive program but by the weather, when a major Nor'wester struck the city during the course of the meetings.

The program included a wide variety of sessions reflecting the diversity of members' interests. George Strauss served as Program Chair and was instrumental in arranging the first IRRA meeting to hold sessions over three full days. In addition to a large number of symposia, competitive, and workshop sessions, the program included five public policy workshops to address the topics of health care reform, training and education, labor law reform, workers' compensation, and union organizing.

In his Presidential Address, George Strauss urged that industrial relations reclaim its academic jurisdiction by broadening the definition of IR to embrace all the related issues affecting employment and the workplace, as well as employee representation. Strauss warned, "In the real world, the nature of employment relationships is rapidly changing, and in academia, related scholarly fields are steadily taking over the study of employment relations. Unless academic IR reclaims its original jurisdiction, it is doomed to marginality."

The role of change was apparent in numerous sessions. From "Ethnicity in the Workplace" to "Industrial Transformation and Labor Relations in Asia" and "Strategic Planning and Change in Unions," attendees considered the changing environment of industrial relations. Other sessions were devoted to "Wage Determination in the U.S., Japan, and Germany" and "Interfirm Contracting and Labor Relations in U.S. Manufacturing." The program also included a session by sociologists on the relevance of 1930s industrial unionism to modern IR.

One of the many highlights of the 46th Annual Meeting was a special meeting of members of the Commission of the Future of Worker-Management Relations and representatives of nine IRRA chapters. The Commission, chaired by former IRRA President John T. Dunlop, was created by the Clinton administration to investigate the current state of U.S. worker-management relations and labor law and to make recommendations for change to the secretaries of labor and commerce. IRRA chapters were invited to send representatives to report on local chapter discussions of the issues before the Commission. Despite a late afternoon hour, more than 350 people attended the session.

The meeting also featured the regular IRRA offerings of poster sessions and competitive papers sessions devoted this year to employee rights and public policy, industrial relations, labor economics and labor markets, behavioral sciences, and dissertations. The Boston IRRA Chapter arranged an "Update on Employment Law" workshop, and the Rhode Island IRRA Chapter organized a workshop on the "Changing Environment for Labor Relations in New England." Although the public policy and chapter workshop sessions are not published in the *Proceedings* of the annual meeting, they are a valuable component of the IRRA annual meeting. (The table of contents lists the workshop participants.)

This year's *Proceedings* is the first to be edited by Paula B. Voos for the Association. It is also the first to have been completely edited and set in-house on computer disk. Jeanette Zimmerman, IRRA Proceedings copy editor, has again done an excellent job of copyediting for style and form. The Association has been fortunate to acquire the desktop publishing services of Mary-Ann Twist. In the future, we anticipate that the computerized system will keep publication costs to a minimum and reduce the amount of time needed to prepare the *Proceedings*.

The IRRA membership is indebted to all those who contributed to a very successful 46th Annual Meeting—the national office staff, the Boston and Rhode Island IRRA Chapters, and all the meeting participants.

Kay B. Hutchison	Paula B. Voos
Administrator and Managing Editor	Editor-in-Chief

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I. PRESIDENTIAL ADDRESS

Reclaiming Industrial Relations Academic Jurisdiction

George Strauss
University of California, Berkeley

My thesis is simply this: Forty years ago academic industrial relations (IR) covered a broad range of employment issues from labor economics to human relations. Gradually over the years, IR gave up its original jurisdiction. In the eyes of many people today, it involves labor-management relations and little more. Meanwhile, in the real world the nature of employment relationships is rapidly changing, and in academia related scholarly fields are steadily taking over the study of employment relations. Unless academic IR reclaims its original jurisdiction, it is doomed to marginality.

A little history may be useful. As an academic field IR dates back to the 1890s, but it had its Golden Age in the 1940s and 1950s when labor-management relations were viewed as the country's number one domestic problem.

Though at the time most IR academicians viewed themselves as labor economists, their interests were broader than those of labor economists today. Their concerns included labor history, labor law, industrial sociology, personnel, and what was then called human relations. For example, even though two of our founders, Charlie Myers and Dale Yoder, were primarily labor economists, they wrote leading personnel texts. Other labor economists wrote about labor law (Slichter) or labor history (Commons). In addition to labor economists, the field included a smattering of sociologists, psychologists, political scientists, and law school professors. However, discipline meant little in those days because IR was concerned with real-world

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problems, not theories. Many IR academicians moonlighted as arbitrators, and most prized their contacts with practitioners.

All this changed over time. Perhaps IR was too successful: as the postwar strike wave receded and labor-management relations stabilized, our field faded from the headlines. Bit by bit the original disciplinary amalgam fell apart. Labor history began being written by historians, not economists. With the main principles of the labor law established, labor law became employment law and paid little attention to union-management relations. Labor economists discovered human capital theory and increasingly began either to ignore unions or to view them as market imperfections to be overcome. Human relations became organizational behavior and boomed, taking away IR's required courses in the business school curriculum and also hundreds (if not thousands) of jobs. Personnel also asserted its independence. It became human resources management (HRM) and boomed as well.

Thus academic industrial relations became increasingly confined to union-management relations, and as unions lost members and fewer students took our courses, it seemed as if IR scholars had bet on a losing horse. Anyway, that's roughly Bruce Kaufman's (1993) thesis, as described in his recent book on the history of our field. This is an important work which I heartily recommend. But I disagree with Bruce's more pessimistic conclusions.

In my view, IR has a choice: it can be narrowly focused on employee representation, or it can be more broadly concerned with all the related issues affecting employment and the workplace. Even narrowly defined as union-management relations, academic IR is reviving, but only slightly. However, many exciting things happen when it is broadly defined as it was in the 1940s. The new IR is different in all dimensions. There are new research questions, new policy issues, new theories, and new research techniques. My personal vision of IR includes them all. All provide new insights which should be useful for practitioners and society generally.

Let me list five developments that provide an unsystematic sampling of new developments in the more broadly defined field of IR.

New Policy Issues

Perhaps most important has been a healthy questioning of the so-called New Deal system, the uniquely North American set of laws and institutions that developed during the 1930s and 1940s and which still shape our labor relations. These include, for example, exclusive bargaining rights, detailed and relatively long-term contracts, a heavy emphasis on seniority, tightly defined job classifications, and a sharp distinction between workers and management.

Except by the extreme right and left, these hallowed institutions were not questioned for almost 40 years, certainly not in this Association. In the more respectable branches of our field it was almost heresy to suggest we didn't have the best IR system in the world. We had visitors from almost everywhere to examine how well it worked. But from the point of view of the man from Mars and today's visitor from Europe there are serious anomalies in our system. A few examples:

- If 50%+1 of a bargaining unit vote for a union, everyone is represented; otherwise no one is represented.
- You have a choice between U.S.-style unions or not being represented at all; you can't choose works councils or representation by the gay-lesbian alliance.
- If you are represented, you have some rights; but if you try to exercise them through striking, you risk losing your job.
- If you are unrepresented or are a manager, you have virtually no rights, unless of course you are elderly, a woman, a minority member, or disabled.
- Either you are a worker or a supervisor. The line between management and union is very sharp. It's hard to be something in between.
- While a contract is in effect, nothing can be changed. At most it can be creatively interpreted. Once a contract has expired, almost everything is up for grabs, but the final result reflects relative power more than justice (though felt injustice often creates power).
- The parties are expected to be adversarial and go through an elaborate ballet called collective bargaining. At least in public they are expected to exaggerate their differences.

In class I defend this system, but I'm finding it increasingly hard to do so. It was designed in the 1930s to work in an economy of large firms, mass production, a national product market that didn't worry about foreign competition, and permanent jobs (subject to only temporary layoffs). *None* of these conditions prevail today to the extent they did before.

The system creates rigidities and makes no room for contingent employees. Further, it persuades nonunion employers that unionism is worse than death, and that, consequently, they should fight unions to the bitter end. Even within unionized companies, a large part of the work force lacks representation or job security, especially managers, and managers badly need these.

True, none of the principles mentioned are absolute; mature parties have learned to be flexible. Increasingly, for example, the contract is viewed as a living document. Gingerly some parties are trying cooperation, though more often out of necessity than conviction. But the worst part of our system is that it provides protection or representation for only 15% of the work force. By this standard it clearly is a failure.

Some pin their hopes on changes in NLRB procedures or striker replacement rules. Others think this is only tinkering and that something more drastic is required to bring union-management relations into the 21st century. Many argue that Section 8(a)2 should be modified. Works councils should be permitted or even mandated. And if full works councils aren't mandated, at least there should be elected safety committees. Other suggestions include associational or community unions, minority union representation, and changes in the distinction between employees and independent contractors.

I have some questions here: How would these innovations work? Works councils, for example, may perform well in Germany, but would they provide effective employee representation in the U.S.? Would they serve as stepping stones toward traditional unions, or would they be used as barriers against unions, as they were in 1934? Or would they evolve into forms we still can't predict?

How much of a difference would any of the proposed changes make, especially changes in labor law? After all, unions have been losing strength almost worldwide. In some countries (UK, Italy, New Zealand, Australia, and the Netherlands) the recent rate of decline is at least as fast as in the U.S. Finally, what are the prospects that Congress will pass any kind of labor law reform?

Though I hope I am wrong, I am reasonably pessimistic on all grounds, especially the passage of labor law reform in the immediate future. Indeed, I tend to agree with Bill Gould (1993:6) that with or without reform, most workers are not likely to be represented by unions and protected by collective bargaining agreements in the near future.

But NLRA reform isn't the only pressing public policy issue that deserves our critical attention. As unions decline, industrial justice may require an increasing reliance on laws. Though employment law affects more people than union-management law, it has been largely ignored by IR academicians (though it is a major concern for practitioners). This law deals with an increasing range of topics—from sexual harassment, age discrimination, and polygraphs to unfair dismissal, but it provides a mishmash of procedures and remedies as well as much inconsistency, inequity, and inefficiency. For example: if you are a top executive discharged because of age, a jury may award you millions in damages; but if you are an ordinary worker discharged for union activity, the most you get is back pay and usually only after a long delay. If punitive damages are appropriate to remedy age discrimination, why not for union discrimination? Academic IR needs to reexamine this whole area critically.

There are many other problems. At last we are giving some attention to health care. But how about pensions? There are numerous important issues here. Then there is our disastrous lack of a training policy (which may be our country's Achilles heel). IR and the IRRA need to lead the public discussion regarding these topics.

New Research Methods

A second encouraging new development is in the area of research methodology, especially the revival of case studies of individual work places. As a graduate student, I spent six months on a factory shopfloor talking to real workers and real managers; I sat in during negotiations and attended over 150 union meetings. In a precomputer day that was the best way we knew to do research.

Then things changed. As all the social sciences became more quantitative and theoretical, it became possible to carve out a career as an IR academician without ever leaving one's computer, relying entirely on data collected by others. Today, fortunately, there is a resurgence of interest in case studies in both sociology and organizational behavior. I am glad to see this occurring in IR as well. At least young scholars talk to real workers and real managers.

Case studies are particularly appropriate for studies of union-management cooperation, worker participation, job involvement, and total quality management. Whether participation works is no longer a question. Of course it works, *in some situations*. And it doesn't work in others. Instead, the real questions are these: Under what circumstances does it work? What are the barriers to acceptance, and how can these be overcome? How can participation be kept from atrophying? And above all, how can successful participation patterns be diffused from one workplace to another?

The answer to these questions won't come in more nationwide surveys which tell us that X% of the companies have participation schemes or that Y% of the managers say that it has reduced costs, useful as these studies may be. Instead, we need to get into the little black box connecting the introduction of participation and its possible success. We need intensive observational studies focused on the workplace, which examine, for instance, how participation affects day-to-day relations among workers, supervisors, union leaders, and the human resources department. Further, we need to look outside manufacturing and at nonunion as well as unionized organizations.

In any case, a happy result of this rebirth of case studies is that academic articles will contain fewer figures and more stories and will be of greater interest and use to practitioners.

New Theories

A third promising new development is the growing acceptance of new theories. One set of new theoretical concepts derives from economics. Neo-classical labor economics was an important part of analytic framework when I was a graduate student. Though it bored the hell out of me, it served us well at the time. Today we have a new field of human resources economics, which is in many ways more catholic in its interests and more realistic in its assumptions than the old labor economics. It uses concepts such as efficiency wages, implicit contracts, tournament, and agency theory. The new theories have the advantage of being rigorous and largely testable. Their disadvantage is that they are sometimes, but not always, unrealistic.

True, much of what this new field says Sumner Slichter and Charlie Myers said fifty years ago. But even when the new labor economics merely restate old verities, it does so with a precision that makes new insights emerge. Long before Newton, people knew that apples fell. But by explaining gravity in mathematical terms, Newton laid the groundwork for modern physics.

But the new labor economics is very micro-oriented: it is concerned largely with individual decision making and largely ignores unions. For a more macro picture we should turn to sociology and organizational behavior. Here concepts such as institutionalism and resource dependency give us insights and testable propositions that older theories never provided. For instance, a concept called institutionalism has been used to explain the spread of alternative forms of unionism (Conell and Voss 1990).

In a fascinating new development, economics and sociology are reaching out to each other, bypassing IR. They often deal with the same issues, though too frequently using different terms. Increasingly, behavioral and economic data are being used in the same studies and enter in the same models.

We now have new approaches to compensation and careers that link psychology, economics, and sociology, making use of such concepts as agency, expectancy, and equity theories as well as organizational ecology, legitimacy, and commitment (e.g., Granovetter 1992; Baron and Cook

1992). They explain, for instance, why organizations adopt various compensation plans and the impact of these on organizations. Together the old economics never could explain why company CEOs get paid such indecent salaries. The new theories do so quite nicely.

Though most of this theory-oriented work now appears in economics and sociological journals, it is an important part of my vision for industrial relations. It should be better represented at the IRRA.

New Issues

In addition to new theories, there is growing concern with important, mostly new employment issues which have been largely ignored by IR in the narrow definition, but which are central to IR in the broader view. Some people give the study of these issues the title macro human resources. I prefer to call them broad IR.

Traditional human resources (or personnel) courses deal with such topics as testing and training and are taught largely by psychologists. They are directed to the prospective human resources professional and are concerned with how to do it. Broad IR, by contrast, deals with public policy and is directed to unions, management, and citizens generally.

Broad IR focuses especially on new technologies, markets, and institutions; for example, emerging occupations, changes in the composition of the work force, new approaches to compensation (not just wages), and careers. It looks at the decline of large companies, the erosion of secure employment, and the growth of a contingent work force. It examines questions such as how self-managing work teams work, and it compares the differences in interpersonal relations that occur as groups of workers adjust to computers or e-mail. Broad IR makes liberal use of the new theories just mentioned. Agency theory, for instance, helps us analyze the relative advantages and disadvantages of employee ownership and subcontracting.

Besides economics, sociology, and history, broad IR involves law and ethics. Where, for example, should the line be drawn between legitimate organizational demands and the individual's right of self-expression? When, for example, may the organization legitimately require an employee to cut off his beard or a woman to tone down her lipstick? Does an employee have the right to loudly express deviant political or racist views off-duty in the locker room? For me these are all IR issues.

Another example: Jack Barbash argued for years that justice is a central industrial relations concern. Recently, there has been a torrent of psychological research on what is known as procedural justice, especially in the employment relationship. This research is quite relevant to Jack's concerns.

Yet little of it or its implications have been presented to the IRRA. They should be.

Further, broad IR also brings in important public policy issues. How, for example, should the burdens of providing pensions and health insurance be divided among employers, individual employees, and society generally?

If academic IR doesn't deal with these issues, human resources management, sociology, or economics will take over, but without IR's humanizing perspective.

Comparative Industrial Relations

Comparative industrial relations is another booming area, especially overseas. In a sense it is a foreign counterpart of the domestic broad IR just discussed. Unfortunately, most of the U.S. contributions to this field come from people trained as sociologists and political scientists who don't publish in IR journals. Comparative IR (CIR) is much better developed in other countries, and there are a growing number of cross-national research teams working on common problems.

There are a variety of reasons why comparative research should be brought into mainstream IR.

1. It's of obvious importance as we move into a global economy.

2. CIR helps us understand our own system, highlighting what's unique.

3. Comparative research may suggest improvements in our own system. Germany and Japan, for example, have been somewhat more successful than we have in introducing computers to the factory floor. We may learn from their experience. But comparative research should also alert us to the difficulties in grafting elements of one country's system onto another's. An institution that works well in one country with its own particular history and institutions may not work well in the U.S.

4. For years IR has groped for a theory, but a theory that explains conditions in only one country can't be much of a theory. To be valid it should apply generally. By looking at differences across countries, we seek uniformities—universal rules that explain these differences.

Comparative research has already given us the concept of punctuated equilibrium. This suggests that IR systems remain stable for long periods of time, even in the face of changing economic and political conditions until the pressures become too extreme. Then the system changes rapidly. Critical periods differ greatly among countries. Australia had one such period in 1890-1905. In France perhaps it was the 1960s. The U.S. went through one in the 1930s; it may be going through another now.

5. Finally, comparative research helps us understand the relative significance of various factors such as technology, economic fluctuations, laws, and culture. For example, union strength is declining almost everywhere, but at different rates depending on the country. To what extent are these differences due to differences in laws, differences in labor force composition, or differences in managerial systems? Comparative research will help us answer these questions.

Until recently, comparative texts consisted of parallel studies of individual countries, a chapter for each country in the total book, and the emphasis was primarily on the national level, on the top looking down. The new comparative research seeks not just to describe but also to explain differences.

Rather than focusing on the peak national union, it is often workplace- or industry-oriented; for example, some research focuses on specific occupations, say dockworkers or printers, examining how economic, legal, and technological factors play out in the context of different national IR institutions. Typical of this research are a series of studies comparing how factories in Britain, France, and Germany react to the introduction of computers on the shopfloor. Other useful research has compared the introduction of work teams and quality circles in the U.S., Sweden, Japan, and Germany.

Some studies focus on strike rates, others on shopfloor labor relations. Britain and Australia have developed large-sample workplace surveys that look at such questions as grievance rates and steward-union member ratio. These studies permit quantitative comparisons of key variables between countries (Whitfield, Marginson, and Brown forthcoming). So far the U.S. has nothing really comparable. I wish we did.

Among the more useful studies are those comparing close pairs, countries which are alike in many ways and which may at one time have had closely similar industrial relations systems. Illustrative of these are the U.S. and Canada, Britain and Ireland, Australia and New Zealand, and Denmark and Norway.

Some of the best studies have compared histories; for example, several have examined how technological change was introduced in the textile industry in various countries during the 1800s and the impact of this on unionization. Differences are difficult to explain without deep analysis of history.

In short, comparative research is important, not just to understand other countries, but because it can help us analyze industrial relations generally.

Conclusion

Fifteen years ago Pete Feuille and I wrote an article (Strauss and Feuille 1978) bemoaning what we called IR's academic doldrums. Rashly we predicted that a new renaissance was on hand. We may have been 15 years too early. But now with the new developments just listed, I am optimistic again.

Whether I am right depends considerably on how IR is defined. Even narrowly defined as involving just union-management relations, academic IR is showing signs of life. I worry, however, that the present interest in labor law reform may be the last hurrah for IR's limited version. Unless there is a major string of union victories, the future of IR in the narrow view may be rather dismal. (Again, I hope I am wrong.) But in the broadly defined terms of the 1940s, IR is a vibrant field. It has theoretical underpinnings. It is interdisciplinary and highly relevant to new developments.

For better or worse, real-world IR is going through a period of considerable shifting. Technological and demographic trends are forcing changes in the way work is organized and people are supervised. Even nonunion employers are beginning to recognize that participation and job rights pay off in terms of efficiency.

So a window of opportunity has opened for IR to branch out to what may seem like new areas of study but which, in fact, represent our original jurisdiction. If IR doesn't grasp this chance, Kaufman's dire predictions will be realized, and as Feuille put it, IR may follow the example of the Cigarmakers and Sleeping Car Porters, both leaders in their time (cited in Strauss 1989).

Though I am optimistic that IR will broaden its focus, my optimism is tinged with regret. I must reluctantly concede that collective bargaining will take a lesser place in practical U.S. industrial relations and a lesser place in IR research and teaching. One thing that united the IR scholars of the 1950s was their reformist ideology, specifically a belief in the value of unions and collective bargaining as a means for redressing social ills. It pains me that fewer people believe this now, either in academia or society.

I worry that the new IR will be concerned more with managerial efficiency than with social justice. Though unions and collective bargaining may no longer be IR's central focus, most of the issues the new IR considers, from contingency employment to sexual harassment, raise issues of ethics, justice, and public policy. I hope IR never forgets its ideological origins.

Acknowledgment

Many thanks to Stephen Frenkel and David Levine for their critical comments.

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II. BUILDING NEW ORGANIZATIONAL ALLIANCES AND THE ROLE OF TRUST

The Dual Character of Trust During Workplace Transformation

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Transformed work practices include teamwork, job rotation, multi-skilling, cross-training, and pay-for-skills which together constitute a new way of dividing, monitoring, and rewarding labor. Transformed work practices have been widely heralded by academics and practitioners, and their spread across organizations has been documented (e.g., Appelbaum and Batt 1994; Bailey 1992; Osterman forthcoming). Two rhetorics have accompanied the transformation of work practices. One is a rhetoric of increased quality, productivity, competitiveness, and leanness for corporations. The other is a rhetoric of enriched work, increased autonomy, and greater opportunities for participation in decision making for employees at all levels. Sometimes these two rhetorics are reconciled, for example, in the discussion of mutual gains. But despite the promise of mutual gains, the adoption of transformed practices and their longer-term sustainability have often floundered because of insufficient trust, particularly on the part of employees. This paper argues that the difficulty in achieving a stable trust may arise because of how the two rhetorics of transformation compete, resulting in understandable ambivalence on the part of employees. For example, the rhetoric of productivity can create cynicism among employees who see teamwork as a route to downsizing and leanness, while the rhetoric of job enrichment can create enthusiasm among employees who see teamwork as an opportunity to have more discretion. Trust is of potential

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importance precisely when there are uncertain and competing outcomes. We argue that this duality upon which trust is based—the capacity simultaneously to see the positive and negative consequences of trusting—should be emphasized much more than it has been in the literature (e.g., Coleman 1990). The dual character of trust can be captured by listening for and reporting employees' ambivalence, rather than trying to reduce any ambivalence to some net level of trust or distrust.

A diverse group of theorists is pointing to the importance of trust for the successful implementation and sustainability of workplace transformations (e.g., Sabel 1992). Trust may be important for a variety of alliances under conditions of uncertainty, where exchanges cannot be perfectly regulated. Alliances among nations, among firms, or between management and labor during collective bargaining are examples. This paper focuses on the dynamics within the firm, where alliances are not regulated (in the case we study) either by a union or by routinized norms. Alliances between employees and their company, employees and their team leader, and team members with each other may all require trust, particularly where new practices such as pay-for-skills remain necessarily vague about how training, effort, initiative, and new skills will convert into individual or collective rewards. Particularly under conditions of uncertainty, in contrast to easily regulated quid pro quo exchanges, trust is relevant (Fox 1974).

Trust may be important in three ways. First, transformed systems rely heavily on the voluntary contribution of effort and initiative from employees under conditions where monitoring is difficult and perhaps counterproductive in spirit (Donnellon forthcoming). Attention has been paid to the need for management to entrust employees with decisions and discretion. More attention needs to be paid to conditions under which employees may trust that the transformed system is one in which it is worth investing their effort and initiative, rather, for example, than a system that is just a speed-up or a route to downsizing by doing more with fewer people.

The second way in which trust matters is that there is a long time horizon for the payoff on employees' efforts. At the corporate level, a potential payoff is that the company will be kept afloat despite intense international competition, and jobs will be saved. At the individual level, the payoff is determined through programs like pay-for-skills, where employees take courses, develop new skills, practice and are certified for their new skills, and eventually receive greater pay. Both of these payoffs are uncertain and long term.

The third way in which trust matters in the transformation process is that there are potential gains and losses at stake. Following Coleman's

(1990) depiction of trust, there is the possibility of regret for trusting too much (for example, taking courses but never getting certified for a pay increase) and regret for trusting too little (for example, not experimenting with an alternative system that might save the company and jobs).

This paper does not look at trust as a singular dimension, such as lower versus higher probabilities of reward under uncertainty or lower versus higher willingness to be vulnerable with another party in an emerging relationship. Instead, this paper considers the tensions that undergird trust, particularly in light of the competing rhetorics of transformation. For example, it would not be surprising for employees, who are trying to determine how much to go along with new teamwork practices, to wonder whether contributing their effort is a worthwhile path to more enriched jobs or a way to work themselves out of overtime and/or jobs in the interest of leanness. It is too simple to say that the "trusting" employees are those who believe the positive promises that their work lives will be made more interesting and secure and who discount the worries about layoffs. Rather, a style of trust may be forged dynamically in employees' own minds and between parties by taking into account these two competing interpretations of what it might mean to work hard for a team. Trust may be strongest where *both* possibilities can be seen as inherent and understandable dualities in the process of transformation and where ambiguities can be honestly addressed, rather than covered up by boosterish language about teams and transformation. This paper begins an exploration of this dual character of trust by uncovering some ambivalences and competing interpretations that employees articulate in speaking about teamwork.

Method

Company Setting and Sample

We focus on three plants of a single company involved in chemical production. We chose this company because it was in the early stages of a process of transforming its work processes, assigning employees to teams, beginning to encourage team meetings and team decision making, and creating a pay-for-skills package that included a training plan and training opportunities for employees. The transformation got underway in early 1991. We met with team leaders to discuss issues of trust and resistance to change in early 1992 and to surface some issues that would be worth exploring in interviews.

We conducted one-hour, semistructured interviews with 30 employees during mid-1992. In two plants the team leaders selected participants (one or two employees who responded favorably to teamwork and transformed practices and one or two who responded negatively). This purposive sampling allowed us to capture the range of voices and to see where seemingly negative employees could see positive elements and vice versa. In the third plant tight production schedules required that we interview employees during plant shutdown. Based on our queries to a number of people, there did not appear to be a selection bias in who works during shutdown; for example, we feared that we might get the more "gung ho" employees during shutdown. However, people told us that the determination of who worked over shutdown was mostly a function of an individual's financial or family vacation needs and that we would hear a range of opinions about teamwork from these employees, as the interviews confirmed.

Interview Protocol and Data Analysis

We developed an interview protocol, with questions about employees' initial expectations about teams and how these had changed, their pay-for-skills plans and decisions about whether to participate and learn new skills, the range of issues over which they did and did not have final decision-making authority and what they thought about this division, their views of their team and its goals, their sense of how long teams would be around and what they thought were the major obstacles to developing more effective teams, and their own interpretation of the word "trust." The interview questions were prompts for individuals to tell stories or offer elaborations about their experiences with teamwork.

We analyzed the interview results in an iterative process, looking for themes within and across interviews from multiple readings of the interview notes for description, analysis, and interpretation (Wolcott 1994). In this process we discovered dualities in people's interpretations, sometimes articulated consciously at one moment in the interview (e.g., "on the one hand team rewards are good, but on the other hand, individual distinctions are helpful"), at other times oscillating over the course of the interview. We hesitate to say that employees contradicted themselves, because we feel these dual interpretations are valid reflections of the ambiguity of teamwork, rather than departures from the normative value of being logical and consistent.

We anticipated three patterns of responses: First, and perhaps the least likely, would be extreme levels of either trust or distrust evinced by exclusive enthusiasm or cynicism for transformation. Second would be a mix of elements that goes into a calculation of trust and a net probability level of trusting. For example, on the one hand, employees might suspect that pay-for-skills plans will not work because they allow too much supervisory discretion, but on the other hand, they might be inclined to trust in the plan's promises because the formula for advancement is clear. The weighing of these kinds of factors might produce a net trust level that an employee could report, particularly in the form of a behavioral choice (e.g., "in the end I decided to take some courses," or "in the end I decided it wasn't worth it and I'd wait and see"). The third possible observation would be that competing expectations about transformed work practices leave employees in a state of ambivalence which is irreducible to a net trust level. Both sides of an issue would remain apparent and unresolved. This duality would not be surprising given the two rhetorics of transformation discussed above.

Results

Our data reveal an overall pattern of ambivalence of the third type described above. In some cases individuals clearly held one view or the other. But in the majority of cases and with respect to many issues, individuals articulated competing points of view over the course of the interview, sometimes bouncing the two off each other aloud, sometimes giving one view and then at a later point illustrating the other view. The people we interviewed were comfortable with a complex level of discussion of trade-offs (e.g., what is gained and lost by reducing overtime in the short and long term) and of competing pros and cons of a practice (e.g., good and bad reasons to have frequent team meetings). Because these are complex issues, the people we interviewed wanted a complex treatment of them from management, not necessarily the simplest or even most consistent explanation.

This section presents findings with respect to five aspects of transformation: (1) the role of discipline, (2) the efficacy of effort, (3) reward systems for individuals and teams, (4) the move to shared decision making, and (5) the overall change program. Each of these is discussed below.

The Role of Discipline

On one side of employees' ambivalence was the notion that more discipline, and more credible discipline, was needed from managers. In one of our earliest interviews we were told a story about how an employee had pulled a gun on a supervisor and merely got a warning. We were surprised to hear an appeal for more discipline from employees, but this story of an event that had happened some time ago was retold several times as emblematic. The need for more discipline was expressed as a need for there to be fairness and standards. On the other side of employees' ambivalence was the idea that discipline is unnecessary, since employees can pace themselves and get their own work done, particularly in terms of discipline with respect to hours and time clocks. Discipline was seen as arbitrary.

There was also ambivalence over who should exercise discipline. On the one hand, employees said they knew who shirked and that discipline should be left up to them as a matter internal to the work group. On the other hand, they argued equally well that most people did the best that they could, particularly given whatever personal circumstances might prevail at the time, and they would feel ridiculous nagging and policing each other.

These tensions reflect complex issues that are at the heart of interpersonal trust and teamwork. There is the issue of wanting to belong to a group, achieved by not being a management stooge, versus the issue of wanting standards that allow a sense of pride at work and which may have to be enforced with some kind of hierarchical or lateral discipline. These issues beset any community working together and are not easily resolved. Employee ambivalence suggests a need and a language for being involved in the delicate balancing act required to design a system.

The Efficacy of Effort

Voluntary contribution of effort by employees under conditions where monitoring is low and everyone's input is significant is an issue at the heart of teamwork. The idea is that increased and better directed efforts produce the productivity and quality gains promised by transformation. Most employees reported that teamwork had brought improvements in quality and in meeting delivery schedules. There were charts on many walls as part of the "measure and display" approach to quality management that showed many lines sloping in the desired direction. On the one hand, employees attributed some of these improvements to teamwork and to working harder and smarter together. Indeed, the demonstrable benefits of teamwork had fueled some enthusiasm for the transformation project, which brought about a self-fulfilling increase of effort. On the other hand, some employees felt there was nothing they could actively do to affect quality that they were not already doing as intelligent and able workers. They resented the implication that quality problems were an indicator of their work ethic and that harder work would fix them. Many said that quality problems were "in the process" and needed more fundamental fixes. Some suggested that the improvements shown on the charts just reflected how the numbers were being calculated differently to make the yields look better, for example, by not even counting batches that were discarded altogether.

Whether or not teamwork enhances quality and productivity seems like an empirical question that can be resolved so that any remaining ambivalence is solved. Because ambivalence is regarded in the literature as an unstable, confusing, and hopefully impermanent state (e.g., Merton 1975; Weigert and Franks 1989), most discussions of it focus on how it can be resolved, whether by an empirical resolution or an overarching interpretation. However, in many industries there are no longer clear measures of quality and productivity, and their relationship to effort is even murkier. Moreover, the mix of praise and judgment that employees feel as their effort is scrutinized—and in the United States their character is thereby scrutinized (Coleman and Rainwater 1978)—is likely to create an ongoing state of ambivalence over the efficacy of effort.

Reward Systems for Individuals and Teams

In every interview in response to a whole variety of questions or as illustration of a whole variety of points they felt were important, employees kept coming back to the question of rewards—both the annual bonus compensation (ABC) and the pay-for-skills plan (PFS)—as the critical factor in the movement toward teamwork and transformation. In their ongoing cognitive negotiation over reasons to trust or distrust the transformation process, employees appealed to what they stood to gain or lose, how the reward system would affect relationships, and whether the losses were being disproportionately borne by lower level employees.

Many employees shared very thoughtful perspectives on the tradeoffs between equal reward for a team (e.g., giving everyone a 5% ABC) and differentiation of excellent and poor performance (e.g., some receive 3%, some receive 7%, and most receive 5%). The tension between valuing equality and rewarding for excellence and differences has a long philosophical tradition. Employees' comments were often more sophisticated than what is found in the current business literature on the use of rewards for teams, which often gives unqualified endorsement to the feasibility and desirability of pay-for-performance.

The equality/differentiation tradeoffs were often elaborated. On the one hand, many employees could see that giving everyone the same reward was good for creating team morale. It recognized that most people were good at what they did, particularly in plants where average tenure was greater than ten years. Any small differences, some people argued, were probably attributable to things that were happening in people's personal lives; as such, they should not form the basis for punishing people through their paycheck. On the other hand, the same employees could argue that people are different; some care more about their work and are still trying to get ahead, while others are lazy, trying to have an easy day, or are waiting to retire. Some employees, they suggested, really had excellent skills, and others went to them for help. They felt that these people should be rewarded as a way of showing that there were categories of excellence on the shopfloor, rather than the homogenizing and impersonal treatment of giving everyone the same bonus. The issues raised in these rich musings about the tradeoffs between equality and differentiation are not easy to solve and have been tackled in the literature on whether a reward system should be designed around the employee as creative *homo faber* or the employee as shirker (Donnellon and Scully, forthcoming). The question of whether teams with equal or different pay awards perform better is worth further exploration; it may be the case that the opportunity to discuss pay issues, regardless of the final distribution, is the more important predictor of team performance.

While most of the discussion of rewards focused on lateral comparisons with coworkers, some employees expressed anger at recent salaries received by top management and particularly at top management's much larger share of a recent intellectual property award settled in court. The distribution of this award, based proportionally on wage, disillusioned some workers. They felt that the hourly workers were the ones who suffered most from the temporary loss in market share through reduced overtime, but the compensatory award was given primarily to management. People who were skeptical about teams and the concept of employees being the real "owners" of the business were quick to point out to us what they perceived to be hypocrisies.

The Move to Shared Decision Making

Part of the movement toward teams involves decentralized, team-based decision making. Employees wanted to see increases in their decision-making opportunities. At the same time they emphasized that this would not really be a change to something new, but that they had quite naturally been making important decisions all along. For them a demonstration of trust from managers would involve not only an increase in decision-making authority but also an acknowledgment of what they already were doing. Many said things like, "We could run this place ourselves all along" or "My group was a team ten years ago." When asked about issues like scheduling breaks, covering each other during breaks or vacations, tracking their own quality, or giving feedback to someone else about quality, most reported that they already did that. While these kinds of things are often included in lists of ways to empower employees, the people we interviewed did not feel particularly empowered by the areas in which they already had discretion, but rather, they took these areas for granted as their natural right. Many employees focused their answers on areas in which they wanted to have more of a say, particularly about pay systems, skill definitions, assignments to teams, and job postings. However, some also worried about whether expanded areas of discretion might simply result in their being scapegoated for poor performance or in doing more and harder work for the same pay. Employees thus greeted with a complex ambivalence the rhetoric of empowerment that underlies transformation.

Lead technicians played a complicated role in the move to shared decision making for teams. Under the old production system, "leads" acted as "pseudo team leaders," giving direction to other workers and getting certain perquisites in terms of responsibility and prestige. With teams, however, the role of leads was supposed to be discontinued; in the interim it became ambiguous. The role of lead used to be a valued reward that people felt it was worthwhile working hard to achieve. It is hard to dismantle an old incentive system when good people have been working hard under it, and even employees who resented the authority of leads explained this problem. Many people expressed both that they wished the leads would be less involved and that the leads had earned some right to be involved. These competing interpretations are not surprising during the overlap of old and new practices during a change effort.

The Overall Change Process

Many employees had very low initial expectations of teams. Some were simply uncertain about what teamwork was ultimately supposed to be, while others understood the vision and felt it was too hard to reach. Even with low expectations about teamwork, most employees listened vigilantly to what people in management said and held them to it. If management changed plans, even those who were not on board with the original plan felt frustrated and shortchanged. People felt simultaneously that "Nothing is going to change" and "Why hasn't anything changed yet?"

Employees expressed a desire for more information. However, large doses of information were too much and too suspect. When employees were called together for an informational meeting in the cafeteria, they often felt "like we're just being managed." People wanted clarity, but they did not like being "told the party line." In fact, several employees gave illustrations of times when they appreciated managers saying "they weren't sure what was coming next," since it showed they were "at least being straight with me" rather than "putting up a front." At other points in the interview, some of the same people would sound frustrated about the uncertainty and unsure about how much to buy in. They felt they had seen other changes come and go. The desire to have both more simplicity *and* an acknowledgment of complexity may seem inconsistent but was a common reaction that seems reasonable in the face of ongoing change.

Conclusion

There are complex ingredients that go into a decision to trust a workplace system. Ultimately, what matters is whether employees are on board enough to engage in the system's practices; for example, elsewhere we examine which employees take courses, a behavior at the heart of pay-for-skills plans and transformed work practices (Scully and Preuss 1993). But prior to that ultimate engagement, the complex ingredients should be analyzed directly. Employees are ambivalent and in flux about important issues from rewards to shared decision making. The way they articulate their ambivalence is an interesting kind of political discourse. It suggests that simple pronouncements about policies from management will not allay concerns. The opposite arguments remain apparent. However, a discussion of tradeoffs that is as complex as employees' analyses of the transformation project might be welcome and might be a real hallmark of transformation.

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Trust, Understanding, and Control: Factors Affecting Support for Mutual Gains Bargaining

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Over the last decade a significant number of labor negotiators have tried to move away from the traditional rituals of bargaining and toward "mutual gains bargaining" (MGB) (Fisher and Ury 1981). In spite of the growing popularity of MGB and its potential importance for improving labor-management relations, little is known about the factors that contribute to negotiator support for MGB. This paper analyzes data from three cases of MGB training in order to explore the following question: What affects participants' support for this new process? These data suggest that (1) trust between the parties has to be enhanced before negotiators will be willing to commit to MGB, (2) trainers must make more clear to negotiators what the behavioral implications of MGB really are, and (3) interventions are needed beyond training.

Three Test Cases

As part of a project sponsored by the Department of Labor, three teams of labor and management negotiators were provided with training in MGB. The three cases (disguised) were Northwest, Inc., Southwest, Inc., and Eastern, Inc. In all three cases labor and management negotiators received several days of joint training in MGB (made up of lectures, negotiation simulations, and group discussions) prior to actual bargaining (see Friedman 1993). The results in the three cases varied. In the Southwest case the negotiators did not seem to use the MGB process very much, yet many of them felt that the training and the ideas from it had a positive influence on the negotiations. In the Eastern case the process was used quite effectively for half of the negotiations, but not all of the negotiations, and events that occurred in the later half (including a strike) seemed to be driven more by outside political factors than any failing of the MGB

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process itself. In the Northwest case, MGB was used until the last week of negotiations, albeit with significant resistance.

Common to all of these cases, however, was the fact that people who attended the training expressed doubts about the MGB ideas and concerns about their abilities to actually use the process. First, some negotiators said that they did not trust the other side enough to use MGB. Second, some negotiators said that they did not understand the distinction between "interests" and "positions" that is central to MGB. Third, some negotiators were concerned that they could not control much; there were others, away from the table, who had the ultimate decision-making authority or had possession of the relevant information. From the beginning of training through the end of negotiations, support for MGB waxed and waned as negotiators struggled with their hopes and doubts about the process. In order to improve training and intervention strategies designed to help labor negotiators use MGB, we need to look more carefully at these concerns. We need to understand more clearly what negotiators mean when they complain about lack of trust, understanding, or control. We need to know which concerns are more or less important. And we need to know who has these concerns, and at what point in the process they are more or less important. These three concerns—lack of trust, understanding, and control—are discussed further in the next section. In the following section, I present an exploratory analysis of quantitative data collected during this research project which sheds light on these questions.

Trust, Understanding, and Control

Trusting behavior, according to Lorenz (1990), consists of actions that "(1) increase one's vulnerability to another whose behavior is not under one's control, and (2) take place in a situation where the future penalty suffered if the trust is abused would lead one to regret the action" (p. 4). According to MGB advocates (Fisher and Ury 1981), MGB does not require trust because it does nothing to make one vulnerable. Indeed, the very purpose of MGB is to provide a way for people to interact productively where there is no trust. Yet the kinds of behaviors that are proposed are ones that may be experienced as making negotiators vulnerable: Separating people from the problem may deny negotiators power tactics that depend on building personal animosity; explaining interests may make negotiators feel that they are revealing too much, especially if they are not clear about the distinction between interests and positions that lies at the heart of MGB; and the type of cooperative behavior that is implied by the prescription to invent options for mutual gain may force negotiators to forgo ritual enactments of their roles as opponents and representatives (Friedman 1994) that are so important to them politically. More broadly, to the degree that negotiators engage in conversations that are MGB-like in traditional negotiations, they occur only between bargainers who know each other well and can trust in each other's goodwill and predictability (Friedman 1994). It is therefore likely that, regardless of MGB theory, trust is needed before negotiators will be willing to try MGB.

It is also reasonable to expect that the degree to which negotiators understand MGB will affect how willing they are to use it. According to Manz and Sims (1981), learning new behaviors requires that they be retained "in symbolic form through imagery or verbal coding" (p. 111), that people have a chance to rehearse the new behaviors, and that they feel confident that the new behaviors are appropriate for their situations. Each of these steps provides those who are learning with a depth of understanding that goes beyond abstract concepts. Confusion or lack of confidence in the new skills is likely to lead to frustration and discomfort, resistance to the source of confusion, and attraction to sources of clarity (i.e., the traditional approach).

Finally, feeling that one is in control of the negotiations should enhance the probability that a negotiator is willing to use MGB. Control can contribute to a sense of efficacy—the sense that one can have an effect on a situation. Lack of control leaves one feeling ineffective and unable to have an influence on the situation. To the degree that loss of control diminishes feelings of efficacy, it can have a dramatic impact on behavior. Most importantly, it is known that those who lack a sense of efficacy do not persist in the face of opposition or frustration (Bandura 1989). At a less intrapsychic level, expectancy theory has shown that motivation is a function not only of the level of reward that is attainable but the expectation that one can actually complete the task that leads to the reward (Lawler 1981). Therefore, if negotiators feel out of control, they will not persist in their efforts to learn and use MGB. Support for MGB will wane if negotiators believe they cannot make a difference anyway.

Survey Research

In each of the three test cases, negotiators filled out survey questions (for other purposes) as often as was politically feasible. The two prenegotiations surveys, two midnegotiation surveys, and the two postnegotiation surveys were each stacked separately, producing a total survey population of 41 for the beginning negotiations, 25 for the middle of negotiations, and 37 for the end of negotiations.

Variables

Two of the items in the survey asked about overall support for MGB. One item was "We should use MGB," and the other was "My interests will not be protected by MGB." These items were combined to create a variable called *belief in MGB*, which was the dependent variable in the analysis described below. (The Cronbach's Alpha for the first panel, .59, was not as strong as might be desired, but the combined variable did provide more stability in the results, and results from regressions using the separate variables were consistent with the results for the combined variables.)

Three of the items related to the issue of trust: "MGB is difficult due to a lack of trust," "I believe what they say," and "They understand our interests."

One item asked directly about understanding: "I understand MGB." In addition, I created a measure of how definite each person felt about how to proceed in negotiations. In order to produce this measure, the responses to questions about MGB tactics were transformed by taking the absolute value of the response minus 3. Thus a person who gave consistently moderate answers (i.e., "3") to the tactics items would be low on clarity of tactics. A person who consistently gave extreme answers (i.e., "1" or "5") would be high on clarity of tactics. For this analysis, my concern was not what answer was given, but whether the person felt certain about the answer that s/he did give. Ten of these items loaded onto a common factor for the first survey from each site (n=60) and were combined to form the variable *tactical clarity* (Cronbach's Alpha: .83).

One item in the survey asked about an issue related to negotiators' sense of control over negotiations: "We have the facts we need for developing good positions." In addition, factor analysis of the attitudinal items from all sites revealed two clusters of variables which are related to problems of control. The first cluster included two items: "The people at the table on the management side have full authority to commit to solutions" and "The people at the table on the union side have full authority to commit to solutions." These items (Cronbach's Alpha: .69) represented the degree to which negotiators felt that they had the authority to control what happened in the negotiations. This factor is labeled *authority*. The second cluster included five items:

- There is insufficient understanding of MGB on my team.
- There is insufficient understanding of MGB on opponent's team.
- There is insufficient understanding of MGB by constituents.
- There is not enough unity for MGB on my team.
- There are divisions in the union ranks.

These items (Cronbach's Alpha .75) point to two problems: a lack of understanding of MGB by others (besides the person filling out the survey) and political divisions among negotiators. Each represents a lack of external agreement and support that would make it difficult for negotiators to implement MGB. This cluster represents a kind of *external chaos* that diminishes the degree to which negotiators can control the implementation of MGB.

These eight variables (and a dummy variable for each site) were regressed onto the dependent variable, *belief in MGB.*

Results

In the first panel (representing attitudes held just prior to the beginning of negotiations) the model provides an excellent fit (see appendix). Five of the eight variables were significant (*no trust, they understand us, tactical clarity, I believe them,* and *external chaos*). These results indicate that support for MGB is enhanced by having a sense of clarity about how the negotiations should be handled and by believing what the other side has to say, while it is diminished by a lack of trust in the other side and by external chaos. The one other variable that was significant was the dummy variable for Eastern. This indicates that there was some factor not included in the model that caused Eastern negotiators to be more supportive of MGB than Southwest negotiators. The implication of the dummy variables for all three panels is discussed separately below.

Even though the number of cases was small, it was possible to get separate results for labor and management negotiators that were reasonable to compare. What was striking in this comparison was the degree to which understanding dominated all other concerns for managers in terms of the size of its effect. Union negotiators, by contrast, were more influenced by trust than were managers (both *no trust* and *I believe them* remained significant). *External chaos* still had a strong effect for them. And, like managers, they also cared about tactical clarity.

My interpretation of this difference is that management negotiators tend to be far more cognitive than union negotiators. They are concerned primarily with tactics, and if there is any concern with trust it is trust in the accuracy of what is being said by the union (*I believe them*), not some general, unspecified, or affective notion of trust (*no trust*). This emphasis may be related to the fact that management is used to being in control and used to approaching problems analytically (rather than in terms of political pressures or concepts of fairness). The union, by contrast, appears more concerned with general, unspecified trust than with just the accuracy of what management is saying. This emphasis may be due to the fact that union representatives feel that they have relatively little leverage over management between negotiations, so trust regarding management intentions is critical.

Labor negotiators also differ from management negotiators in that the former are more worried about *external chaos*—whether people around them understand the process. This emphasis may be due to the fact that labor continually has to manage political demands and use influence rather than authority to control its members (Friedman 1992). It continually has to worry, more than management, about engaging constituents and dealing with political divisions.

In the second panel of the survey, two trust variables, *I believe them* and *no trust*, remained significant, as did *external chaos*. This was the point where *I believe them* had the strongest effect among the panels studied. This emphasis may be due to the fact that during this panel of the survey, negotiators were in the middle of exchanging specific information and ideas. The way in which trust was expressed was very clear and immediate: believing what was being said. What was potentially ambiguous was not a set of distant actions, but the accuracy of people's statements across the bargaining table. *External chaos* became more important as tensions rose. With deals about to be made, outside constituents began to monitor their negotiators more closely and tried more than before to control the negotiations. Political divisions within both sides became more salient. *Tactical clarity* dropped out in this panel. Field observations suggest that this occurred largely because negotiators had come to understand what parts of MGB they would use or not use and how to use them. Regressions were not performed for labor and management separately since the sample in this panel was too small.

In the last panel, after negotiations were over, two factors were significant: *trust* and *I understand MGB*. At this point, facing an open-ended agenda between negotiations, the basis of trust was more general and unspecifiable than during negotiations. The results here were also very stable. The regressions for labor and management did not look very different (and therefore were not shown in the appendix), and the dummy variable distinguishing between the two cases was not significant, indicating that at this point variation in support for MGB could be explained primarily by generalized trust and understanding and not by differences in the cases studied.

Comparison of the Three Cases

In the first and second panels there were significant differences between the cases (as indicated by the fact that the dummy variables were significant) which were not accounted for by the model. One major difference among the three cases was the degree to which dissatisfaction with past negotiations led management and the union to change the structure of negotiations (in addition to having MGB training). Among the three cases, only Northwest radically restructured negotiations. They changed all but a few negotiating personnel, had new lead bargainers on both sides, and the management team was made up primarily of line managers rather than staff. Restructuring did not occur in the other two cases. Negotiators were largely the same ones as before, and the members of the teams were mostly full-time labor relations staff for the company or the union. The case in which the team members faced the most severe constraints on change was Southwest. They were one unit within a multiunit bargaining structure; many of the bargaining goals were set and coordinated by higher-echelon union and company managers. These differences indicate that, separate from feelings of trust, understanding, or control, support for MGB is enhanced when negotiators are independent of outside political and bureaucratic constraints and have direct information and authority.

Discussion

The data from these three panels of surveys provided three pieces of information: They helped identify the aspects of trust, understanding, and control which were the most important determinants of support for MGB; they identified shifts that could be expected to occur over the course of negotiations; and they identified differences between labor and management regarding these influences. At this point a note of caution is warranted. The quantitative analysis of these negotiations is based on correlations between responses on a survey; there is some risk of common method variance. Nonetheless, as a first exploratory step into unexamined territory, the results are extremely suggestive of the thoughts and concerns facing negotiators in the process of adopting a new bargaining style and are consistent with field observations.

In spite of the claims of MGB theorists that effective use of MGB does not depend on trust (Fisher and Ury 1981), it is clear that negotiator support for MGB does depend on trust. And trust, it seems, has two main components: (1) believing what the other side says and (2) general trust. The former element is more cognitive and immediate, while the latter element is more affective and general. These data indicate that both prior to and after negotiations, the more affective dimension of trust plays a stronger role, while during negotiations, the more cognitive dimension of trust plays a stronger role. Moreover, prior to negotiations at least, trust is a more important factor for labor than it is for management.

Understanding can have an effect on support for MGB, but the type of understanding that is most critical varies over the course of negotiations. Prior to bargaining and early in negotiations, what matters most is understanding of tactics. As Manz and Sims (1981) argued, it is models of behavior, more than abstract concepts, that give people confidence when learning new ways of acting. In the middle of negotiations, however, tactical understanding does not significantly affect support for MGB, largely because negotiators have by this time developed some theory of action. After negotiations, what matters is not understanding of tactics but understanding of general concepts. Negotiators at this point are in a position to say: "Does this approach to bargaining make sense? Can I understand now why and how the approach might work?"

Control was the factor that had the least influence on negotiator support for MGB. Having authority to act independently and having full information is certainly important, but not as a determinant of support for MGB. The one aspect of control that did have an impact on negotiators' support for MGB was *external chaos*. This was especially important for union negotiators during the prebargaining period and somewhat important for all negotiators in the middle of bargaining. To the degree that control plays any role, what is important is knowing that there is some level of common understanding about how MGB works and that there are no serious political divisions within negotiating teams.

Conclusion

MGB is a process that is meant to improve contract negotiations between labor and management: it builds into negotiations a safe way of sharing more ideas and information than is typical. Yet simply *saying* that is not enough to ensure support for this process. Negotiators need concrete, actionable guidelines to help them change their behaviors; they need to be able to have some degree of trust in the other side before committing to a mutual gains approach; and the overall context of the negotiations process must be changed to allow negotiators the freedom to be creative.

Some of these constraints can be addressed relatively easily. Providing negotiators with a more tactile feel for the specific behaviors suggested by MGB is something that can be done by trainers. By contrast, efforts to change how the bargaining teams are set up, what authority negotiators will have, and what level of support exists for the process from constituents require interventions that must start long before negotiations or MGB training begin. And although trust is an issue that has to be addressed during training, it cannot be successfully managed during training alone—it has to be something that is discussed and developed between negotiations. MGB is most likely to be effective if combined with ongoing joint training of labor and management, ongoing efforts to improve the relationship between the two sides, and a willingness on the part of both labor and management to allow their negotiators more leeway in how they bargain.

APPENDIX

Regression Model Results

	Dependent Variable: Belief in MGB				
	Before Negotiations (Surveys given to negotiators at Southwest, Inc., and Eastern, Inc.)			During (Northwest, Eastern)	After (Northwest, Eastern)
	Labor & Management	Management Only	Labor Only	Labor & Management	Labor & Management
Adjusted R^2	.62	.29	.80	.40	.32
F Value	5.8°°°	1.9	9.0°°°	2.8°	2.9°°
n	41	21	19	25	37
Trust					
No Trust	-.16°	.06	-.20°	-.17#	-.45°°
I Believe Them	.13#	.18#	.24°	.38°°	.05
They Understand Us	-.16°	-.19	-.12	.13	.08
Understanding					
Understand MGB	0	.25	-.13	.20	.59°
Tactical Clarity	.58°°	.77°	.47°	.02	-.39
Control					
External Chaos	-.20#	-.02	-.31°	-.47#	-.19
Authority	-.08	-.29	.17	.06	.07
Have Facts	-.09	.02	-.08	.03	-.04
Dummy Variable					
Eastern	.69°°	.35	.69#	-.94°	-.23

#Significant at the .10 level; °at the .05 level; °°at the .01 level; °°°at the .001 level.
Coefficients are unstandardized, T-tests are one-tailed.

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DISCUSSION

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Is trust an important factor in building new organizational alliances? In his paper for this session, Raymond Friedman has suggested that trust has two connotations. One is personal trust which requires me to believe that others will act in my best interests. The other is predictability in that I do not expect others to act in my best interests but expect them to act as expected. My view, gained through experience at the Bureau of Labor-Management Relations and Cooperative Programs (BLMRCP), is that the second connotation—predictability—is the more viable one in building and sustaining new relationships. This connotation allows us to label as "trust" a series of behavioral responses to organizational change. What follows is a rather hurried discussion about the U.S. Labor Department's efforts to determine what role trust—however defined—plays in building new labor-management relationships and innovative work organization schemes.

It was our experience in BLMRCP that during the early to mid-1980s cooperative labor-management relationships and new forms of workplace organization occurred only after all else had failed—refinancing, downsizing, leveraged buyouts, and all of the other forms of moving people and paper to give the impression of change. Simply, significant change would occur only when the pain of change was less than the pain of business as usual.

The BLMRCP mission was to explore the successful efforts at new cooperative relationships to determine what factors (other than imminent business failure) contributed to the changed relationships. The goal was to design a series of interventions that would facilitate the establishment of new labor-management relationships and innovative schemes of work organization before enterprises were at the brink of failure. We found that behaviors and processes played important roles in change efforts.

Two early workshops were designed by BLMRCP to allow labor and management to explore a new relationship. "Orientation to Joint Labor-Management Initiatives" offered union-management counterparts the

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opportunity to explore the concepts and applications of joint labor-management initiatives. It provided a nonthreatening way to explore change for those unions and firms that had not yet fully grasped the need for change. "Partners in Change" was a program for union and management decision makers to begin the design of a joint process. It was an intensive organizational intervention requiring commitment to change.

It became clear from the feedback we received from approximately 400 workshops that new relationships required new roles and new behaviors for the partners. Supervisors and union stewards needed to become coaches, enablers, and facilitators. Front-line workers needed to be decision makers and to work closely with team members. Many times organizational change was driven by rapid technological change as "just-in-time" production processes forced shopfloor decision making and team work. With the rapid changes occurring not only in technology but also in corporate structures, personal trust was most often not an effective tool for managing labor-management and work-organization issues.

Research by BLMRCP focused, then, on determining the set of skills and behaviors that contributed to predictability. We found that in addition to technical competence, workers and managers needed a set of skills new to the shopfloor. Consensus decision making, effective listening and communicating, group problem solving, effective planning techniques, shared leadership, and understanding their own and others' values and personalities appeared as a group of "soft" skills found in the more successful work organization change efforts. Our "Committee Effectiveness Training" package, which includes an assessment tool to determine the level of need in the work group, addresses these skills.

BLMRCP efforts up to this point had focused on the day-to-day administration of the workplace. We had thought early on that the collective bargaining function was and should be separate and apart from work organization efforts. The enchantment with quality circles and worker empowerment schemes seemed appropriate and worked very well when dealing with noncontractual or work environment issues. We respected the wall built between these activities and collective bargaining activities.

In light of the successes with the workplace change efforts, it became more difficult to defend the adversarial collective bargaining relationship. Many times workers and management approached collective bargaining agreement expiration dates with great concern that the adversarial process would destroy the effective shopfloor relationship that had developed. Traditional adversarial collective bargaining is an awkward dance, often backward looking, litigious, negative, zero sum, conducted once every two or three years to determine the basis for the next two to three years of the relationship. Personal trust among the bargainers is a very fragile element in relationships taking years to establish and only moments to destroy. Collective bargaining agreements often reflect the level of this type of trust. The more specific, detailed, and inflexible the agreements, the lower was the level of trust. In a sense, the parties place their trust in the agreements rather than in the people, behaviors, and processes used to conclude the agreements. Management has argued that it is these detailed, inflexible agreements that hinder its ability to respond to the rapidly changing global economy, technological advances, and ever-changing customer needs.

The challenge for BLMRCP was to develop a process that would promote positive, interest-based, flexible relationships responsive to market shifts. Jean Brett, Steve Goldberg, and Bill Hobgood had experimented very successfully with grievance mediation in the coal mine industry, and their work formed the basis for BLMRCP explorations into new forms of nonadversarial collective bargaining. We became convinced that in order to assure that innovative work organization schemes succeeded, the collective bargaining process needed to become less adversarial and more interest-based. The wall between contract negotiations, contract administration, and noncontractual activities had to be breached. There is no need for me to describe in detail the new process which carries many names—win-win bargaining, mutual gains bargaining, interest-based bargaining. It focuses attention on issues, not positions; looks for possibilities and opportunities; can produce creative solutions which the parties are motivated to uphold; and can result in mutual gain. The parties do not have to have established personal trust but do have to be committed to abiding by the process.

The behaviors of the partners become increasingly important as reliance on the process increases. For example, there appears to be a growing awareness of the importance of knowing and assessing responses by partners based on Myers-Briggs Personality-Type Indicators (MBPTI) or other similar types of personality tests. Joe Ullman and Liz Ravlin at the University of South Carolina have spent a considerable amount of time looking at the role of value congruence in managing effective workplaces. They have found that the values and attitudes people bring to their jobs can make a difference in their satisfaction with and performance in the workplace and developed the Comparative Emphasis Scale to measure the importance of four key values to the person completing the instrument. Hinda Sterling and Herb Selesnick undertook a study of the BLMRCP interest-based negotiation training process to measure this training against the critical behaviors needed for successful use of alternative bargaining processes. All of these efforts focus on gauging outcome of a process based on behaviors of the participant. They generally conclude that with a given set of behaviors a predictable outcome will occur. Thus if we are looking for the role of trust in building new alliances, we should look to behaviors and predictability rather than personal trust as a mechanism for enhancing the probability of success.

One short comment here concerning Ray Friedman's paper. In discussing the role of the facilitator or mediator in mutual gains bargaining, he says that there is a great debate raging as to the role of that person. Should they intervene actively during the process or only serve as an umpire calling process fouls? It would be interesting to explore the relationship between the role played and the importance of the variable he calls "external chaos." My hypothesis would be that as external chaos increases in importance, union negotiators would seek a more active role for the facilitator. How do management negotiators respond to the external chaos variable? If they are dedicated to the process, they should want to minimize the impact of external chaos and thus agree to a more active role. Do the data agree?

In Ned Lorenz's presentation, I would be interested in knowing the role of government policy in establishing trust between labor and management. What he describes seems to be a classic case of waiting to change until driven to it by dire financial conditions.

The case reviewed by Scully and Preuss appears to be one where management implemented a team concept without the necessary planning or vision required to ensure success. The workers did not seem to agree on the why, how, or what of the reorganization. A big dose of Myers-Briggs may have helped to sort out the responses, many of which were typical MBPTI responses to change. Management and workers would have benefitted from some "soft" skill training in problem solving and consensus building. What was the role of the union in this change effort?

A broader research question growing out of this panel's discussion concerns the role of unions in building and maintaining new alliances. With an increased emphasis on self-reliance in the workplace and the empowerment of front-line workers to make decisions, increasing use of team work, self-management, blurring of the lines between labor and management, and development of nonadversarial collective bargaining processes, where does a union add value for the worker?

III. REFEREED PAPERS: LABOR ECONOMICS AND LABOR MARKETS

The Value of Health and Pension Benefits to Workers

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The application of standard compensating wage theory to fringe benefits predicts workers differ in their demand for employer-provided benefits and sort themselves across firms so the mix between wages and fringe benefits match their preferences. Holding human capital and other variables influencing wages constant, workers that receive more generous fringe benefits will receive lower wages than workers that prefer fewer fringe benefits (Rosen 1986). The standard figure illustrating this prediction is shown in Figure 1 where workers maximize their utility subject to a budget constraint that is defined by their human capital and ability levels. Worker A selects a compensation package without any fringe benefits, and Worker B accepts a job that provides both wages and fringe benefits.

The usual empirical strategy followed to test the model is to estimate a standard wage function that also includes some measure of the existence or cost of fringe benefits in the worker's compensation package. Despite the clear theoretical prediction, empirical studies have frequently not found the predicted trade-off between wages and fringes.[1] Insignificant findings are usually attributed to the difficulty associated with controlling for unmeasured human capital and abilities differences (Smith and Ehrenberg 1983). If higher-skilled workers demand more fringe benefits than less-skilled workers, an inability to precisely measure worker skill and ability

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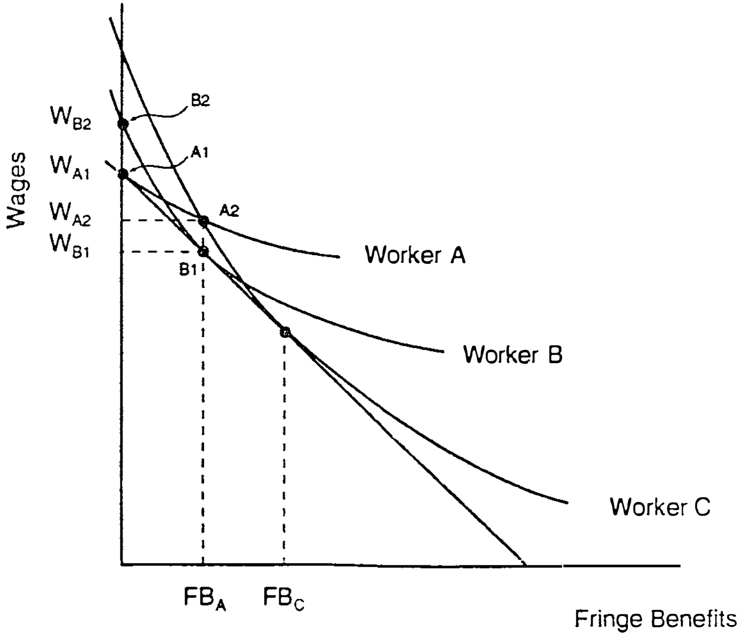
FIGURE 1
Wage-Fringe Benefit Trade-off



will bias the relationship between wages and fringe benefits toward zero. This problem occurs because the researcher is unable to differentiate between identically skilled workers that are located at different points along the same budget line and workers that face different budget constraints because of unobserved differences in human capital and ability.

This study adopts a different approach and tests for the predicted trade-off between wages and fringe benefits using survey data where workers were asked how much more they would have to receive in wages to make them indifferent between two identical jobs, where one job provided fringe benefits and another job did not provide these benefits. While this is not the kind of data usually used in labor market studies, research on arbitration illustrates both the value and validity of using perceptions of labor market participants for the purpose of understanding arbitrator behavior (Farber and Bazerman 1986; Olson, Dell'Omo, and Jarley 1992).

The usefulness of these data for testing the theory is illustrated in Figure 1. Workers without fringe benefits are located at a corner solution where the indifference curve which maximizes their utility has a slope with an absolute value less than 1. Worker A is indifferent between his current wage of W_{A1} with no fringe benefits and a job paying W_{A2} that provides fringe benefits that cost the firm FB. $W_{A2} - W_{A1}$ is the wage reduction that would make Worker A indifferent between these two jobs. On the other hand, the wage increase Worker B would require to voluntarily give up his fringe benefits is $W_{B2} - W_{B1}$. I define the value of fringe benefits, VFB, to be equal to:

$$\text{VFB} = W_{A1} - W_{A2} \text{ if the worker has no fringe benefits, and}$$
$$W_{B2} - W_{B1} \text{ if the worker has fringe benefits.}$$

The theory predicts that $VFB_A < VFB_B$. I test this prediction using data collected from a random sample of employed adults.[2]

The Survey and the Data

In the spring of 1991 the Employee Benefit Research Institute and Gallup conducted a phone survey of 1000 randomly selected U.S. adults.[3] The survey solicited a variety of demographic data on each respondent, including information on pension and health insurance coverage, individual and family earnings, and the cost and perceived value of different fringe benefits. Table 1 reports the descriptive statistics for the respondents. Column 1 refers to the entire sample and column 2 provides information for respondents currently employed. The analysis that follows uses only the employed subsample.

Three questions were asked which required respondents to place a dollar value on specific fringe benefits. The key question for this study was Q26: "Suppose that you have a choice between two identical jobs, except that Job A offers health insurance, life insurance and pension benefits; while Job B has no benefits. How much more money would Job B have to pay you each year for you to choose Job B?"

For workers covered by health benefits through their job or the job of another family member, respondents were asked about the employer contribution and their own contribution to the monthly health insurance premium.[4] These individuals with health benefits were then asked Q23: "How much more money would that employer have to give you each year to make you willing to give up your employer-provided health benefits?"

Workers covered by an employer-sponsored pension plan were also asked Q25: "How much more money would that employer have to give you each year to make you willing to give up your employer-sponsored pension plan?"

TABLE 1

Descriptive Statistics for Gallup Poll Respondents (mean and sd)

Variable	Entire Sample	Employed Subsample
Panel A		
Age	43.47	39.28
	(15.94)	(12.01)
Female	.52	.45
Black	.061	.069
Hispanic	.049	.055
< HS education	.091	.068
HS education	.331	.313
Some college	.224	.219
Trade school	.061	.069
4 year degree	.180	.201
> 4 years of college	.109	.126
Married, spouse present	.621	.619
Never married	.197	.210
Panel B[a]		
Q26: Value of pension, health and life insurance	$7098	$7182
	(3395)	(3346)
Q23: Amount needed to give up health benefits	$4096	$4250
	(3214)	(3204)
Q25: Amount needed to give up pension benefits	$5312	$5336
	(3799)	(3702)
Ranked health benefits most important	.652	.698
Ranked health benefits 2nd	.186	.164
Ranked health benefits least important	.008	.009
Ranked pension benefits most important	.155	.113
Ranked pension benefits 2nd	.345	.366
Ranked pension benefits least important	.028	.023
Would accept job without health benefits	.425	.447
Would accept job without pension benefits	.601	.641
N	1000	.691

[a]The values for Q23, Q25 and Q26 include the top coded observations. For those employed, the median response to Q23 was $3600 and the median response to Q25 was $5000. Over half of the employed respondents answered Q26 with a value greater than or equal to $9997.

Responses to Q23, Q25, and Q26 were top coded at $9997. Figure 2 (a-c) shows the distribution of responses to each of these questions. The right-censoring problem is especially important for Q26, where over half of the employed respondents placed a value on pensions, health, and life insurance equal to or greater than $9997.

A second problem with Q26 is that it does not provide a wage rate for Job A, nor does it indicate the level of health and pension benefits that are provided by this job. In this study I have assumed the referent job used in the answer to Q26 is the respondent's *current* wage and fringe benefit combination. Referring to Figure 1, I assume Worker A without benefits is making his valuation by comparing point A1 with point A2 and Worker B is reporting a value that corresponds to a wage adjustment corresponding to a move from point B1 to B2. Some indirect evidence regarding the validity of this assumption is provided by the relationship between the response to Q26 and the responses to Q23 and Q25 for workers with health and pension benefits. If respondents with these benefits were using their current job as the referent job, then the responses to Q23 and Q25 should be related to Q26. The R^2 from a multiple regression explaining Q26 responses is .32 and provides modest support for my assumption.[5]

Respondents were also asked to indicate the two most important fringe benefits, the least important benefit, and whether or not they'd accept a job without health benefits or without a pension plan. The bottom half of Table 1 shows the mean responses to these questions. The average yearly earnings differential needed to make workers indifferent between a job with and without health, life, and pension benefits (Q26) was $7182 for those employed. The average value of existing health benefits for those receiving these benefits was $4250 and those receiving pensions valued this benefit at $5336. Although workers placed a higher average value on pensions than on health benefits (e.g., Q23 and Q25), health benefits were by far the most important fringe benefit when all respondents were asked to identify the most important fringe benefit; 70% of employed respondents ranked health benefits first, and only 11% ranked pension benefits the most important fringe benefit. Finally, more respondents were willing to accept a job without a pension (64%) than without health benefits (45%).

Empirical Results

Compensating wage theory predicts workers without fringe benefits are willing to give up less in wages to obtain a certain level of fringe benefits than the wage increase comparable workers would require to voluntarily give up the same benefits. To test this hypothesis I estimated the following equation:

$$\text{VFB} = X\beta + \alpha_1 \text{HI} + \alpha_2 \text{PEN} + \varepsilon \tag{1}$$

The value of fringe benefits, VFB, is equal to the answer to Q26. X is a matrix of the following human capital and demographic variables: marital

FIGURE 2a

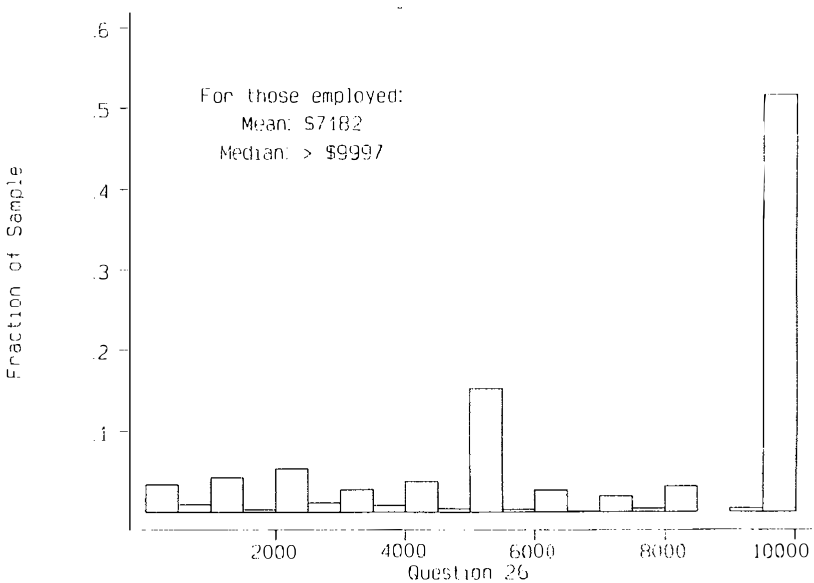
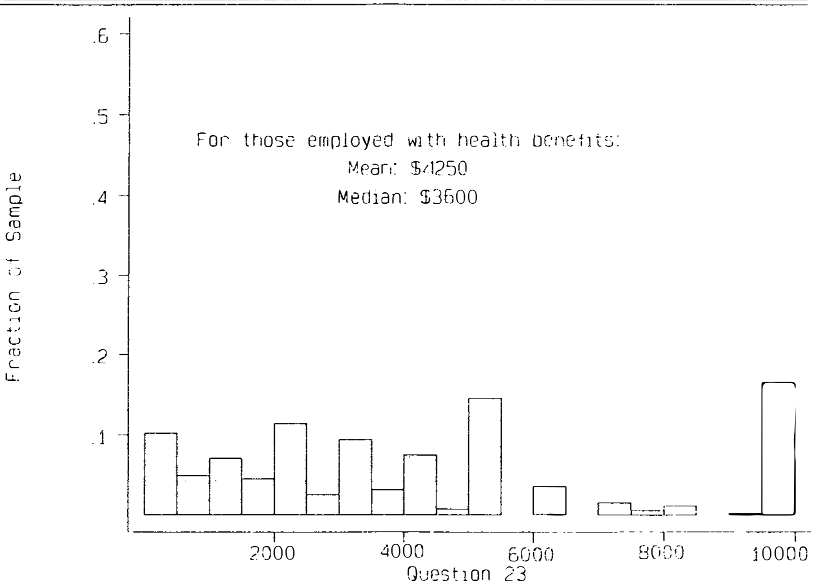
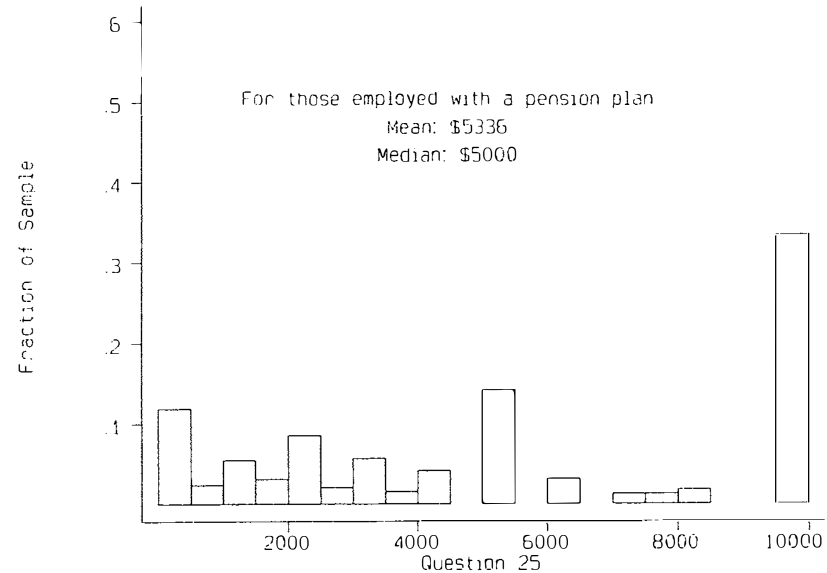


FIGURE 2b



status, education, number of kids, a cubic in age, gender, race, and geographic location. HI and PEN are dummy variables equal to "1" if the person

FIGURE 2c



has, respectively, health insurance and pension benefits through his/her job. The theory predicts $\alpha_1 > 0$ and $\alpha_2 > 0$.

Columns 1 and 2 of Table 2 report estimates of the responses to Q26 explained only by the health and pension dummy variables. These models simply summarize the mean difference in the value of these benefits for workers with and without health and pension benefits. Comparing the columns shows the importance of correcting for the severe right censoring of responses at $9997. The average value of employer-provided health, life, and pensions benefits for those with and without health and pensions benefits is substantially understated in the OLS estimates because they do not adjust for the understated value of fringe benefits for those individuals with right-censored responses. Assuming ε is normally distributed with a constant variance, the Tobit estimates correct this problem. The Tobit estimate of the value of the three fringe benefits was $6473 for those workers without health and pensions benefits. Workers with only health benefits valued these fringes at $8453; workers with only pension benefits value the benefits at $9233, and the value of these benefits to workers with both health and pensions benefits was 73% (4740/6473) greater relative to those workers with neither health nor pension benefits.

Column 3 shows the Tobit estimates for α_1 and α_2 for the entire employed subsample when human capital and other demographic controls are included in the model. The sample size changes from columns 1 and 2 because any observation with a missing value for one of the variables was excluded. The parameter estimates on the standard earnings variables in the model are comparable to those obtained in a standard earnings regression and are not reported or discussed due to space limitations.[6] The results are strongly consistent with the prediction that workers sort themselves into jobs with and without fringe benefits based on the value they place on these benefits and the cost trade-off between wages and fringe benefits;

TABLE 2
Estimates of the Value of Fringe Benefits

Variable	Dependent variable = Q26 or the dollar value of pensions, health, and life insurance				Dependent Variable = Q23 or the dollar value of health benefits for those with health benefits		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	6473 (282)	5406 (299)	—	—	3235 (398)	—	—
Has health benefits (=1)	1980 (736)	1180 (378)	2055 (828)	1172 (1004)			
Has pension benefits (=1)	2760 (580)	1383 (302)	2461 (699)	2230 (704)			
Has HI benefits and ranks HI most important fringe benefit				1222 (811)			
Has pension and ranks pension most important fringe benefit				2695 (1386)			
Yearly employer contribution toward health benefits					.507 (.164)	.529 (.161)	.612 (.183)
Controls[a]	No	No	Yes	Yes	No	Yes	Yes
σ							
R^2 or Log L	-3127.2	.088	-2500.64	-2498.49	-1812.8	.097	-1490.7
N	608	608	507	507	217	183	183
Estimation method	Tobit	OLS	Tobit	Tobit	Tobit	OLS	Tobit

[a] Models with controls include the following variables: three marital status variables, age, age^2, age^3, number of kids, female, five education dummies, three race dummies, three region dummies, urban and suburban dummy.

Standard errors are in parentheses.

workers with health and pension benefits value these benefits more than workers found on jobs without these benefits. The column 3 estimates show workers with health benefits value health, life, and pension benefits $2055 more than workers without health benefits, and those with pension benefits value fringes $2461 more than employed workers without pension coverage. The predicted value of fringes for a 43-year-old married, white male with a high school education living in a suburb in the northeast and lacking both health and pension benefits is $6414. The value of the fringe benefit package to a comparable worker with health benefits is 32% higher (2055/6414), and for a worker with pension benefits the value is 38% (2461/6414) greater. A comparable worker with *both* health and pension benefits values these benefits 70% higher than the worker without these benefits.

Column 4 uses information on whether or not health or pension benefits were the most important fringe benefit to the respondent. The two variables in rows c and d are dummy variables equal to "1" for those workers with the fringe benefit that also ranked it most important. Compensating wage theory suggests the slope of the indifference curve describing the trade-off between wages and these fringe benefits is greater among workers that rank these benefits more highly. The Tobit results in column 4 confirm this prediction with respect to pensions (1 tail test, .05 significance). For health insurance, the coefficient has the correct sign, but is not statistically significant at the .05 level.

An additional confirming test of compensating wage theory is possible using Q23 which was asked only of those workers that receive health benefits. This question asks the wage increase these workers would require to voluntarily give up their specific health benefits. It is reasonable to predict that workers with more generous fringe benefit packages who are located further down the budget constraint in Figure 1 value these benefits more than workers with less generous fringe benefit packages who are located further up the budget constraint. Thus workers found on jobs where the employer pays more for health benefits will require a larger wage adjustment to give up health benefits compared to workers found on jobs where the firm pays less in health benefits.[7] This hypothesis was tested using a question on the survey (Q22) which asked workers that currently received health benefits to estimate their employer's contribution to health benefits.[8] Unfortunately, only 183 workers were willing to provide an estimate of these costs.[9]

The last two columns of Table 2 report the OLS and Tobit estimates using Q23 as the dependent variable. The same set of control variables that were used in analyzing Q26 were also used in these models. A smaller proportion of these respondents were top coded relative to Q26, and as a result, the bias in the OLS estimates is smaller but still substantial (15% too low). Despite the substantial measurement error that is likely to be included in the estimate of employer health benefit costs, the coefficient on this variable is positive and highly significant; for every dollar increase in the employer's cost of fringe benefits, the predicted wage increase workers required to give up these benefits increases by $.61.

Conclusion

The results from this study are consistent with the standard model explaining the observed distribution of fringe benefits in the labor market. Those workers found on jobs with health and pension benefits place a higher value on these benefits than workers that accept jobs without these benefits. This conclusion is based on a comparison of the responses from those with and without health and pension benefits to a set of hypothetical questions asking workers to value jobs with and without fringe benefits. These results confirm the usefulness of combining perceptual data with worker behavior to further our understanding of how labor markets operate.

Endnotes

[1]Studies that have found a trade-off include Ehrenberg (1980) and Montgomery and Shaw (1992).

[2]This test differs from the usual test of the wage-fringe benefit trade-off which would attempt to compare point B1 for worker B with A1 for Worker A.

[3]These data are from the Gallup/EBRI survey No. 23 and are available from the Roper Center for Public Opinion Research at the University of Connecticut.

[4]Unfortunately, the survey does not distinguish between health insurance through own job and health benefits through a spouse's employer. This is an important distinction, especially for married women. See Olson (1993).

[5]The independent variables included Q23 and Q25 and two dummy variables indicating if the responses to these questions were top coded at $9997.

[6]The estimates are available from the author upon request.

[7]Referring to Figure 1, this prediction assumes $U'(W)_B > U'(W)_C$ where $FB < FB_C$.

[8]Q25 cannot be used in this analysis because no question was asked regarding the cost of pension benefits or the structure of pension plan benefits. Thus it was not possible to identify workers with more generous pension plans.

[9]It is interesting to note that even with the very rapid increase in health care costs, only 43% of those employed workers receiving health benefits were willing to provide an estimate of the cost of these benefits to their employer. This suggests employers have not done a good job of communicating the cost of health benefits to workers.

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Does American Profit Sharing Increase Firm Profits?

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Profit sharing[1] has been found to increase worker productivity in a number of studies (Bradley and Estrin 1992; Kruse 1992; Mitchell, Lewin, and Lawler 1990; Cable and Wilson 1990; Wadhwani and Wall 1990; Conte and Svejnar 1988; FitzRoy and Kraft 1986, 1987). It is remarkable that the positive effects of profit sharing are found consistently across various studies where different data sets and empirical procedures were used.

Whereas we have voluminous evidence that profit sharing increases worker productivity, there is a dearth of studies regarding plan effects on firm profits, a bottom-line measure of firm performance. In light of increased interest and studies regarding the impact of human resource policies on firm profitability (Lewin 1991; Kleiner et al. 1987), profit-sharing research is still lacking evidence as to the plan effects on firm profits. In this paper I try to fill the void by studying the relationship using a data set of 183 firms in the U.S. I employed three simultaneous equations models to address the endogenous nature of profit sharing and investigate the two-way relationship between profit sharing and profitability in the U.S. Results show that profit sharing doesn't improve firm profits. One important explanation is that American profit sharing is an efficiency wage scheme: as an add-on to the regular wage, profit sharing boosts productivity, but the increased labor costs may outweigh productivity gains. This is weakly supported in a follow-up analysis.

Theory and Literature

Profit-sharing schemes are thought to raise employee productivity in several ways. First, profit sharing is claimed to elicit worker effort by linking part or all of compensation to firm performance. Workers have incentives to work harder because their pay depends on company profits. A

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potential weakness of this argument is the possibility of the free rider effect: workers may not put forth effort as expected, since an individual receives only 1/n of the extra profits generated by his effort. On the other hand, proponents of profit sharing claim that the free rider problem can be defeated as the profit-sharing "games" are repeated over time (Weitzman and Kruse 1990). Workers would learn to expend effort together and see the advantages of cooperative behavior over the inferior equilibrium of free riding. Peer monitoring is another reason that profit sharing may defeat the free rider problem and elicit worker effort (FitzRoy and Kraft 1986). Workers are often in a better position than managers to monitor each other. Also, workers can sanction violators of profit-sharing games more effectively than managers under certain situations.

Second, profit sharing may enhance overall organizational efficiency by increasing the flow of information within the company (Kruse 1992). Participants of profit-sharing plans are more likely to share technological information with the management instead of hiding it to increase piece rates or maintain job security. Also, they will be more willing to accept the introduction of new technology which improves productivity.

Third, profit sharing may boost worker productivity as a flexible wage scheme (FitzRoy and Kraft 1992; Bradley and Estrin 1992). The efficiency wage hypothesis is different from the two arguments above in that it assumes profit sharing to be an add-on to regular wages rather than a substitute. In the U.S., profit sharing has long been thought to be an addition to regular wages: "Effective profit sharing must ordinarily presuppose the payment of the full going rate of wages to participants. . . . The object . . . is to induce a special degree of effort, efficiency, cooperation, or some other desirable result not usually obtainable by the payment of a flat wage. Obviously these special results cannot be expected unless the rewards which call them forth can be counted on to exceed the regular and usual wage" (Burritt et al. 1918). Recently, Mitchell, Lewin, and Lawler (1990) found that cash profit-sharing arrangements tend to increase rather than substitute for total compensation in the U.S.

Economic theory suggests at least four benefits of efficiency wages. First, if profit shares raise total compensation, workers would stay longer with the firm, since outside alternatives become less attractive. Firms then experience reduced turnover costs. Also, workers would invest more in specific human capital, other things being equal. Second, paying profit shares on top of regular wages may raise workers' effort level. Since the cost of job loss is increased due to profit sharing, workers have incentives to show good performance. Third, raising compensation may promote worker loyalty to the firm. Though the loyalty notion is not well captured by the traditional utility functions, increased loyalty is thought to raise worker productivity. Akerlof (1984) provides a model where the loyalty hypothesis is explained by "gift exchange" between workers and the management. Finally, firms may attract higher quality applicants by raising compensation through profit sharing. Firms then would be able to recruit more productive workers.

Three arguments above suggest that profit sharing can increase worker productivity either as a substitute for or as an addition to the regular wage. Limited evidence shows that the plan raises total compensation in the U.S.,[2] indicating the add-on nature of profit sharing. If profit sharing is a kind of efficiency wage, it would increase both productivity and labor costs. If the productivity gain is not large enough to overcome the labor cost hike, profit sharing may lower firm profits (Blinder 1990).

Theory and business practices show that profit sharing and profitability influence each other. Their relationships thus need to be studied in a simultaneous equations setting (Ehrenberg 1990; Ehrenberg and Milkovich 1987). Using data on German metalworking firms, FitzRoy and Kraft (1987) estimated simultaneous equations systems to explain this relationship. They found positive effects of profit sharing on profitability and no feedback from high profits to profit sharing. No such study, however, was done on the U.S. profit-sharing plans.

Data

This study combines three data sets: Columbia Business database, Standard and Poor's Industrial Compustat database, and the Form 5500 pension database.

The Columbia Business data set was constructed from survey responses of 495 business units.[3] The questionnaire was originally mailed to more than 7,000 business unit executives by a team of researchers at Columbia University's Graduate School of Business.[4] These units (the same as Compustat business lines) were asked to report extensive information on their internal human resource policies for the years 1986-87 (Mitchell et al. 1990). The survey questionnaire ran 29 pages and asked for information on the eight key areas of human resource policies and practices: human resource planning, job design and analysis, employee involvement and communications, employee relations/union relations, selection and staffing, training and development, performance appraisal, and compensation.

For information on financial status and profit-sharing plans of firms, Compustat and Form 5500 data were used. Exact company matches were made using the CUSIP number (Columbia and Compustat data sets) and the IRS Employer Identification Number (Compustat and Form 5500 data sets).

Compustat consists of a computerized database of financial, statistical, and market information on publicly traded companies. This study relies on the 1986 annual data for 13,795 companies. Compustat provides information on return on investment, labor expenses, R&D expenses, firm size, and industry classifications. Firm-level information from Compustat and the Columbia data sets are matched to that from the Form 5500 data set, which contains information on all corporate pension plans including profit sharing. In this study the number of workers participating in the plans, employer contribution to profit-sharing trusts, and the year in which the plans were set up were used for analysis. Descriptive statistics of these variables are reported in Table 1.

Firms were required to file Form 5500 with the U.S. Department of Labor after the Employee Retirement Income Security Act (ERISA) of 1974 was passed. Since the Form 5500 data deal with deferred profit-sharing plans only, cash plans—4.2% of all profit-sharing plans (Profit Sharing Council of America 1987)—are not included in the data. It is possible that the deferred nature of the profit share could reduce employees' motivation. On the other hand, the deferred sharing may elicit worker effort since much of the deferred shares are invested in the employees' own company. In 1986, 37.4% of the plan assets were invested in the company's stock (Profit Sharing Council of America 1987). Another feature of deferred profit-sharing plans is that some plans are not directly linked to firm profits. The Form 5500 database does not contain information regarding which plans are directly linked to profits through formula and which plans are not. An independent survey shows that about 45.7% of profit-sharing plans do not have a specified formula (Profit Sharing Council of America 1987). Even for the plans without formulas, profit-share payments are not necessarily independent of profitability since they usually vary with firm performance (Kruse 1991; Perry and Kegley 1990:35).

Despite some limitations in the three data sets used in this study, they constitute a rich source of detailed information on profit-sharing plans, financial status, and human resource policies of firms.

Empirical Specification

Matches with 183 firms were made by merging three data sets. For a profitability measure, return on assets (ROA) is used.[5] The average ROA for 107 firms with profit-sharing plans is 4.3%, but only 1.6% for 76 firms

TABLE 1
Description of Variables

		Model 1		Model 2		Model 3	
Variables	Definition	Mn	SD	Mn	SD	Mn	SD
ROA	Return on assets (%)	3.148	5.882	3.148	5.882	2.311	6.373
PS1	Dummy for profit sharing (0-1)	0.585	0.494				
PS2	Percentage of workers covered by profit sharing plan (%)			25.40	28.00		
PS3	Percentage of labor costs distributed to profit-sharing trusts (%)					0.19	0.52
L1ROA	ROA of 1985 (%)	3.508	8.215	3.508	8.215	3.542	6.303
AGE	Age of profit-sharing plan (year)	7.410	11.415	7.410	11.415	2.644	7.601
R&D	Research and development expenses ($ million)	82.911	358.710	82.911	358.710	60.175	161.307
L1R&D	R&D of 1985 ($ million)	75.725	316.257	75.725	316.257	55.870	167.913
L2R&D	R&D of 1984 ($ million)	71.943	292.655	71.943	292.655	53.070	173.439
SIZE	Assets ($ million)	2205.363	8225.976	2205.363	8225.976	2906.031	9312.511
EP	Economic participation index (0-4)	1.044	0.776	1.044	0.776	1.067	0.818
UNION	Dummy for union (0-1)	0.339	0.475	0.339	0.475	0.333	0.474
NEP	Noneconomic participation index	7.694	6.213	7.694	6.213	7.156	6.119
IS	Intensity of supervision index (0-2)	1.503	0.619	1.503	0.619	1.567	0.582
LC	Labor cost pressure index (0-8)	2.803	1.856	2.803	1.856	2.744	1.796
FBR	Fringe benefit richness index (0-8)	7.885	1.746	7.885	1.746	7.822	1.605
FHR	Formality of human resource practice index (0-8)	4.311	1.880	4.311	1.880	4.378	1.821
SHR	Status of human resource function index	4.821	2.031	4.821	2.031	4.763	2.094
SIC1	Dummy for agriculture, forestry, fisheries (0-1)	0.011	0.104	0.011	0.104	0.011	0.105
SIC2	Dummy for mining and construction (0-1)	0.016	0.127	0.016	0.127	0.033	0.181
SIC3	Dummy for durable manufacturing (0-1)	0.443	0.498	0.443	0.498	0.289	0.456
SIC4	Dummy for nondurable manufacturing (0-1)	0.186	0.390	0.186	0.390	0.178	0.384
SIC5	Dummy for transportation, communication, utilities (0-1)	0.093	0.291	0.093	0.291	0.167	0.375
SIC6	Dummy for wholesale & retail trade (0-1)	0.093	0.291	0.093	0.291	0.133	0.342
SIC7	Dummy for finance, insurance, real estate (0-1)	0.033	0.179	0.033	0.179	0.033	0.181
SIC8	Dummy for services (0-1)	0.126	0.332	0.126	0.332	0.156	0.364
Sample size		183		183		90	

without profit sharing, suggesting a causal relationship between profit sharing and profitability. The equations system consists of an ROA equation and a profit-sharing equation:

(1) $$ROA=\alpha_0+\alpha_1 PS+\alpha_2 R\&D+\alpha_3 L1R\&D+\alpha_4 L2R\&D+\alpha_5 FHR +\alpha_6 SHR+\alpha_7 IS+\alpha_8 SIZE+\alpha_9 UNION+\alpha_{10} LC+\alpha_{11} EP +\alpha_{12} NEP+\alpha_{13} FBR+\alpha_{14} SIC+\varepsilon_1$$

(2) $$PS=\beta_0+\beta_1 ROA+\beta_2 L1ROA+\beta_3 AGE+\beta_4 SIZE +\beta_5 UNION+\beta_6 LC+\beta_7 EP+\beta_8 NEP+\beta_9 F\beta R+\beta_{10} SIC+\varepsilon_2.$$

(See Table 1 for definitions and descriptive statistics of the variables.) The effects of profit sharing on ROA are studied in the first equation and the feedback from profits to profit sharing is studied in the second equation. The equations system was estimated using three different measures of profit sharing: a profit-sharing dummy (PS1), percentage of employees participating in the plan (PS2), and the percentage of labor expenses distributed to profit-sharing trusts (PS3). Following FitzRoy and Kraft (1986), a simultaneous weighted least squares (WLS)-Logit method was employed to estimate Model 1 where PS1 was used for profit sharing (Model 1): a simultaneous WLS-Tobit method was employed for Model 2 and Model 3 where PS2 and PS3 were used respectively.

Discussion

Four different versions for each model were estimated because a simultaneous equations model is sensitive to small changes in the specification. In total, 12 sets of equations were estimated for the three models, and results indicate that the profit-sharing variable was positive and significant only two times at the 5% or 10% level. Results are reported in Table 2 (one version for each model is reported due to lack of space). The same analyses were conducted using return on investment (ROI) as a profitability measure instead of ROA (not reported here). Again the coefficient of profit sharing was positive and significant in only 2 out of 12 equations at either the 5% or 10% level. Given these results, I conclude that the effects of profit sharing are not strong enough to raise firm profitability in the U.S.

In contrast, there is a lot of evidence for the positive effects of the plan on worker productivity. For several reasons those effects don't seem to carry through to firm profits. As mentioned earlier, one important explanation comes from the "efficiency wage hypothesis" where profit shares are thought to be an add-on to regular wages and, therefore, play the role of efficiency wages (FitzRoy and Kraft 1992). By raising labor costs, however, profit sharing may outweigh increased productivity. The effects of profit shares on labor costs was explained with a regression equation:

$$L=\alpha+\beta PS+\Sigma\gamma_i Z_i+\varepsilon_3,$$

where L, ln (total labor expenses/number of employees), was regressed on PS, employer contributions to profit-sharing trusts/number of employees, and Z_i, other variables that affect labor expenses. Z_i variables include total assets (SIZE), a dummy for union status (UNION), and four index variables used before: economic participation (EP), noneconomic participation (NEP), fringe benefit richness (FBR), and labor cost pressure (LC). Industry dummies were also used. Results are reported in Table 3. A slightly different specification of the wage equation was also estimated and reported next to it.

Results of the first regression equation show that profit sharing (PS) raises total labor expenses significantly at the 1% level, which confirms the "gravy" view of profit sharing. However, the second regression shows that the coefficient of profit sharing, although positive, is not statistically significant. These results do not strongly support the add-on nature of profit sharing, but they suggest a possibility that the plan increases labor costs.

At the macroeconomic level, the add-on nature of "real-life" profit sharing makes one question the effects of "ideal" plans claimed by Weitzman (1984). For example, Wadhwani and Wall (1990) dispute Weitzman's claim that profit sharing has anti-inflationary effects because of the labor cost hike induced by the plan. Their study also found that British profit sharers exhibited larger employment responses to variations in industrial output than did nonsharers, which is contrary to Weitzman's prediction. For American plans, Kruse (1991) found that profit sharing stabilized employment in the manufacturing sector, but not in the nonmanufacturing sector. At the moment we don't have sufficient evidence regarding macroeconomic effects of profit sharing, and the existing evidence is mixed at best.

Another reason that profit sharing is not found to raise profitability might be that accounting profits are affected by factors other than changes in efficiency. Profit sharing then may not be found to have positive effects on firm profits, although it actually does. Still another possibility is that the incentive effects of profit sharing did not work as critics argued. Free rider problems, dilution of management rights, and other reasons may have made profit sharing ineffective. However, the majority of evidence rejects this possibility.

Finally, regarding the effects of profits on profit sharing, the three models give us some new findings. Model 1 indicates that profitability negatively

TABLE 2
Model 1, Model 2, and Model 3

	Model 1			
	ROA (WLS)		PS1 (Logit)	
Constant	-7.1388	(9.5184)	0.8534	(1.1354)
ROA1			-0.2443°	(0.1417)
L1ROA			0.0636	(0.0430)
AGE				
PS	18.0906	(16.9718)		
R&D	0.1184°°	(0.0485)		
L1R&D	-0.1853°°	(0.0641)		
L2R&D	0.0525	(0.0376)		
FHR	0.6494	(0.4060)		
SHR	0.7891°	(0.4711)		
IS	-3.6756	(1.8269)		
SIZE	0.0001	(0.0002)	0.0000	(0.0000)
UNION	3.1663	(2.1138)	-0.2215	(0.4365)
LC	-0.7650°°	(0.2750)	-0.1108	(0.1248)
EP	0.2931	(0.9615)	-0.2256	(0.2575)
NEP	0.2389°	(0.1389)	-0.0195	(0.0342)
FBR	0.4991	(0.3358)	-0.0763	(0.1153)
SIC	a	a	a	a
R^2	0.1640			
Log likelihood for normal			-96.6270	
N	183		183	
	Model 2			
	ROA (WLS)		PS2 (Tobit)	
Constant	2.3219	(4.5871)	-0.3405	(0.3226)
ROA1			0.0396	(0.0241)
L1ROA			-0.0156°°	(0.0069)
AGE			0.0124°°	(0.0031)
PS	1.5764	(2.8053)		
R&D	0.0692°	(0.0267)		
L1R&D	-0.1414°°	(0.0546)		
L2R&D	0.0688	(0.0344)		
FHR	0.3211	(0.3029)		
SHR	0.3538	(0.2627)		
IS	-1.8585	(0.9916)		
SIZE	0.0000	(0.0001)	0.0000	(0.0000)
UNION	1.2677	(1.0684)	-0.1307°	(0.0705)
LC	-0.7161°°	(0.2714)	0.0249	(0.0208)
EP	-0.5202	(0.6522)	-0.0129	(0.0450)
NEP	0.1195	(0.0847)	-0.0054	(0.0056)
FBR	0.2566	(0.3111)	0.0470°°	(0.0193)
SIC	a	a	a	a
R^2	0.1600			
Log likelihood for logistic			-78.4910	
N	183		183	

TABLE 2 (*Continued*)

Model 3

	ROA (WLS)		PS3 (Tobit)	
Constant	3.7096	(6.7944)	-0.0283**	(0.0138)
ROA1			0.0013	(0.0009)
L1ROA			-0.0003	(0.0009)
AGE			0.0010**	(0.0002)
PS	132.8000	(103.6308)		
R&D	0.2538**	(0.0608)		
L1R&D	-0.4789**	(0.0900)		
L2R&D	0.2221**	(0.0479)		
FHR	-0.4900	(0.4828)		
SHR	-0.2847	(0.6089)		
IS	-0.4736	(1.5404)		
SIZE	0.0001	(0.0001)	0.0000	(0.0000)
UNION	0.1785	(1.8354)	-0.0061	(0.0052)
LC	-0.0457	(0.4289)	0.0017	(0.0012)
EP	-1.5760	(1.0722)	0.0004	(0.0030)
NEP	0.1084	(0.1374)	0.0001	(0.0004)
FBR	0.9289	(0.6128)	0.0001	(0.0015)
SIC	a	a	a	a
R^2	0.4720			
Log likelihood for logistic			34.5500	
N	90		90	

TABLE 3

Wage Regressions

(Standard Error)

	Dep. Var. = ln (labor expenses/number of employees)			
	Regression 1		Regression 2	
Constant	3.2195	(0.4462)	2.2900**	(0.3993)
PS	0.2406**	(0.0379)	0.3492	(0.3278)
SIZE	0.0000**	(0.0000)	0.0000	(0.0000)
UNION			0.1282	(0.1608)
NEP			-0.0239	(0.0324)
EP			-0.0052	(0.1228)
FBR			0.0947	(0.0593)
LC			0.0067	(0.0389)
SIC	a	a	b	b
R^2	0.303		0.976	
N	247		17	

*Significant at $p<0.10$ a. Controls for eight industries.

**Significant at $p<0.05$ b. Controls for three industries.

affects the existence of profit-sharing plans. For the reasons discussed earlier, less profitable firms seem to have adopted profit-sharing plans. Model 2 suggests that plans in the profitable firms don't necessarily cover more workers. Instead, as firms gain more experience with the plan, the coverage is found to grow significantly. Though profit sharing does not boost profits, firms may expand it to more workers for motivational or symbolic effects. Finally, Model 3 shows that as firms become more profitable, the weight of profit shares in the labor costs get larger. This is expected since profit shares are explicitly or implicitly related to firm profits. Again, the age of the plan is found to significantly increase the weight of profit shares in the total compensation package. All in all, the usage of profit-sharing plans is found to be heavily affected by firm profits.

Acknowledgments

This study was supported in part by the Institute of Industrial Relations, UCLA. I thank David Lewin, Daniel J.B. Mitchell, Sanford Jacoby, Chris Erickson, and Barbara Lawrence (all at UCLA) for comments and advice.

Endnotes

[1]In this paper, profit sharing is broadly defined as a plan that links part of employee compensation in a certain period to the profitability of the company in that period. Three basic forms of American profit-sharing plans are cash, deferred, and a combination of cash/deferred plans.

[2]See Mitchell et al. (1990). For evidence on British and German profit-sharing plans, see Wadhwani and Wall (1990), and FitzRoy and Kraft (1986).

[3]For more information on the survey, see John Thomas Delaney, David Lewin, and Casey Ichniowski (1988). *Human Resource Management Policies and Practices in American Firms*, Columbia University, Graduate School of Business, Industrial Relations Research Center, September.

[4]Mitchell et al. (1990) report an initial response rate of 11%. Eliminating unusable responses brought the rate down to 6.5%. Although this rate was low, it was not surprising because of the extensive information required by the questionnaire. Original researchers report that analysis of the compustat information on nonrespondents did not suggest any bias in the sample obtained.

[5]Another widely used measure of profitability is return on investment (ROI). I did an analysis with regard to ROI also. Results are discussed later.

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Workers' Compensation Costs: A Plant-Based Comparison

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The purpose of this paper is to examine how differences in wage-replacement benefit structures in workers' compensation can affect costs. There are two reasons why this is an important question. First, workers' compensation costs have been growing rapidly over the past decade, becoming an increased share of payroll costs and a cause for concern for policymakers. One policy response to rising costs is to reduce wage-replacement benefits. In fact, one state—Massachusetts—recently dropped its statutory wage-replacement rate. The rationale for this policy decision was that a lower wage-replacement rate would both directly and indirectly reduce indemnity costs. The direct effect would be a drop in average cost per claim, assuming neither the number nor duration of claims changed. The indirect effects arise out of what is termed the "moral hazard" problem, where the simple presence of benefits induces their usage (Butler and Worrall 1985; Worrall and Butler 1985; Dorsey and Walzer 1983).

Moral hazard effects can take several forms in workers' compensation. The version that is relevant here occurs because employers are unable to assess the legitimacy and/or severity of any given employee's injury with perfect accuracy, while the employee has more complete information. The employee can exploit this lack of employer information by either making a false claim or exaggerating a genuine injury. The Massachusetts reform is based in part on the expectation that both the number and duration of claims will fall as benefit levels fall relative to wages.

The second reason for exploring this question is that the U.S. has recently entered into a free trade agreement with Canada (FTA) and is negotiating with Mexico for a continentwide free trade agreement

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(NAFTA). Although the major impact of these agreements is expected to be the freer exchange of goods and services, another effect will be that Canadian, U.S., and Mexican firms will be less constrained by international borders in their plant location decisions. One factor that will be part of the location decision will be relative labor costs in competing locations, and one component of labor costs is workers' compensation insurance.

One prediction made by observers of both the FTA and NAFTA is that there will be pressures to "harmonize" a variety of economic and social practices (Burton 1989). The expectation has been that these pressures would arise from the marketplace: as product market competition intensifies, firms will be forced to adopt more "competitive" practices in order to stay in operation.[1] While this may be true for wages and prices, in some cases, the pressure for harmonization will be as much a political as an economic decision. Workers' compensation is an example of a politically determined aspect of the cost of labor: benefit eligibility and levels are mandated by law.

The focus of this paper is an examination of how the features of the workers' compensation benefit structures in Michigan and Ontario affect the respective costs of workers' compensation in these two jurisdictions. These bordering jurisdictions were chosen because they are likely to be among those states and provinces that will experience harmonization pressures in workers' compensation. The purpose of this comparison is to gain some insight into the question of the degree to which differences in the cost of indemnity payments in workers' compensation costs can be attributed to differences in benefit structure.

The data used in this analysis are from a multinational firm with operations on both sides of the border. By using plant-level cost data from a single firm, many of the important features that can affect workers' compensation costs, such as production process, corporate safety policies, human resource practices, and quality of industrial relations can be controlled for and permit the analysis of the effect of the two statutes on costs.[2]

In the next section of the paper is a discussion of the features of the benefit structure that are likely to affect costs.[3] This is followed by a brief discussion of the differences in how the two systems are financed, which could also affect overall costs. A framework for the empirical analysis is then presented, followed by the results.

Why Costs Might Differ

The Benefit Structure

The workers' compensation systems in the U.S. and Canada can be arrayed along a continuum from those that are entirely publicly administered to those that are primarily private-sector systems with the government function limited to oversight and dispute resolution. Michigan and Ontario are at opposite ends of this continuum. Ontario workers' compensation is administered by a government agency, the Workers' Compensation Board, which sets prices, collects premiums (taxes), investigates claims, administers benefits, provides rehabilitation services, and resolves disputes. Michigan, in contrast, is an open competition state where private carriers individually determine premiums, investigate claims, and pay benefits according to a statutorily set benefit rate. The workers' compensation state agencies in Michigan provide case oversight and a dispute resolution structure.

The benefit structures of workers' compensation in Michigan and Ontario have several features in common including a statutorily fixed replacement rate and a maximum benefit level. However, an historic preference for generous and comprehensive social welfare policies is reflected in Ontario's workers' compensation benefit structure (Weiler 1980).

The Benefit Base

Workers' compensation systems typically compensate injured workers in at least two ways: income replacement benefits for lost earnings and some type of impairment benefits for permanent injuries, referred to as scheduled loss or pension benefits. This analysis is limited to wage-loss benefits. Wage-loss benefit structures can be characterized by the following features: the benefit base, the statutory replacement rate, minimum and maximum benefits, and a waiting period.

Michigan uses after-tax weekly earnings, averaged over the highest 39 out of the previous 52 weeks, as the basis for benefit calculation. Overtime, premium pay, and bonus pay are included in lost earnings. According to statute, any employer-paid, nonwage benefit that is not paid during the disability is included in the calculation of gross earnings. Benefits are equal to 80% of this after-tax wage, subject to a maximum equal to 90% of the state average weekly wage (SAWW)—$427 in 1990. There is no minimum wage-loss benefit. There is a one-week waiting period from the day of injury before benefits begin. If the disability duration is more than two weeks, benefits are retroactively paid for that first week of lost earnings.

Ontario also uses after-tax earnings as the benefit base. Overtime earnings are not counted as part of the earnings base. That is probably the only feature of the benefit calculation that is less generous than the Michigan system. Employer contributions to nonwage benefits, such as health insurance, life insurance, and pensions, are not included in the earnings base. However, under Bill 162, the most recent reform effort in Ontario, employers are required to continue their contribution to these insurances for up to one year after the date of injury. There is no waiting period in Ontario. Employers are required to pay full wages for the day of injury, then begin benefits with the first day of lost wages.

The Ontario base benefit is equal to 90% of the after-tax wages. Rather than specify a maximum dollar benefit, there is a ceiling on gross earnings that are "covered" under workers' compensation. The 1990 earnings ceiling was $38,500. Under Bill 162 the maximum was increased to 140% of the provincial average industrial wage (AIW) in January 1991, then to 175% in January 1992.[4] Since 1985, individual average earnings have been indexed on January 1 of each year using the change in the consumer price index, and temporary total benefits are adjusted accordingly. The minimum weekly benefit is $257.13.[5]

Analytical Framework

The differences described above could have several plausible effects on the costs of workers' compensation to the employers in the two jurisdictions. It is clear that the Ontario benefit structure is more generous than that in Michigan with the absence of a waiting period, a higher statutory replacement rate, and a higher maximum benefit level. It can be argued that this more generous Ontario benefit structure is more likely to induce problems of moral hazard both in the form of frequency and duration of claims (Leigh 1985). This paper addresses two types of questions: the nature of the behavioral incentives provided by the benefit structures and the effect of those behaviors on costs.

Beginning with the behavioral incentives, the absence of a waiting period in Ontario reduces the income loss associated with disability and so lowers the cost of making a claim relative to Michigan. Even those Michigan workers with access to other benefits (sick leave, STD, etc.) should be less likely to make a claim since those benefits are finite and their use would represent a cost. Therefore one would expect the claims rate to be higher in the Ontario sample. However, once a Michigan worker has made a claim, the effect of the retroactive period would be to encourage extending the claim past the end of the second week. The marginal benefit to a Michigan worker for staying off work for the last day of the second week would be almost twice that for a comparable Ontario worker. Therefore one would expect a higher proportion of Michigan claims with durations in excess of two weeks.

The second question—the effect of these behaviors on costs—is exploratory. While it is likely that a more generous benefit structure will cost more, the relative importance of the contribution of the different features to cost is less clear. To examine the effect of various features of the benefit structure on total indemnity costs, the following framework was used. Average costs per claim can be written as:

(1) $$TC/CL = \sum_{j=1}^{J} P_j C_j,$$

where TC is total indemnity costs, CL is total number of claims, P_j is the probability that a claim will fall into some disability duration category, j, and C_j is the average cost of a claim with a duration in duration category, j for J duration categories. The average cost for a claim in each duration category can be written as:

(2) $$C_j = \alpha_j + \beta B_j,$$

where B_j is the mean benefit for claims in each duration category. Substituting (2) into (1) yields:

(3) $$TC/CL = \Sigma P_j\alpha_j + \beta_j P_j B_j.$$

It is assumed here that $B_1 = B_2 = .. B_j = B$, the mean benefit level for the plant. Since $P_j = CL_j/CL$ (where CL_j is the number of claims in duration category j), $\Sigma P_j = 1$. Multiplying (3) by the total number of claims, CL, gives:

(4) $$TC = \alpha_1 CL_1 + \alpha_2 CL_2 + ... + \alpha_j CL_j + \beta B^* CL.$$

To capture the effect of there being no waiting period in Ontario and the retrospective period in Michigan, four different duration categories were considered: under one week (CL_1), more than one week, but not more than two (CL_2), over two weeks but no more than sixteen weeks (CL_3), and more than sixteen weeks (CL_4).

In order to be able to examine the effects of the higher statutory wage replacement rates and maximum benefit levels in Ontario, mean benefit is proxied by:

(5) $$B = \tau_1 + \tau_2 YR + \tau_3 CAN + \tau_4 YRCAN + \tau_5 MAX + \tau_6 CANMAX,$$

where YR is a trend variable ranging from 1 to 5 for the years 1986 through 1990, CAN is a dummy variable equal to 1 if the plant is in Ontario and proxies the higher replacement rate in Ontario, YRCAN is an interaction variable between time and Ontario, MAX is the percent of claims at the maximum benefit level, and, CANMAX is the interaction between MAX and CAN and serves as a measure of the effect of the higher maximum benefit level. Because there are no observations in the first duration category for Michigan in (4), the dummy and interaction variables for Canada are highly collinear with CL_1. To address this problem, the fitted values of B, b, are substituted for B in (4).

The data used in this analysis are from the administrative records of a single manufacturing firm with operations in both Michigan and Ontario. This analysis uses information from eleven plants, nine in Michigan and two in Ontario. The time period covered was from 1986 through 1990. There was a full-time series for the U.S. plants and four years for the two Canadian plants. The unit of observation is a single plant which is observed annually. Both frequency and duration of claims depend in part on a variety of industry and firm-specific factors that can be controlled for by using plant-level data from within the same firm. The information in this data set included annual total indemnity costs, total annual claims by four duration categories, mean benefit level, and percent of claims where claimant received the maximum benefit, as well as some information about the age and function of each plant. Viewing each plant in each year as a single observation, sample size equalled 53.

Results

In order to determine if the absence of a waiting period raised the claims rate in Ontario, a dummy variable equal to 1 if the plant was in Canada or 0 if in Michigan was regressed on annual claims per person hours. Age of the plant as well as type of plant were control variables. The coefficient for Canada was large and significant (β=.171, t=7.507), indicating that the claims rate is significantly higher in the Ontario plants.[6] A chi-square test of proportions was used to examine whether the distribution of duration of claims differed between the Michigan and Ontario plants. The chi-square statistic equalled 14.881 (df=2, α=.005), so the hypothesis of no association was rejected. Examination of the distributions showed that 58.9% of the claims in Michigan fell into the 2- to 16-week category compared to 34.17% for Ontario. In addition, 55.43% of the Ontario claims lasted under two weeks, compared to 18.69% of the Michigan claims. Together these results suggest that employees are responding to the differences in the waiting period/retroactive period policies in the two jurisdictions.

Table 1 shows the results of the total cost regressions. The results in column 2 are those from the regression used to derive the fitted mean benefit values and provide information about how the benefit structure affects mean benefit levels. The coefficient for CAN, the dummy variable indicating a plant is in Ontario, is positive and significant, suggesting that the higher statutory replacement rate in Ontario will increase the mean benefit. The positive coefficient for MAX, the percent of cases where the claimant is receiving the maximum benefit, should be seen as a measure of the wage structure: as would be expected, the higher the wages of the firm's employees, the higher the mean wage replacement benefit will be. That the interaction between the Ontario dummy variable and the maximum benefit level is negative and significant suggests that setting a higher maximum benefit does not increase mean benefit levels. The positive coefficient for the time trend indicates that the mean benefit has been increasing in both jurisdictions, and the lack of significance for the interaction variable between Ontario and the time trend indicates that benefits are growing at similar rates in both jurisdictions.

The parameter estimates for the cost regression and the estimated elasticities are in columns 3 and 4. The most noticeable results are the negative coefficient and elasticity for duration under one week. Recalling that the initial specification of the framework was in terms of proportion of claims in each category and that the estimated regression was an arithmetic transformation of that, the negative coefficient should be interpreted as indicating that an increase in the proportion of claims that are under one week will lower total indemnity costs, not that an increase in short-term claims will lower costs. Given that interpretation, because Ontario has no benefit feature comparable to a retroactive period, this suggests that Ontario workers are more likely to use their disability benefits for a shorter period, thus lowering costs.

At the other end of the duration continuum, although the coefficient for the number of claims with durations in excess of 16 weeks is positive, it is not statistically significant. This raises an interesting question about what is driving the increases in workers' compensation costs. It is commonly noted that a small percent of cases make up a large share of costs. This result suggests that wage-replacement benefits are not an important contributor to the costs those types of cases incur.

The coefficients for durations of one to two weeks and over 2-16 weeks are positive and significant. From the perspective of the Michigan benefit structure, this suggests workers extending their disabilities beyond two weeks does raise costs, although it does not raise costs as much as that first week of benefits (duration of one to two weeks in Michigan). From the Ontario perspective, this may indicate that once a disability goes beyond

TABLE 1

Variable Means and Cost Regression Results

Variable	(1) Mean (Standard deviation)	(2) Dependent Variable: Mean Benefit	(3) Dependent Variable: Total Costs	(4) Elasticities
YR	3.075	11.183**		
	(1.398)	(.574)		
CAN	.151	104.810**		
	(.361)	(26.640)		
YRCAN	.528	3.652		
	(1.339)	(2.747)		
MAX	.694	68.199**		
	(.163)	(5.985)		
CANMAX	.135	-81.641**		
	(.329)	(21.217)		
CL_1	19.057		-15556.32**	-.396
	(54.320)		(2714.588)	
CL_2	10.566		23993.23*	.339
	(17.826)		(9607.545)	
CL_3	38.830		4836.16**	.251
	(52.677)		(1616.51)	
CL_4	15.226		2622.56	.053
	(33.431)		(1969.651)	
B*CL	55130.02		7.241**	.625
	(93321.03)		(.577)	
Constant		301.787		
		(4.581)		
Adjusted R^2		.968	.914	

Note: Standard errors are in parentheses in Col. 2 and 3.
** Significant at .001 level; * Significant at .05 level.

the first week, the advantages of having no special incentive to extend the disability are lost. A 1% increase in the number of cases of either duration will raise total indemnity costs by between approximately one-quarter to one-third of a percent.

From a policy perspective, decisions about workers' compensation are frequently made based on anecdotal evidence. Several useful results emerge from this analysis. First, the structure of the Ontario system does increase costs. Higher wage-replacement benefits increase mean benefit levels, which in turn raise overall indemnity costs. Setting a higher maximum, however, does not appear to contribute to a higher mean benefit payment. Workers in Ontario respond to the absence of a waiting period, but when this occurs, it is not a contributor to total indemnity costs, and the absence of a retroactive period appears to encourage prompt return to work. Michigan workers appear to respond to the retroactive period by extending their time off from work beyond two weeks, which does raise costs.

In terms of reforming the benefit structure to lower workers' compensation costs, these results suggest that a higher statutory replacement rate will raise costs, but that a higher maximum benefit will not. It also raises questions about the incentives associated with waiting and retroactive periods. From the point of view of free trade agreements, it does appear that the more generous system of Ontario increases the costs of the system, and as competition increases, there may be pressure to reduce benefits either by instituting a waiting period or lowering the replacement rate.

Acknowledgment

The authors would like to thank Richard Butler for his helpful comments and suggestions.

Endnotes

[1]All of the costs of workers' compensation benefits may not be borne by employers. Moore and Viscusi (1990) use a compensating wage differential framework and find that U.S. workers effectively pay for their ex-post workers' compensation benefits in the form of lower, ex-ante wages. Roberts and Hyatt (1993) use the Moore and Viscusi framework and conclude that the higher nominal benefits in Ontario are paid for in the form of lower wages by Ontario workers and that Michigan workers receive higher wages in exchange for their lower (relative to Ontario) nominal benefits.

[2]An important factor that cannot be controlled for is severity of injury; however, because this analysis takes place within a single firm, it is likely that there is less variation in severity than would occur economywide.

[3]The description of the Ontario workers' compensation system is based on information from the following sources: Dee, McCombie, and Newhouse (1987); Ison (1983); and the Workers' Compensation Board (1988, 1989a, 1989b). The description of the Michigan system is based on information from: State of Michigan (1989) and Welch (1990).

[4]This equaled $50,000 in January 1992.

[5]The effect of the difference in how the maximum is set is to make Michigan's benefit structure slightly regressive compared to Ontario's. In either system, once a worker exceeds the maximum, the proportion of after-tax earnings that are replaced declines. In Michigan (in 1990), a single earner with no dependents reaches the maximum benefit at $41,236; a married worker with a working spouse and two children reaches the maximum at $36,534; and a married worker with a nonworking spouse and two children reaches the maximum at $35,932. In Ontario a single earner with no dependents and a

salary at the maximum $38,500 will receive a weekly benefit of $526.60; a worker with two dependents would receive $530.50; and one with three dependents would receive $538.31—in other words, a structure where benefits increase (slightly) rather than decrease with need.

[6]The adjusted r^2 = .76; the coefficient on age of plant was -.0009 (t=-1.767), and the coefficient for one of the plant functions was significant (ß=.067, t=3.622).

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DISCUSSION

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By prior agreement with the session chair, I will discuss Craig Olson's paper on the value of employee fringe benefits. This paper is a welcome look inside the black box of worker trade-offs between wage and nonwage aspects of employment. Its use of survey data allows us to estimate what workers' trade-offs are in a way that field data on wages and fringe benefits might not. While economists often place more trust in data on what people actually do (i.e., field data), surveys such as the one used here can add useful information and should be viewed as one form of evidence on economic theories.

This paper is ambitious. Not only does it find out what workers are willing to pay to have fringe benefits (the idea that workers even have such trade-offs is a controversial one in the industrial relations field). It also attempts to test the very intuitive idea from utility theory that those who have chosen a benefit such as health insurance or a pension are willing to pay more for it than those who have not chosen it (i.e., revealed preference) but who have the same budget constraint.

The main findings support this hypothesis, and I find them quite believable. However, there are at least three competing hypotheses that are also consistent with the data. Further, in some cases these alternatives could be tested with additional survey data. First, in order to interpret the regression results, we must assume that those with and those without fringe benefits perceive the same generosity of package when they respond to the survey's questions. If those with health insurance or pensions have more favorable unmeasured productivity characteristics than those without, then the former may be assuming more generous packages than the latter. If this is the case, then the basic findings may not reflect revealed preference; instead, they may reflect the idea that everyone values more generous benefits more highly. This ambiguity could be cleared up by asking respondents what they would be willing to pay for a given plan.

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Second, it is possible that those with benefits learn to appreciate them in a way that those without them cannot. Thus those with benefits may place a higher value on them than those without because of such learning (of course, if those with health insurance learn that it is disappointing, they may value it less highly than otherwise). Third, the greater value placed on benefits by those who have them could reflect the endowment effect as discussed by Knetsch, Thaler, and Kahneman (1988). Specifically, it may be harder to give up something than to go without it in the first place.

With additional survey data, it may be possible to distinguish the learning effect from the endowment effect. For example, suppose one compared two people who currently do not have health insurance, but one person used to have insurance. Then valuation differences between the two might be due to learning but not due to the endowment effect, since neither one currently has insurance. Further, if we compared people who used to have health insurance with those who currently have it, then we might be able to test the endowment effect while controlling for the learning effect. Finally, it would be interesting to have longitudinal data that would allow us to determine whether a person's willingness to pay increases after obtaining health insurance.

While testing these alternative hypotheses would require additional data, the current data set would permit several additional interesting analyses. The author's discussion of married women implies that their willingness to pay may be less than men's, since the former are more likely to be covered by a spouse's policy from work than the latter are. De La Rica and Lemieux (1993) find evidence consistent with this idea, using field data from Spain.

More generally, do different groups place a higher value on health insurance than others? Olson points out that many workers are not aware of the costs to the firm of health coverage. If this is true, then more highly educated workers may have a higher willingness to pay than others. In addition, those with large families should have a higher willingness to pay, to the extent that health insurance policies subsidize such families through their premium structures.

Regarding the estimates themselves, this paper finds that among those with health insurance, people are willing to pay 61 cents for each marginal dollar of coverage. While one doesn't wish to take the point estimate too literally, it does seem small. The estimate implies that firms could save money by reducing coverage and raising wages by 61% of the savings. Why don't firms cut coverage until the willingness to pay reaches $1? It should be pointed out, however, that a 95% confidence interval for this estimate goes as high as 98 cents. In any case, it would be interesting to see whether the figure reaches $1 for some groups such as those discussed above.

Finally, even if we accept the paper's test of revealed preference theory, the data still do not show whether labor markets work so as to establish compensating differentials for such fringe benefits. An important issue in the operation of the labor market is worker knowledge of the value of these benefits. If workers are unaware of this value, then it is hard to see how compensating differentials can be formed. An additional important issue, then, that could be addressed using survey data is to determine the degree to which workers have accurate perceptions about their health care coverage. This information would seem particularly relevant in light of the ongoing national debate about the President's health care plan.

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IV. STRATEGIC PLANNING AND CHANGE IN UNIONS

Challenges to Strategic Planning in International Unions

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In recent years strategic planning has become widespread in trade unions as well as in corporations and the nonprofit and public sectors. This paper discusses the difficulties of applying corporate planning techniques and assumptions to international unions and suggests some alternative approaches that are more likely to result in the strategic and organizational changes unions seek. This analysis is based on our work as practitioners within unions; therefore, our comments should be seen as reflective of a specific set of experiences and a particular practice.

A number of international unions have engaged in strategic planning processes over the past ten years. The AFL-CIO established the Committee on the Evolution of Work in August 1982 and issued its report in February 1985. Between 1987 and 1993, one or both of the authors have consulted in planning efforts at the AFL-CIO; the Air Line Pilots Association; the American Federation of Television and Radio Artists; the Bakery, Confectionery, and Tobacco Workers' International Union; the Communications Workers of America; the International Ladies' Garment Workers' Union; The Newspaper Guild; the United Brotherhood of Carpenters and Joiners of America; the United Steelworkers of America; and the Transport and General Workers Union in Great Britain. The American Federation of Teachers, the Service Employees' International Union, and the Bricklayers, among others, have undertaken strategic planning efforts as well.

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Organizational structures, cultures, and strategic imperatives of unions differ sufficiently from those of corporations that trade unions must apply the tools of strategic planning in a significantly different manner. Today corporations are struggling to release Taylorist control, liberate creativity, and engage the dedication of their workers. In contrast to corporations, unions are comparatively decentralized. Unions are attempting to strengthen coordinating functions that allow the entire union to implement organization-wide strategies in response to employer pressures. Some unions seek to learn from grassroots innovation, sharing and replicating the creativity that comes from the locals. Like companies, unions are pressed to improve effectiveness and efficiency but must do so in a manner consistent with a very different set of organizational values and a more overtly political setting.

Core organizational characteristics of unions present significant challenges to an international's efforts at strategic planning. (We use "international" here to mean the central headquarters, field staff, and governing bodies of unions—either international with U.S. and Canadian members or strictly national.) These characteristics include structures that isolate international union leaders and staff from workplace knowledge needed for effective strategy design and frequently buffer them from pressures that contribute to change. Additional challenges are structural elements that make implementing organization-wide strategies difficult, organizational values that run counter to corporate models of managing, and the political character of unions.

The Strategic Planning Process

There are now a whole host of new words describing what organizations do under the banner of strategic planning. We identify the following three stages of organizational development activity as strategic planning. The first stage is *strategy development*—setting a goal and determining the best way to achieve it. This stage requires developing a clear understanding of organizational mission and vision and a careful assessment of the external environment and how best to leverage power in that environment in order to achieve organizational goals.

The second stage is *organizational assessment and planning*—how the organization can best shape itself to carry out the strategy. This involves a meticulous evaluation of internal structures and resource allocation patterns as well as the design of a plan to achieve incremental change. All organizational elements, including organizational structures, roles and responsibilities, measurements and incentives, managerial systems (information, personnel, and financial), shared values, and skills need to be reviewed.

The third stage is *implementation*—changing the organization from what it is now to what it must become. This stage, often identified as "reengineering," is gaining attention as organizations and their consultants recognize that implementation is the most difficult phase of strategic planning. Implementation requires taking steps to shift the organization across the entire array of dimensions evaluated in the planning stage.

A Fundamental Shift Required

One of the lessons learned in recent years is that a single shift of strategy is insufficient. The pace of workplace change has accelerated to the point where the key attribute is flexibility—constant evaluation of results with constant review of activity. It requires shifting from a rule-based organization to a learning organization; from a formal, standardized method of operating to flexible methods of operating; from being threatened by evaluation and change to welcoming it; from focusing on tasks to thinking about results and multiple, creative ways of achieving those results.

Strategic planning must not only take an organization from one strategy to another but from one mode of operating to another. Peter Senge (1990) describes the transformation to a learning organization as a change in organizational structures, work practices, and thinking. We cite this description to offer one vision of how far the techniques of strategic planning in internationals must take us: (1) from a focus on one's "position" in an organization to taking responsibility for achieving results; (2) from thinking the enemy is out there to seeing the whole system—that the inside of the organization and the outside of the organization are related; (3) from reactiveness to seeing how we contribute to our own problems; (4) from reacting to crisis events to understanding that most threats come from slow, gradual, almost invisible processes; and (5) from taking experience as your guide to recognizing that often the consequences of important decisions are never directly experienced by those who make them (pp. 18-25).

The Role of the International in Strategic Planning

Although the degree of central control and local autonomy as well as the role of the international office have varied over time and from union to union, the role of the central part of the union organization has included the following important functions: pooling resources to take advantage of economies of scale, coordination, communication, agenda setting/policy making/governance, and arbitration and mediation between locals.

The international's role in each of the three stages of planning—strategic development, organizational assessment and planning, and implementation—

relates to the overall functions described above. An international pools resources such as membership surveys and industry analysis necessary for informed strategy design. It coordinates communication about the planning process and results. Perhaps most importantly, the international coordinates the development of strategy by leading consensus building around problems and necessary strategic directions. In so doing, the central body must ensure that disparate or conflicting interests are understood and resolved.

What Are the Challenges to Strategic Planning in Internationals?

We have identified five challenges to strategic planning in internationals that do not exist to the same extent in the corporate sector. Recognizing that each union has a unique history and structure, these elements are still common to most trade unions and make achieving effective change more difficult: (1) International leaders and staff can be isolated from workplace and production process knowledge. (2) Leaders and staff at the international level can be buffered from the very pressures that lead to organizational change. (3) Underlying organizational values run counter to corporate models of managing. (4) There are often weak structures for driving organization-wide decisions. (5) Unions are political organizations.

Ironically, the elements that create challenges for strategic planning also reflect some of the fundamental strengths of labor unions: local control, democracy, and a stance against traditional, unilateral management control. We will explore these elements in relation to organizational change and examine how a comprehensive, union-focused strategic planning process can meet these challenges without undermining the strengths of unionism.

Isolation from Workplace Knowledge

Without in-depth knowledge of employers' production processes, managerial plans, and industry strategies, a union cannot readily develop effective strategy. Officers and international staff are often isolated from accurate, timely knowledge of workplace conditions and production processes for a variety of reasons: (1) Production process changes often occur in such small, piecemeal increments that they are not recognized. (2) Contracts are sometimes only enforced at times of poor labor relations; thus they do not describe day-to-day work practices. (3) Work organization changes are often informal; changes that are viewed on the shopfloor as successful are sometimes hidden when they do not conform to contract language. (4) International leaders may not have come from the industrial sectors in which union members are now employed. (5) While second-tier officers often have direct-line responsibility for a particular region or industry, the international may not have a method in place for sharing regional, industrial, and corporate information. (6) The union structures for bargaining and governance may not match shifting industry and market structures. Employers may have shifted out of their historic industry, but the union may not have followed them, so that union industrial sectors no longer match employer sectors. In these cases there may be no union locus for corporate and market analysis. (7) Locals may negotiate their own contracts with limited, if any, interaction with the international, even if other locals represent members with the same employers or in the same industry.

Without mechanisms and structures for gathering and sharing information about workplaces, production processes, work organization, technology changes, and collective bargaining relationships, unions cannot systematically anticipate management and industry strategies to which they should respond. They are hampered in assessing the environment in which they are operating and, thus, cannot develop the strategy that will most effectively attain their goals.

Internationals Buffered From Pressures That Contribute to Change

Change is difficult. Few people and no organizations change without first feeling some pressure. This pressure can be direct, such as a drop in revenue, or suggestive, such as trend data showing that demographics may contribute to future loss in members. In some cases international leaders and staff may be buffered from pressures felt more immediately by members and locals. This buffering can occur for a variety of reasons: (1) An international gets its revenue from locals on a per capita basis, while locals collect dues on hours worked. Members maintain their membership for the benefits so total membership stays high, even while work is disappearing. (2) Leaders holding international office for many terms have had limited contact with members and often do not negotiate contracts. (3) If the international's role is viewed as lobbying rather than collective bargaining, there may be little expectation of success in countering the general antiunion national trends. (4) The international has sufficient savings or industry-based funding that it does not have to live on current revenue. (5) International officers are elected by a small number of local officers rather than by members or at a convention. (6) Often there are no structures or mechanisms that allow members to voice their views in ways other than political and electoral.

Underlying Organizational Values of Trade Unionism Run Counter to Corporate Models of Managing

Leaders in the labor movement have made their careers fighting management in the workplace and political arenas. Union leaders and staff are justifiably suspicious of both traditional autocratic, Taylorist and new age, TQM-style, participatory management. Management has come to be so closely associated with a set of antiworker behaviors that it is not surprising that union leaders often resist the management role altogether. While the corporate methods of managing run counter to union values and the empowerment needed to be a flexible organization, these are often the only models of managing available to union leaders. We have seen examples of lack of management in unions:

- The lack of clear direction (too many first priorities) and the lack of criteria for job performance, recognition for employees, and supportive supervision all lead to ineffective staff activity.
- Accountability is task based, not results based.
- Rather than reshaping a department to meet new strategic needs, the international will hire new staff and form a new department without reassigning or retraining current staff.
- In an assessment of departments in an international, one is skipped because the department head, who is near retirement, is identified as part of the problem.
- International officers manage multimillion dollar organizations with no training or support in managing.
- Without a long-term plan, retraining staff is not viewed as worthwhile.
- Lack of a programmatic or departmental financial system means that an international does not know how it is spending its resources and therefore cannot make choices to shift resources to meet new needs.
- Lack of information about the total resources available at the local and international levels together means that there is no discussion of which level can most effectively take responsibility for strategic programs.

The flexible learning organizations now needed in the labor movement require revised forms of management. Union leaders taking up management roles for the first time need training and mentoring. Unions need mechanisms for engaging staff in problem solving, means for teaching new skills to staff, and improved methods for providing employees feedback and support.

Weak Structures for Implementing Organization-Wide Strategies

As decentralized membership organizations, unions do not have the command-and-control mechanisms available to other types of organizations.

A new direction cannot be decreed from above, from an international to a local, or a local to its member. Yet any significant new strategy must be carried out by the locals and members. Even in the most centralized unions, a mandate to change attitudes or long-established practices frequently does not work. One senior labor official used the image of steering a ship. Having turned the steering wheel to guide the ship in a new direction, he believed it had not, in fact, changed course. He wondered what was going on.

Examples of structural limits for carrying out unionwide strategic plans include the following: (1) Internationals may not allocate resources to provide central supports for implementing new strategies. (2) International staff may have skills tied to past strategic roles, such as servicing or bargaining, and not have education, training, and internal organizing skills. (3) Limited opportunities may exist for international officers to make a case for needed change to members or all local officers. An international president may have limited access to locals and members beyond regional or sectoral vice presidents.

In the absence of an ability to order change, other mechanisms for implementing new strategies are helpful, such as building agreement, conducting education and training, designing achievable steps, and providing administrative support. From an international's perspective, this support is provided by staff based in the field, staff based in the central office who may or may not travel, and international officers. Field staff are often the largest resource of an international and the one closest to locals and members.

Unions Are Political Organizations

The political character of unions makes sustained, analysis-based change extremely difficult. Unions are more like government than businesses because they choose leaders and make decisions through political processes. Even in unions in which elections are not often contested, internal consensus is one key to stability. As a result, decision making occurs more slowly and cautiously compared to corporate institutions.

The political nature of unions makes achieving organizational change more difficult because discussion of problems in a politicized organization is not always safe or advisable for those who hold office. How can problems be discussed openly? How does a leader approach his or her opposition in a strategic planning context? And perhaps the most sensitive of questions: Do union leaders really want to build the involvement necessary to broaden consensus and risk the downside of political accountability should the process be unsuccessful?

Other examples of the impact of politics on strategic planning include:

• A different set of skills gets a union officer elected than is needed once in office. As in the public sector, elected officers may arrive with authority but with limited knowledge of the workings of the organization and limited managerial skills or interest.

• An elected leader with a lock on his/her office feels less accountability for dealing with organizational problems.

• Many problems facing unions may take years to assess and solve. Turnover of elected officers may mean that just as a consensus is being built or a response is getting underway, the players change. Similarly, an election cycle may drive a need for a quick fix rather than a lengthy, indepth solution.

Making Strategic Planning Work in Internationals

The following suggestions for making strategic planning work in internationals are based on our experience, both successful and unsuccessful. We identify a particular type of process that helps an organization meet some of the challenges identified above, suggest a few responses to particular challenges, and discuss the crucial role of leadership for strategic planning to be effective.

A Model for Strategic Planning

The lesson clearest to us is that successful implementation of a strategic plan demands a broad process of participation and consensus-building. It is too easy to come up with the "right" answer and have that report put on the shelf, only to be looked at by the next set of consultants. It has become our view that a strategy isn't the "right" one if it is not carried out.

One issue raised by this discussion of participation is whether strategic planning has to be done by the international and locals jointly, or whether it can be accomplished effectively by the international officers and staff alone. Because of the many varied structures of unions, there is no one answer to this. The key, however, is to recognize that a planning process in which one set of people are planning how another set of people are going to change their behavior is unlikely to work. We suggest here a few methods for building participation and then consensus. These are the primary tools for responding to the structural and political challenges identified above.

The strategic planning process should solicit input about concerns, current activity, and employer/workplace knowledge from each level of the organization at the beginning of the process. Rank-and-file members can be surveyed or polled. Focus groups can be set up. Local officers, staff, and activists can be interviewed and/or participate in group discussions. Officers and all categories of staff at the international can be interviewed, including clerical support staff who frequently have compelling insights about the nature of work and management within the organization. Input should be solicited from the entire political spectrum—for and against the process, for and against the incumbent officers, in and out of power.

A planning committee should be charged with overseeing the strategic planning process. They will be the inner circle who develop initial consensus around the issues and then must lead the process of broadening the consensus. They must be able to reach all constituencies within the union, across industries, job categories, racial, ethnic, national, gender, and political lines. There are many possible formations to this planning committee. If the formal governance structures do not include a forum with the appropriate people, committees can be created or people added to standing committees. Local and regional officers, international field and central staff, and executive officers bring important and different perspectives and influence to the table.

Consensus is built through the process of this carefully constructed group considering the wide input presented to them. Consensus is not a theoretical agreement. Rather, it is the practical agreement to change day-to-day behaviors and priorities by the leaders and staff who carry out the actual work. It is agreement about the roles of the different levels of the union—international/national, regional, and local—in carrying out the strategy: who does what, who pays for what. It is agreement to fund activity with shifts in budget allocations or new dues or dues splits. It is agreement on measures for evaluating success locally and at the international level and steps that will be taken if there is no success.

Planning by the international can only be a first step of setting direction. Encouraging regional and local leaders to conduct planning within their own jurisdictions is a necessary element in achieving unionwide change. Staff assistance and support from the international are often needed to achieve local planning. In this way, the union can develop effective means for implementing overall goals in each jurisdiction, and an understanding and ownership of the goals and strategies can be deepened at the local level. These become the new internal mechanisms for carrying out organization-wide decisions.

Responses to Specific Challenges of Planning in Unions

Unions can respond to each of the challenges identified above with specific interventions and corrections:

Isolation from workplace knowledge. A strategic planning process should include an investigation of the industry, markets, and employers—an assessment of their strengths and weaknesses, their competitive pressures, technology changes, future strategies, and so on. Even if some leaders have some or most of the information, none of the leaders probably know everything across all industries in which the union represents members.

In addition, the channels through which the international gains workplace knowledge should be evaluated to determine whether the flow of information can be improved and information gathered more effectively.

This analysis and structural review should be done jointly by the international and locals and the intermediate levels as well if they exist. All parties need to contribute to and understand the same information in order to be partners in carrying out the chosen strategy.

Managing in a union. A strategic planning process offers a less pressured forum for senior leaders to take a look at their roles as managers. In this context, "management" is defined as setting goals and designing strategies, leading and coordinating people, allocating resources, and evaluating results. How does each step get done in a particular organization? The strategic planning process can direct feedback from union staff to union managers. We suggest asking staff specific questions to solicit such feedback: What is the main goal of your work? How do you know? How does it relate to what the union needs to do? What do you do? How do you decide what you do each day? Who is available to help you if you don't know what to do? How do you know if you have done a good job? How much does what you do cost the union?

Removing buffers. Strategic planning will facilitate the recognition of pressures experienced at other levels of the organization and open new channels for discussing those pressures. It is unlikely, however, that an international—or any organization—would willingly remove structural or other factors that protect it from pressures. It is crucial, however, that an organization identify the buffers that keep problems out of sight. An international should emerge from a strategic planning process with a list of strategic indicators to watch in the future. These indicators might be industry employment, local membership, revenue flows at the local level, new members.

Implementing unionwide strategies. Implementation is based on a combination of agreement and capability. The degree of willingness to implement unionwide strategies identified in a strategic planning process is related to the success of the process used. In addition, the organization must consider its ongoing ability to develop policy effectively. Does the organization have standing governance bodies that create sufficient access or participation for legitimate decision making that builds true agreement? Governance structures may need to be reconsidered in the course of strategic planning.

The other motor for implementation is increasing capability at both the international and local levels. Does the plan lay out significant steps toward institutionalizing these new programs, including shifting resources from other less strategic programs, or are new programs just added on, susceptible to cost-cutting measures at the first downturn, or worse, not even added?

Politics and strategic planning. Politics are a fact of life in unions. The political environment can be made to serve the planning and change process by creating a forum for major debates. More often, however, the political arena is used for blaming individuals. An analysis that presents the problems of today in an historical context depersonalizes the debate, reduces finger pointing, and allows a common view to be developed in which organizational action, rather than personalities, is the focus.

Leadership for effective strategic planning. A final, critical factor in effective strategic planning is the leadership of senior officers. They set the tone, signalling that exploring problems openly is safe. They model the learning behavior that acknowledges there is more to discover and master about the environment they are trying to affect. They demonstrate confidence that they can be successful. Effective leadership opens itself to pressure for change from the members and locals and from the outside, acknowledging that this pressure allows them to transform the organization to an extent otherwise impossible. Once a strategy is developed, key leaders drive the new vision through the union and make implementation of key priorities the persistent goal.

Conclusion

While there are significant structural and political challenges to effective strategic planning in internationals, there is sufficient experience to show that in the presence of leadership, strategic planning can be a compelling tool for change. Engaging in such an organizational self-evaluation is risky. Problems will be raised, and organizational components that are not working will be pointed out. Expectations can rise that problems will be addressed. Without follow-through, staff and leadership morale can be damaged. But if done openly and with a commitment to results, this process can strengthen leadership behind a unified and renewed sense of mission and a commitment to enhance union capabilities for achieving new strategies. It will also move the organization toward that model of a learning organization necessary in a rapidly changing world.

From Strategic Planning to Organizational Change in Local Unions

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The concept of strategic choice (e.g., Child 1972; Kochan, Katz, and McKersie 1986) has acquired increasing importance in the business and industrial relations literature during the past decade. Within industrial relations the strategic choice framework has revitalized interest in how the institutional characteristics of companies and unions influence both the processes through which the parties formulate and implement strategy as well as the effects of particular strategic choices on industrial relations outcomes. During this time period many organizations (including unions) adopted formal strategic planning (SP) processes as a method for improving their ability to develop and implement effective strategies (Stratton and Brown 1988; Dunlop 1990). While the effects of such formal planning processes on organizational performance have yet to be clearly established (Pearce, Freeman, and Robinson 1987), there is some evidence that unions with a formal strategic planning process are more likely than those without to be engaged in proactive strategies and to exhibit a trend of membership growth (Stratton and Brown 1988). To date, however, only about 25% of national unions appear to have adopted formal strategic planning processes (Stratton Devine 1992).

For the past decade we (the authors) have been working with union leaders from a number of unions and from a number of levels in the union structure to design and implement SP as a tool for becoming more effective at achieving their goals. Our experience has convinced us that under certain conditions strategic planning can indeed be a useful tool to help unions improve their capacity to identify and achieve key performance outcomes.

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We are also convinced, however, that SP is not a quick-fix solution to institutional crises. To produce results, strategic planning places significant long-term demands on any organization's resources and often requires major organizational changes in order to implement the action plans that emerge from the process. As Fitzpatrick and Waldstein have outlined in more detail in this chapter, unions have institutional characteristics that preclude wholesale adoption of a strategic planning process designed for corporations. In this paper we want to share some insights from our experience about how unions can design successful strategic planning processes tailored to their unique organizational realities and avoid the backfire effects of unsuccessful processes.

Our focus in this discussion is on the use of strategic planning by local unions. This focus reflects the fact that in virtually every union strategic planning process we have observed, strong effective local unions emerge as a crucial element in national or international union strategies for adjusting to changes in the external environment. A well-designed, interactive strategic planning process that links the local, district, or regional and national levels of the union can be an important tool for achieving this goal. To date, however, SP at the local union level appears to be a rare event (Stratton Devine 1992)—a finding that does not surprise us. Our experience says that figuring out how to assist local unions in strategic planning poses a major difficulty either for national and international union officials or for external facilitators, consultants, or educators like ourselves.

What follows is a general description of the strategic planning process followed by a set of design, implementation, and follow-up issues that we think unions need to consider as they contemplate establishing a local union strategic planning process. We have tried to frame the discussion in such a way that it will be useful to several audiences: (1) to national or regional union officials who wish to promote this approach either because they view it as a useful mechanism for the integration and alignment of union mission, strategy, and structure across different levels of the union, or because they believe it will help local leaders to become more effective in their roles; (2) to local union leaders who decide that strategic planning represents a process that can help them create strong, unified, and competent leadership teams; and (3) to labor educators and other external parties whose professional roles include assisting unions to improve their institutional effectiveness.

The Challenge to Local Unions

The local union is the fulcrum of most U.S. unions and, therefore, has been the focal point of organized labor's difficulties in the last decade.

Declines in union membership and changes in union contracts were most immediately experienced at the local level. In industry after industry, plant closings, downsizing, and privatization thinned the ranks of locals and reduced the human and financial resource base of the entire union. Local union-elected representatives, unaccustomed to these challenges, suddenly found themselves on the front lines of response. Many paid a political price by losing their elections. To compound these difficulties, a major strategic response by national unions to shrinking membership involves shifting more responsibility for activities such as organizing and political action to local unions. In many unions with a history of centralized servicing departments, this shift represents a significant change in responsibilities as well as in the competencies required of both national and local union representatives.

Even the term "local" union has no clear meaning or pattern in the U.S. For example, SEIU Local 31M has 1500 members in approximately 200 worksites around the state of Michigan while Local 32B-J has about 65,000 members concentrated in four of the five New York City boroughs. Though they are both SEIU locals, the resources, structures, and political cultures of these organizations differ widely. Similar examples exist in most unions. The difficulties posed by a SP process will be different for these two local unions. Many of the local unions we have worked with lack the most basic systems for administering their organizations: the leadership has no accurate information about how many members belong or what they expect from their union (in some cases intentionally in order to limit per capita payments to the national), the steward system is underdeveloped and poorly trained, relations between elected representatives and appointed staff are adversarial to the point of dysfunction, and attitudes toward the national union are cynical and mistrustful. Organizations with these internal characteristics can continue to function indefinitely so long as no direct threats to their existence emerge in either their external or internal environments. They are at a profound disadvantage, however, in responding to either threats or opportunities that may develop in their environments. Strategic planning is a potential tool for changing some or all of these characteristics.

Strategic Planning as a Response

Strategic planning has been identified as a systematic, action-learning process through which organizations can (1) develop a clear vision of successful functioning based on their purposes, goals, and values and (2) develop strategies, structures, systems, and feedback mechanisms that will govern their actions and allow them to monitor progress (Ackoff 1970, 1974; Kudla 1980; Choukroun and Snow 1993). As such, SP is a specific application of the more general planned-change approach to human social systems development (Hinings 1983), which includes an iterative and interactive series of steps or phases: diagnosis, identifying interests, allocating responsibility, developing and implementing strategies, and monitoring results. The planned-change model assumes that organizations will be more successful (defined as survival, growth, and improvements on key performance goals) if they have well-developed mechanisms for coordinating collective action and for learning from experience. Several alternative models of SP have been developed based on different assumptions about the planning context and the characteristics of the planning organization (Bryson 1989). A major contribution of the SP approach to planned change is its focus on the importance of developing clarity about the organization's purpose, goals, and core values as the foundation or anchor of the change process. Another contribution is the attention to designing the structure and implementation of the process to fit the specific context, characteristics, and problems of the planning organization. In other words, while there is a general set of procedures and techniques that can be used, these need to be applied flexibly, based on local circumstances.

A generic SP process begins with designing the process or "planning to plan." During this phase, the key organization leader(s) who will accept accountability for the process (a) identify their goals, (b) analyze the key individuals or interest groups who will be affected by the process and figure out how these interests will be represented or structured in the process, (c) determine if an outside facilitator will be used, and (d) create a preliminary set of activities intended to implement the SP process. The second step involves assembling the core planning group in an initial SP meeting (often involving several days) in which they engage in mission analysis and then perform a "scan" of the (1) external operating environment to identify and prioritize important changes and trends that may represent threats or opportunities to the organizations' goals and (2) the internal environment in order to assess whether the organization has the capabilities and resources for responding successfully to environmental challenges. This initial scan may stimulate the need to collect further data in a more systematic fashion to validate assumptions or help reconcile disagreements. These diagnostic activities are used to develop a vision document that describes the "key result areas" in which the organization will have to perform well in order to be successful. Accountability for result areas is established, and preliminary strategic goals and tactical action plans

(TAPs) are developed. Step three involves developing an implementation plan that addresses questions about how the change process will be implemented along with a feedback or monitoring plan for each result area. Feedback on performance along with new information is used to revise plans on an ongoing basis.

A number of unions have engaged in a preliminary strategic planning process at the national level (e.g., AFL-CIO 1985; BAC 1985; CWA 1983; AFT 1993; Steelworkers 1989; SEIU 1993). It is unclear, however, whether these initial processes have become institutionalized as an ongoing administrative tool or to what extent they have been expanded to incorporate other levels of the union organization into the strategic planning structure and process. It is likely that many local unions have initiated some type of strategic planning process independently of the national organization. Much still needs to be learned about how regional and local strategy processes can be effectively integrated into national union strategy or how the national union can facilitate the development of local union strategic planning. In the next section we discuss some issues and questions associated with each general step of the SP process.

Issues in Local Union Strategic Planning

Planning to Plan

As is hopefully clear from the above description, a formal SP process is not intended as a one-shot intervention but rather as a proactive system of performance management intended to result in what we refer to as "learning organizations." As such, SP will most likely require changes in union structure, internal administrative practices, and leadership style. It is important to help local leaders carefully think through the issues involved in SP before initiating a process. This phase is often referred to as "planning to plan."

In part due to the U.S. industrial relations framework, unions are primarily constituted as reactive institutions whose function is to react to management initiatives in order to protect and advance members' interests. Union mechanisms for initiating change have been through collective bargaining and constitutional conventions. While these will continue to play an important role in institutionalizing union initiatives, they are far too slow and cumbersome to serve as an ongoing performance management system. In our work with local union leaders we often ask them to keep a time log for a period in order to analyze how they spend their time. Most spend the majority of their time reacting to problems and crises; their biggest complaint is not having enough time to "get ahead of the problems." Strategic planning can be a means of getting ahead of problems, but at least in the initial phases it creates *more work, not less,* since the crises still have to be attended to. In addition, SP can disrupt the existing political culture and power dynamics in the local. These and other factors make the planning-to-plan phase of SP especially crucial in local unions. We have found the following questions important in helping local unions decide whether to establish an SP process and in helping us decide whether we are willing to serve as facilitators.

What is the local leader(s)' motivation and readiness? One issue that arises immediately is the motivation of the local leader for engaging in SP. We have encountered a variety. The majority seek a quick fix to a particular crisis. In some cases the crisis revolved around defeating a political opponent. In many instances the crisis involves an economic crisis faced by employers who are demanding concessions or threatening downsizing or closing. A few have been motivated by the need to resolve tensions with the national union which may be threatening trusteeship. We have experienced very few instances where the leaders have a vision of developing a long-term process for leading and administering the local. Helping the local leadership to understand the nature of the SP process, the demands it will place on their time and energy, the resources and skills required, and the potential for backfire if the process is initiated but not followed through is the necessary first step in the planning-to-plan process. Each of us has worked with local leaders who, upon reflection, decide to delay initiating a formal planning process until after engaging in some preliminary actions designed to create conditions that might enhance the success of the process.

Who should participate in order to build commitment and consensus? Assuming the preliminary discussion suggests the feasibility of moving forward, a second issue arises of who should participate in the initial SP process. Will it include just the executive officers or the full executive board? How will appointed or hired staff be involved? Should it be a cross-sectional group from the organization? How and at what point in the process will rank-and-file members be involved? There are no generic answers to these questions. Rather, it is important to help the leader understand that the SP process can only succeed if the process is designed to build a broad understanding of commitment to the strategy among the leadership as well as the rank-and-file members. Such commitment is unlikely to develop unless people are directly involved in some manner in the planning process. Thus the initial design will vary widely from union to union depending on the particular history, structure, and current dynamics of the local and will build outward through a series of events, activities, and interactions. The planning-to-plan phase involves thinking through these questions and the pros and cons of alternative design choices. If, for example, there is a history of tension between elected leaders and staff, it may be important to structure the process so that both participate from the earliest stage in order to surface and try to resolve these conflicts and problems. In other cases, however, improving staff/officer relations may need to emerge as an outcome of an SP process by one or the other group. Again, this will depend entirely on the local context. The important point is that the leaders think through these issues and make choices.

Is there a need for outside facilitation? A successful SP process must be facilitated; that is, someone must be responsible for managing the interactive process in order to ensure that the outcomes are productive. In most cases this will require the use of facilitators whose primary role is to assist the leaders in making sure the process is working in order to permit the leaders to play an active role in the substantive discussions. The selection of skilled facilitators is an important design issue. In particular, it is important that the facilitators understand the nature of unions as organizations and that they have both the skills and values required to help unions implement SP. It is important at this point to develop a clear set of expectations between the facilitators and the union leaders about the goals, roles, and limitations of the SP process. Consultants typically term this process "contracting."

Conducting the SP Process

Developing a planning team. As outlined earlier, this step typically involves a series of meetings of the initial group selected to participate in the SP process. In a number of unions we have worked with (separately and together), this initial step has been with just the executive officers of the local aimed at helping them overcome political and ideological differences in order to become a planning unit. We typically use a version of the GRPI (goals, roles, procedures, information) model of team effectiveness in order to change the norms of the group and to provide a language for describing the problems and conflicts that will undoubtedly surface during the process without resorting to blame. As the SP process moves forward, this initial group engages in the process of mission analysis, environmental scanning, goal setting, and action planning described earlier.

Developing an implementation strategy. An important function of the initial planning group is to develop a strategy for anticipating the follow-up demands and resources that will be required, as well as how to involve other people in the process. Often this involves the creation of taskforces or other structures to work on specific issues or result areas. Another important function of the initial group is to develop a communication and publicity strategy for informing the rest of the local about the local's strategic plan.

Setting realistic targets. In order for SP to be a useful tool it must produce tangible results. This means first setting realistic targets that the local has the resources and capacity to meet. An important role of the facilitator during this process is to keep reminding the group to set realistic priorities that have a high probability of successful achievement.

Institutionalizing the SP Process

As we mentioned earlier, a formal SP process is not intended as a one-time intervention but rather as an approach to managing performance that involves an ongoing planning process, setting goals, holding people accountable for goals, and the strategic management of human resources within the union. For many local unions this kind of rationalized approach to administration represents a dramatic change from their present leadership style. One advantage of the SP approach to change is that it proceeds incrementally and inductively, allowing new structures and processes to be developed in response to specific needs. Successful implementation, however, requires local leaders to stay focused on the plan and committed to the planning process. In our experience, this is the most difficult challenge of SP. Union leader behavior is often driven by crises such as internal political struggles, decertification threats, and a host of employer initiatives. In addition, locals often lack the resources to make a planning process feasible, such as paid release time for union business and travel funds to allow key leaders and activists to participate. National unions who wish to promote SP as a union development tool may need to provide resources to get the process started.

Outcomes of Strategic Planning

Given the difficulties described, it is not surprising that only a few local unions have incorporated SP into their leadership and administrative practices. In our work we have observed a number of local unions successfully rebuild their steward system, implement new budget and management information systems, develop new internal and external organizing programs, and restructure their board and staff organization. In some cases the unions have successfully redefined the role of their staff and implemented a system for managing them more effectively. It is too early to tell in most cases whether implementation of these tactical or operational changes will result in improved organizing, bargaining and political action outcomes, or in increased member satisfaction. Further research on the relationship of the elements of a SP process and selected outcomes could help to refine a union strategic planning framework.

Implications for Union Servicing Structures

If a national union wants to promote this approach either because of its interest in aligning the goals and priorities of locals and the national and/or because it values increasing local union effectiveness, then the question is how to encourage affiliates to undertake strategic planning and how to develop the resources necessary to support these efforts. As we have outlined, local unions face many obstacles to implementing a SP process, including the perception by many that strategic planning is a management activity. Many union leaders and staff feel they are betraying their trade union identity when they function as a manager or a supervisor. It is hard to both fight "the boss" and be one.

National unions can address this issue in a variety of ways. Some organizations provide their affiliates with financial incentives to engage in planning. They may also provide a staff person from headquarters or pay for an outside consultant to facilitate the planning-design meetings, planning retreats, and follow-up planning meetings. For example, the National Education Association has established a unit whose primary responsibility is to assist state and local affiliates with strategic planning. The AFL-CIO has developed a strategic planning program for use by central labor councils. National unions may also highlight local union planning efforts in their publications and at their conferences and conventions. To the extent that they engage local leaders in the national union planning process, they are engaging in an important leadership development activity. They may also integrate strategic planning in their leadership development programs. A number of university and college labor education programs have begun to offer courses in strategic planning for union leaders as well as facilitation services for unions who want to engage in strategic planning.

A critical issue raised here is how national unions and in some cases regional organizations can build internal capacity to support local union strategic planning. Is this the proper role of field staff, education staff, the organizing department, or the research department? What competencies are required (e.g., strategic planning, facilitation, team building, conflict resolution, etc.)? Will staff accept this as part of their role? How will local unions accept a staff representative from the national union seeing the local from the inside? Where does confidentiality come in? These are important questions. Given our experience in working with national staff in cofacilitating local union strategic planning, we're convinced they can be addressed. Given the importance of local union effectiveness to the long-term success of the labor movement, we're convinced they must be addressed.

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Reinventing an Organizing Union: Strategies for Change

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Confronted by declining membership and market share as well as an erosion of bargaining strength and political influence, a sense of crisis now pervades many international unions. Some labor unions continue to adhere to programs and practices they have pursued for several decades. But others, faced with challenges so fundamental that their viability is at stake, have chosen to reexamine their basic policies and performance and to reorient their essential course.

This paper evaluates the experience of four such international unions, all of which have recently embarked on strategic planning initiatives. Three of the unions—the Electrical Workers (IBEW), Carpenters (UBC), and Painters (IBPAT)—operate primarily in the private sector, representing workers in the construction industry but serving significant branches in other industrial sectors as well. The fourth is a large public-sector union, the Government Employees (AFGE). The membership rolls range from about 100,000 members to more than 700,000 members.

All four unions believe that the difficulties they continuously encounter (1) at the bargaining table, (2) in administering their bargaining agreements, (3) during political lobbying, and (4) in all other functional areas of union affairs have a common root: a failure to sustain effective organizing and to expand their ranks. The common thread that ties together each of these strategic planning efforts is the professed goal all four unions share: to transform themselves into organizing unions. To attain success, they hope to establish as their primary mission organizing nonunion workers and to devote the necessary human and material resources to achieve that mission. Within these unions the service functions of collective bargaining, grievance handling, arbitration, legislative action, etc. have absorbed the lion's share of resources. Therefore, the values and beliefs that guide both individual and organizational behavior must change so that those leaders and members who engage in organizing are recognized and rewarded.

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Thus the process of reinventing an organizing union entails a strategic, structural, and cultural transformation.

In each of these initiatives, labor educators are working with union leaders to evaluate prevailing policies and organizing experience, to identify and overcome structural impediments to organizing success, to formulate and implement new organizing strategies, and to design and deliver training to help alter the organizational culture and provide new skills for leaders and staff. The observations offered here reflect our perspective and experience as labor educators.

Organizational Change Initiatives

In each of these cases, the organizational change process was induced by a sense of crisis and driven by the determination of top leadership to revitalize their unions and recapture the passion and power their forebears enjoyed. To the extent the presidents of these unions have conveyed an unwavering commitment to change, organizational inertia and ambivalence have been challenged. The active and unambiguous support of strong leadership has helped set the stage for potentially dramatic organizational change.

These leaders have tried to engage in a previously unsanctioned level of organizational self-examination and criticism in order to share the hard facts of organizational crisis with unrestrained candor and to articulate a vision of a brighter organizational future. By clarifying their union's underlying principles and values and reaffirming their own commitment to organizing in every conceivable forum—in the union journal, speeches, meetings, conferences, memoranda, letters, even casual conversations—each of these leaders continues to play a central role in transforming his organization's culture.

For example, IBEW President Jack Barry closed his union's centennial convention with a speech devoted exclusively to organizing. In a self-critical spirit uncharacteristic of many union leaders, he told the IBEW's annual construction conference that policies of exclusionary membership and concessionary bargaining had been counterproductive and implementing organizing programs without first enlisting membership support and participation was mistaken.

Vision

Because the institutional patterns of behavior in each of these unions are well established and generally oriented around servicing, the international presidents have had to project a vision in which the roles and responsibilities of leaders and staff are redefined. The vision begins with a recognition that most of the union's leaders (from the local up through the international) have had little experience organizing; most of them inherited the union from past generations of organizers who built it. "For many years," argued IBEW President Barry, "we conducted the affairs of our union as if we were running a business. That approach may have made sense a generation ago. . . . But now, as we stand at the crossroads, our challenge is not to run a business but to build a movement. That means we must understand the essential difference between efficient management and effective leadership."

UBC President Sigurd Lucassen described his vision during a special conference for top leaders and staff: "We must rediscover the wisdom our founders grasped—organizing workers is the fundamental task upon which all others depend." Participants in the conference spent four days debating the vision and exploring how it could be realized.

In each of these unions, the top leaders have generated debate and dialogue about the need for a new vision of the future as well as the content of that vision. The vision has been presented first in broad strokes that articulate the union's core values and define its key goals; then through a process of public discourse it has acquired more clarity. IBPAT President A. L. Monroe has prepared a comprehensive vision document that he uses to guide his remarks in various forums. But clarity of vision is not sufficient; each of these unions is struggling to build deep and widespread consensus around that vision.

Building Consensus

In an effort to attain the broadest possible ownership of the organizing vision, these unions have employed a range of methods to involve leaders and staff throughout the union. For example, the IBEW conducted extensive internal research, interviewing several hundred leaders in a variety of settings about their own experiences and ideas about how to improve the union's organizing effectiveness. The IBEW also created a steering committee to guide its efforts to become an organizing union. The UBC surveyed its international staff, giving participants an opportunity to critically examine the union's past and current policies and then issued a report that has influenced the union's basic direction. With the same purpose, the IBPAT surveyed a random sample of local leaders, staff, and international officers. The AFGE surveyed its staff and a random sample of locals regarding the effectiveness of its educational programs in promoting an organizing perspective. The AFGE also established a thirty-member organizing task force with representation from all levels of the union to oversee a nationwide organizing initiative.

An apparently effective consensus-building technique is the "future search"-type conference. The IBEW organized a three-day vertically and horizontally integrated retreat for 40 participants to review the results of a year-long internal research effort and to make specific recommendations for the union's strategic organizing plan. These deliberations led to several major changes in the union's organizational structure and strategy. The UBC held two five-day staff and leadership conferences that began with a discussion of the union's vision and then focused on an organizing plan to realize that vision.

The Role of Labor Education

Labor education has been instrumental in these efforts to achieve clarity and build consensus around the evolving organizing vision. Revising current education programs and designing new ones that reflect and reinforce the union's vision and values is a constructive way to generate support and momentum for organizing. All four of these unions either have utilized or plan to utilize a cadre of specially trained union instructors to deliver parallel programs to rank-and-file members nationwide that explain *why* the union must aggressively organize large numbers of new members in order to rebuild collective bargaining strength. These educational programs already have transformed the political climate in some local unions and have cultivated grassroots support for the union's organizing direction.

Beyond such broad educational initiatives, all four unions have carefully evaluated current training programs, discovering that a tendency to "compartmentalize" training atomizes union functions and obstructs the change process. These unions have attempted to revise and reintegrate *all* training programs around the union's organizing vision. For example, in the IBPAT the challenge of organizing (internally and externally) thematically ties together the week-long training for new local officers. The IBPAT is working with a select group of these local leaders, providing them with support and follow-up training; the objective is to make them effective change agents and models for others to emulate. The AFGE is replacing its basic stewards' training program with a new one for "activists" which focuses on organizing rather than servicing. All four of these unions are using innovative labor education programs to give leaders and staff new skills and knowledge so that they can play their newly defined roles successfully.

While determined leaders at the top of these unions may initiate or at least sanction the change process, pressure for meaningful and sustained change often comes from the lower ranks of leaders, staff, and activists. Effective labor education programs help generate and maintain that kind of pressure. An expected side-benefit of these labor education programs emanates from the liberation pedagogy that underlies them. The spirit of these education programs is beginning to spread within the unions. As the educational programs become more participatory and as more local leaders and staff complete train-the-trainer programs and conduct training themselves, signs of this participatory approach are beginning to appear in other settings. For example, meetings and conferences appear to be a bit more interactive and inclusive as the circle of stakeholders expands. The culture of the union is thus altered in subtle but significant ways.

Resistance to Change

The effort to reinvent an organizing union faces enormous obstacles in each of these unions. Well-established patterns of behavior that devalue organizing and/or rely on more traditional hierarchial structures and style are not easily dislodged and tend to continually reassert themselves. In at least one union the enthusiasm and momentum for change were subdued as top-down methods re-emerged. In another, a participatory strategic-planning effort to realign the union's structure to more effectively match resources with organizing and bargaining opportunities met with significant political opposition from elected international officers and ended in a stalemate.

The rhetoric of change is not new in any of these organizations, as international presidents have seldom championed the status quo over the past twenty years. So when leaders announce another initiative to transform the union, many leaders and staff respond with a predictable and perhaps healthy dose of skepticism. As it becomes apparent that the current effort is more ardent than in the past, leaders and staff who have become comfortable in their current roles feel threatened when routines are disrupted. This is quite understandable because the new organizing roles are often more demanding than the current servicing duties.

Also, after years of union stagnation and decline, a sense of hopelessness and despair may paralyze even those who support the *idea* of change and renewal. The change process demands a paradigm shift, and those who have grown accustomed to one way of seeing and doing things are reluctant to relinquish their worldview—with its affection for servicing over organizing—without overwhelming evidence that revitalizing the union's organizing efforts is both necessary and *possible*.

In order to overcome institutional cynicism and hopelessness, it is important that top leaders retain their focus on the organizing priority. In one of the unions, attention of the international president was distracted from organizing initiatives by negotiations with a major employer to dramatically change the bargaining relationship. As the discussions progressed, staff involved in the organizing program were reassigned to committees working on the new labor-management system, in effect halting progress on the organizing front temporarily.

Interestingly, the democratic nature of unions may itself be an impediment to organizational change. Elected officials may be disinclined to direct limited resources and energy to organizing new members if the service to current members (their political constituency) might suffer. Several leaders have persuasively argued that if normal service is impaired by intensified organizing, the union's reputation among prospective members will be damaged and successful organizing will be undermined. That is why educational programs that reach current members and draw the connection between effective organizing and servicing are essential to the change process.

The Organizing Model of Unionism

The apparent conflict between organizing and servicing is not easily resolved and has given rise to a spirited debate within the labor movement about an organizing model of unionism. The current servicing-model approach is built upon a transactional relationship between the union and its members. In exchange for dues, which members pay to the union as if paying a premium to an insurance company, the union provides a service: collective bargaining, grievance handling, arbitration, job referrals, etc. The loyalty and allegiance of the members depend upon the union's successful provision of these services. Each of these unions is exploring ways to activate and mobilize its ranks using an organizing model in which the union provides members with leadership and a vision and vehicle for self-realization. Rather than solving members' problems for them—the essence of the servicing model—the union transforms individual workers into a cohesive force to collectively solve problems.

Following this new model, problems are seen as issues around which prospective or current members are organized, and workers learn the essence of unionism by participating in and experiencing collective action. The organizing model envisions a union that behaves basically the same before and after certification. The only difference is that after certification the union has access to one additional tool: the collective bargaining agreement. In each of these four unions, discussions of this organizing model are being integrated into various training programs. The hope is that commitment to an organizing model can lead to more cohesiveness in local unions, spark enthusiasm for external organizing activities, and help develop organizing skills.

The Union's Structural Fix Impulse

While the organizing model represents one creative response to internal obstacles to change, there are other alternatives unions may be more likely to embrace. All four of these unions seemed eager to grasp for quick structural fixes to advance the change process. To be sure, both restructuring and a reallocation of resources are necessary in order to truly become an organizing union. And in three of these unions some restructuring has occurred.

In the IBEW a new position was created: an executive assistant to the international president responsible exclusively for organizing. Under his direction three branch organizing directors were appointed. Moreover, in each of the union's vice presidential districts, one or two organizing coordinators were selected. However, a recommendation to establish a permanent and representative national organizing committee in order to continue the work of the temporary steering committee and to oversee the union's organizing activities has not yet been implemented.

In the UBC, district organizing committees were formed to encourage the development and execution of regional organizing plans. Local, district council, and regional leaders were thus given greater responsibility and authority to organize. In addition, a major review and modification of the union's budgeting process was undertaken with the assistance of an outside consultant.

The IBPAT shifted resources by transferring 24 service representatives from its vice-presidential districts to a newly constituted national organizing staff and by allocating more than a million dollars to support organizing activities.

All of these structural adjustments may, in fact, help these organizations become organizing unions. But form should follow function. Modifications of the union's structure should be made to accommodate changing roles and responsibilities of leaders and staff. Sometimes these structural changes mask underlying problems that may ultimately subvert the change process. For example, if the top leadership is irresolute about transforming the union's culture and pursuing an organizing vision around which consensus is built, it may be foolhardy to think that organizational behavior will be fundamentally altered by creating new positions in the structure.

Furthermore, new structures will mean little if the staff assigned to organizing positions are merely shifted around without changing their values, beliefs, skills, and goals. On a related issue, one union has implemented a series of structural changes but has made little progress in recruiting new organizing staff who match the women and minorities dominating the work force in nonunion organizing targets in the union's manufacturing jurisdiction.

On the other hand, *changed people and/or new staff* may be able to achieve a great deal even within the constraints of the old structure. For real organizational change to occur, unions will have to develop better personnel policies so that they can identify and cultivate new leaders, define changing roles and performance indicators with greater clarity, provide leaders and staff with the training and support they need to fulfill their new roles, and conduct meaningful performance appraisals.

Achieving Success: Support the Innovators and Mobilize the Ranks

We are convinced that as the leadership defines an organizing vision and as the union initiates a broad educational process to alter its culture, two additional factors can help carry the change process toward success. First, the union must support those innovators who struggle to give the union's organizing vision concrete meaning in the real world. Second, the union must mobilize the active support and participation of the rank-and-file membership.

In many unions including these four, a greater premium is sometimes placed on political loyalty than on principle or performance. There tends to be a mild obsession with protocol and a fear of even appearing to rock the boat. But when creative leaders at the periphery experiment with ways to apply the union's new vision to the circumstances they face in the field, the broadly sketched vision begins to become a reality. To give license to those innovators who have embraced the organizing vision and wish to bring it to life, the top leadership in several of these unions has recently departed from accustomed practice and begun to encourage reasonable risk taking as well as widespread networking among activists across traditional organizational lines. As the innovators experience some measure of success (for example, applying the organizing model of unionism to the conduct of local union affairs or implementing particularly creative and effective external organizing strategies), the top leaders should recognize and honor their efforts. By highlighting and rewarding successful change, the leaders can urge others to replicate those successes and promote the dissemination of an organizing focus throughout the union.

The final arbiter of organizational change in a labor union is the membership. Without rank-and-file support, even the most determined leaders will succumb to the political will of their constituency. Without membership participation, even the most energetic change agents will exhaust their stamina. To their credit, these four unions are pursuing ambitious membership mobilization initiatives. They are implementing educational programs that are being brought directly to their rank-and-file members by union trainers from the local, district, and international offices.

The IBEW developed the Construction Organizing Membership Education Training (COMET) and trained more than 600 instructors who have delivered the program to more than 20,000 members. It followed up with the Membership Education and Mobilization for Organizing (MEMO) course for membership in its manufacturing, telecommunications, utility, and broadcasting branches. The UBCJA and IBPAT customized the COMET for their respective unions and plan to train more than 100,000 members over the next year.

In the case of the IBPAT, the entire leadership of the international union participated in an intensive train-the-trainer course so that even vice presidents could deliver the union's organizing message among rank-and-filers. In the AFGE, current plans call for the new activist program, which is replacing stewards' training, to be delivered throughout the union by members of the organizing staff to ensure that the organizing focus is retained. AFGE President John Sturdivant has emphasized to his staff that a holistic approach is necessary, tying organizing to all of the union's other functions.

So far, members have greeted these programs enthusiastically. In addition to inspiring the membership to support the union's organizing mission, the training is bridging the proverbial gap between leaders and led, mitigating the suspicion that many rank-and-filers have of the international office as a distant and mysterious body. As a result, these unions are beginning to enjoy a greater unity of purpose than they have experienced in many generations.

Conclusion

Reinventing an organizing union is a daunting task. With a unifying vision, strong leadership, broad ownership, and well-conceived educational programs, these unions may be on the verge of achieving a substantive cultural, structural, and strategic transfiguration. A reallocation of resources and a restructuring of the union accompany these initiatives, but an affection for quick structural fixes to longstanding problems will likely hinder rather than help the change process. While visionary leaders at the top of the organization are essential, there is a limit to what they can accomplish.

In fact, the rubber meets the road out in the field where innovative risk takers, determined activists, and rank-and-file members will ultimately decide if these organizations truly become organizing unions.

DISCUSSION

Mark Erlich
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I have had the good fortune of being exposed to several strategic planning programs, both as part of the development process and as an officer in the union institution (presumably) undergoing change. My experience, while limited, dovetails with many of the observations made by the panelists.

Strategic planning has an appealing ring because anyone with a stake in a viable labor movement recognizes its current precarious condition. It's easy to say, "I'm for change." However, the universally acknowledged need for change can mask profoundly different agendas. Leaders of once mighty institutions wring their hands over declining membership figures and industrial clout, while activists who view labor's mission as an agent of social change mourn the loss of political influence and a defining vision. A strategic plan for a labor organization in crisis must address both form and function. There is nothing wrong with clarifying chains of command and improving financial responsibility, but what is required in today's context transcends the skills of accountants and organizational flow chart experts. Structural reforms must be enacted in the service of transformed programs and mission.

Labor educators/consultants have a crucial role to play in assisting unions in need of change. Any institution with entrenched ways of doing business—particularly one that lurches from crisis to crisis in a predominantly hostile economic and political environment—needs the perspective of outside observers to submit relatively objective assessments of strengths and weaknesses. In addition, this very "outsider" status offers a unique opportunity to make controversial recommendations untainted by internal political ambitions. Experienced and effective educators understand the limits and exploit the opportunities that their role offers. While they may not be in a position to implement proposals, their political insulation frees them to challenge the most basic institutional assumptions.

There are several principles that I believe are essential for a successful organizational self-examination and reorientation: (1) There must be a consensus about the nature of the environment that the union operates in and

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how it has changed from the previous environment that defined the current set of operating assumptions. (2) There must be an acceptance of and participation in the process at all levels of the organization. (3) An action program must be developed and implemented with clear responsibilities and a system of accountability. (4) There must be follow-through beyond the initial burst of enthusiasm and agreed-upon goals in order to evaluate successes and failures.

In their most successful forms, these organizational interventions result in nothing less than a transformation of the internal life and culture. The extraordinarily successful COMET project in the building trades, designed largely by Jeff Grabelsky (one of today's panelists), is a four- to five-hour educational program that walks union members through an introduction to the dynamics of the construction industry, an analysis of the union's failure to respond to changing conditions, and a prescription for a new set of operating assumptions based on organizing. Its success flows from a sophisticated understanding of the painstaking measures it takes to make fundamental change acceptable and even imperative to individuals within an entrenched institutional culture.

All of the papers in today's session highlight the particular characteristics of labor organizations. Clearly, strategic planning in the union sector involves issues that have nothing to do with a corporate model. The panelists (all of whom are practitioners) uniformly emphasize the adoption of an organizing style of unionism as an indispensable outcome of a successful strategic planning process.

The opposition of servicing vs. organizing models strikes me as somewhat artificial. After all, newly organized members must have been convinced of the unions' ability to service effectively or they would not have joined. Similarly, routine servicing is now so difficult in the present environment that full-scale organizing-style campaigns are often required just to carry out the union's basic collective bargaining functions. Whatever the paradigms may be called, all three papers advocate innovative, proactive, and inclusionary strategies to rebuild and extend labor organizations and replace the sedentary status quo.

However, consultants must not only be right but also sensitive to how organizational change really occurs. Widespread skepticism exists at the local level regarding new initiatives by international unions that sit on shelves and gather dust. As Fitzpatrick and Waldstein put it, "a strategy isn't the right one if it is not carried out."

Most strategic planning initiatives have taken place at the national level. Part of the political reality of labor organizations is the chasm that separates the experience of the average member from their representatives in international offices. Programs that are born in Washington, D.C., conference rooms must grow to maturity in local union halls and workplaces. A strategy isn't the right one if it does not connect the day-to-day working life of the existing (and potential) union member with a broad-based vision of institutional reform. Whatever else is true, unions should be the collective expression of individual workers.

V. THE RISE OF INDUSTRIAL UNIONISM: WHAT IS THE RELEVANCE OF THE 1930S TO MODERN INDUSTRIAL RELATIONS?

The Politics of Labor in 1930s America

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In the 1930s the American labor movement finally achieved two goals that had long eluded it: first, governmental recognition and protection of the right of workers to join unions of their own choosing, and second, the endowment of those unions with the right to bargain collectively with employers. These rights, extended to workers and unions in the National Labor Relations Act of 1935, propelled a dramatic rise in union membership and union power over the next ten years and made the labor movement an important and enduring feature of the American industrial and political landscape. The participation of workers in unions rose from 10% of the nonagricultural work force in 1929 to 35% in 1945. Among mass production workers, the percentage reached an impressive 65%. Confronted by this hard mass of organized labor and bound by law to negotiate with its representatives, corporate managements raised wages; reduced hours; offered medical, insurance, and pension benefits; and accepted an elaborate regime of union-instituted work rules limiting management's autonomy on matters of hirings, firings, promotions, transfers, and overtime. As a result of these changes, a large segment of the American working class was able to lift itself out of poverty, insecurity, and powerlessness.

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Millions, in other words, experienced a profound transformation in the conditions of their lives and labor.

Historians have devoted a great deal of attention to labor's rise to power during the last ten years, turning out a large number of works on labor leaders and union building; rank-and-filers and working-class cultures; the evolution of workplace regimes; the relationship between the labor movement and New Deal reform; the effects of war mobilization on union development; and the role of ethnic, racial, and gender factors in shaping organized labor's character. Today I want to present the findings of that scholarship as they pertain to two interrelated questions: How did the labor movement gain its initial strength in 1934, 1935, and 1936? What made contemporaries and subsequent generations of scholars regard it as a force that could not easily be ignored or defeated? Answers to these questions may help us imagine how organized labor can once again command respect and influence.

The traditional explanation for labor's 1930s rise emphasizes economic factors. In this view, the Great Depression discredited capitalists who had claimed success for the prosperity of the 1920s and spread sullenness and anger through the ranks of American workers. This was a tinderbox waiting to explode, which it did in the massive, violent strike wave of 1934, a development that the historian Irving Bernstein has appropriately labelled "eruption." Dissident labor leaders seized upon this moment of rank-and-file revolt to secede from the timid American Federation of Labor and establish the aggressive Committee on Industrial Organization (CIO). President Roosevelt, meanwhile, reoriented his reform program away from the interests of big business toward the needs of ordinary working Americans. The result was the second New Deal, a 1935 reform burst that included Social Security, the Wealth Tax Act, the Utilities Act, and of course, the National Labor Relations Act (Bernstein 1969).

An economic logic is at work in this interpretation of events: economic depression, economic misery, union mobilization, political breakthrough. But I wish to argue that several political developments independent of the Great Depression itself were of equal importance in propelling labor's rise. The first was the political awakening of European ethnics; the second was the rise of a prolabor, policy-making elite linked to important sections of the Democratic Party and to powerful industrialists and financiers; the third was the labor movement's ability to rework the nation's political culture—specifically its national myths—in ways that legitimized working-class aspirations. The first two developments—ethnic political awakening and the rise of a new elite—had roots that extended back into the 1920s, which is where our investigation of them must begin.

An Ethnic Political Awakening

The working class of the 1920s---concentrated in the Northeast, Midwest, and California—was predominantly ethnic. In the West, Mexicans were an important group, but in the Midwest and Northeast, Europeans predominated. Just how ethnic urban industrial America was in the 1920s is not always appreciated. Consider these statistics from the 1930 census: Immigrants and their children formed three-fourths of the population of New York City and Boston; two-thirds in Chicago; and more than half in Philadelphia, Pittsburgh, Youngstown, Detroit, Minneapolis, and San Francisco. These percentages understate the ethnic presence because they do not include the third generation—the grandchildren of those immigrants who arrived in the 1880s and 1890s (U.S. Bureau of the Census 1930).

Understanding the experience of these ethnics requires that we put aside notions of the 1920s as a "jazz age" in which all Americans delighted in the thrills of mass culture and the affluence of a mass market. Millions of ethnics felt culturally besieged in those years. They suffered from the powerful resurgence of the Ku Klux Klan and the plain wish of its four million members to rid the country of Catholics, Jews, and blacks. Not only was nativist sentiment in ascendance, but the government showed an unprecedented willingness to use its powers to encode such sentiment in law. Prohibition (1919), immigration restriction (1924), and mandatory Americanization programs initiated by state governments were coercive measures designed to strip immigrants of their foreign languages, customs, and politics. Many ethnics viewed the execution of Sacco and Vanzetti in 1927 as an anti-immigrant act; had these men been native-born Protestants, they felt, their lives would have been spared (Higham 1955).

Ethnic minorities did not react passively to such attacks. To the contrary, 1920s-style cultural repression made them more determined to develop the political muscle necessary to defeat the forces of nativism, to get the "state" off their backs, and if possible, turn governmental cultural policy in a more liberal direction. One sure sign of this resolve was the sharply rising number of immigrants who decided to become American citizens. In that decade alone, the number of naturalized citizens among immigrant Poles, Yugoslavs, Italians, and Hungarians doubled (Ueda 1980:747). Newly armed with the vote, many began turning out on election day to defeat anti-ethnic city councilmen, mayors, state representatives, and even an occasional governor. In Woonsocket, Rhode Island, a predominantly French-Canadian textile city of 50,000, voter turnout quadrupled from 2500 in 1912 to 11,500 in 1924; by 1940 it had nearly doubled its 1924 total, reaching 21,000 (Gerstle 1989:179). The introduction of women's suffrage in 1920 can explain only a portion of that astronomical rise.

This ethnic mobilization was every bit as significant as the mobilization of black voters would be forty years later. In its broadest sense, it articulated a claim by European ethnics that they were citizens who would no longer tolerate discrimination and prejudice. As full-fledged Americans, they were determined to exercise their right to shape the country's present and future (Gerstle 1986). Much of this awakening occurred in piecemeal, fragmented ways that rendered it invisible in national politics to all but the most perceptive observers. But in 1928 through the Democratic presidential campaign of the Catholic New York governor Al Smith, the various local ethnic groups discovered that they were part of a movement of national proportions. Their solidarity enabled Smith to carry the nation's 12 largest cities and signalled the emergence of the ethnic vote as a major political force (Anderson 1979; Kleppner 1982).

This ethnic awakening bore a complex relationship to trade union politics. Though most ethnic groups included large working-class majorities, the political leadership of their communities often resided with middle-class elites whose politics were hostile to working-class agendas. Al Smith himself exemplified this pattern. Smith was a liberal in cultural matters, insisting that the government had no right to tell people how to live, what to drink, or what language to speak in their schools; but in matters of economic regulation and social welfare he was a conservative. He did not think that the federal government should grant trade unions rights and protections, devise industrial policies like minimum wages that protected the weak, or "meddle" in other matters properly left to businessmen themselves. Competing economic forces like capital and labor, he believed, should meet in the marketplace, compete for advantage, and accept the consequences (Siegel).

An alliance between ethnics and the labor movement could not really occur until Al Smith and conservative middle-class elites more generally lost their grip on ethnic leadership. Intra-ethnic class conflicts broke out throughout the 1920s (Gerstle 1989), but only in the early 1930s were middle-class elites deposed. As Lizabeth Cohen has shown us in wonderful detail (Cohen 1990), the Great Depression smashed the economic base (ethnic banks, fraternal and credit societies, retail stores, charities) on which their power and authority rested. Their decline made it possible for rival leaderships—comprised sometimes of ethnic radicals already present in the communities, and other times of labor organizers coming from the outside—to bid for power (Cohen 1990; Gerstle 1989). These new leadership groups appealed to the ethnics' desire to become American and to claim their rights as citizens, but they used patriotic rhetoric to set forth a series of explicitly working-class demands: that the government protect the rights of workers to organize, limit the power of capital, and redistribute economic power. By so doing, the government would honor the country's historic commitment to equality and democracy (Gerstle 1989). Millions of ethnic workers endorsed these claims as a proper expression of their patriotism. These are the circumstances in which European ethnics aligned themselves with organized labor, an alliance that would secure the North for the Democratic Party from 1936 to 1968.

A New Policymaking Elite

Equally important to the political alliance taking shape in the 1930s was a new policymaking elite that had cohered in the 1920s. This elite brought together progressive unionists like Sidney Hillman, industrial relations experts like John R. Commons, jurists like Louis Brandeis and Felix Frankfurter, capitalists like the Filene and Bamberger families, investment bankers like Lehman Brothers and Goldman Sachs, and think tanks like the Twentieth-Century Fund. What brought them together was a desire to eliminate the raw, often violent, class conflict that had disfigured American society throughout the Progressive era. This could not be accomplished through free enterprise. To the contrary, laissez-faire had produced the sorry state of affairs they wished to overcome. Social harmony could only be achieved through labor organization and collective bargaining. Collective bargaining would introduce constitutional regimes to workplaces. Contracts would specify the rights and responsibilities of employers and employees. Unionized workers, possessing legitimate channels for expressing their discontent, would shed the impulse to protest through strikes, sabotage, and slowdowns. Collective bargaining would also civilize and discipline workers (especially those from "primitive" peasant backgrounds), imbuing them with a proper regard for the rule of law, the consent of the governed, the use of procedure, and other key principles of Anglo-American jurisprudence (Fraser 1989, 1991; Lichtenstein 1993).

The gains of this system were to be measured not only in terms of social peace and individual dignity but also in terms of efficiency. Disciplined, satisfied workers would improve their productivity, yielding greater profits to employers and, equally importantly, higher wages to workers. Achieving higher wages was a crucial goal not only to the unionists in this elite but also to its capitalists and investment bankers. Having made their fortunes in mass merchandising, real estate, and related sectors of burgeoning urban markets, businessmen like Edward Filene understood that higher wages would raise consumer demand and thus increase the size and profits of their merchandising and financial empires.

Even before the Depression hit then, an important segment of the American business community had indicated its willingness to support unions and high wages. Policymakers within this elite were proto-Keynesians, calling for the state to use its fiscal and monetary powers to stimulate purchasing power in times of depression. This elite was not particularly influential during the early days of the New Deal. But when the first New Deal failed to procure recovery and social unrest rose sharply, Roosevelt turned to it for aid in designing the second New Deal. This elite's academicians and lawyers became both the architects and administrators of the famed New Deal welfare state: a rambling collection of state agencies including the Departments of Labor and Interior, the Works Project Administration, the National Labor Relations Board, the Federal Reserve, and the Rural Electrification Agency. The elite's corporate sponsors opened their coffers to help reelect Roosevelt in 1936 and became, in the process, key players in the liberal Democratic coalition assembled by Roosevelt that year (Fraser 1989, 1991).

"Coalition" is the crucial word in this analysis. Labor's political breakthrough in the 1930s was not entirely of its own doing. It depended for its mass support on a broad mobilization of ethnic voters. Its legislative accomplishments required the aid of a policy-making elite whose academic credentials and corporate connections gave it access to high levels of state power.

The breadth of this coalition helps to explain the third political development of the 1930s—the labor movement's success in reworking motifs central to the nation's political culture. In the 1920s, corporate America had successfully defined the key principles of American politics in terms that suited their own interests. Freedom meant laissez faire; liberty meant the opportunity to accumulate large fortunes; democracy meant disorder. Unions were portrayed as "unAmerican" because they allegedly shackled freedom and individuality. In the 1930s unionists moved aggressively to wrest control of this "language of Americanism" from their corporate opponents. "I yield to no man the right to challenge my Americanism," John L. Lewis liked to declare. Unionists everywhere portrayed themselves as the true heirs of the founding fathers. Their movement—not the malevolent "economic royalists" bent on industrial and political domination—nurtured the sacred principles of 1776. The success of the republic depended on labor's efforts. "Until the millions of farmers and industrial workers of

America have reached a status of economic independence," declared one group of textile unionists in 1941, "the work launched by Washington and Lincoln cannot be considered complete." On another occasion, this same group opined: "Our forefathers stated their rights in the Declaration of Independence and set up a free government to protect them. But to have a free government you must have recognition and respect of your rights in the workshop as well as the polls" (Gerstle 1989:177-87). Industrial democracy was political democracy's necessary companion.

A short paper cannot do justice to the intricacies or influence of labor's campaign to imbue key words in the American political vocabulary with prolabor meanings. I have sketched its broad outlines in order to underscore the degree to which the rise of labor in 1930s America depended on political developments—in this case, a transformation in political culture—independent of the confrontations and negotiations of employers and employees at the point of production.

No facile comparisons should be made between the 1930s and 1990s, even though the loss of jobs and fall in incomes during the last ten years have caused a degree of working-class suffering not seen since the days of the Great Depression. The decline of manufacturing, the exodus of employers and jobs from cities, the increasing proportion of women and racial minorities in the work force, the globalization of manufacturing and finance: all these developments are reconfiguring the economy and its working class in fundamental ways. A labor movement of the future will no doubt have to depend on union structures and organizing strategies different from those employed in the 1930s. But one lesson from the 1930s does seem relevant. The history of that era demonstrates that an American labor movement cannot succeed without allies. It must find a way to appeal to groups like women and racial minorities whose experience of discrimination is as much cultural and political as economic. It probably must find a way, too, of linking up with employer and academic groups whose money, contacts, and knowledge allow access to state power. It must find a way, finally, of aligning itself with the nation's core principles, a cultural project aimed at insisting that labor stands for those principles the nation holds most dear.

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Race, Ethnicity, and the Culture of Industrial Unionism

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We're all quite familiar with the dismal state of organized labor in the United States today, the recent success of American Airlines' flight attendants notwithstanding. The AFL-CIO now represents less than 17% of the work force, while American workers earn roughly 45% less than heavily unionized German workers. Workers over the last twenty years steadily have lost well-paying manufacturing jobs, often replacing them with lower paying and nonunion service jobs in the postindustrial economy. Unions are under constant pressure to grant employers concessions—in pay, benefits, and job rules—to help them stay competitive globally, though workers worry that these concessions only make company executives and stockholders richer. And in the vacuum produced by union decline, there is increasing talk in Washington, in corporate boardrooms, and in union headquarters about reviving joint labor-management work councils, those creatures of the 1920s and 1930s known as "company unions" (Goodwyn 1992; Uchitelle 1993). Contemporary union-management relations are looking more and more like a party at management's house that unions are invited to attend if they mind their manners as good guests. If they revert to former, tougher behavior and act too independent, there's a good chance they'll be shown the door and even told that the party has been cancelled altogether. To stay and play the boss's games or to run the risk of being a party pooper or even worse, a party wrecker, is the choice before many unions, in what has become almost as much a postunion as postindustrial era.

One reason that we are gathered here today to consider "the relevance of the 1930s to modern industrial relations" is, I am assuming, to understand better why the rise of industrial unionism happened in the thirties, particularly on the tail of another era of labor decline—the 1920s. Although drawing lessons from history can be tricky and historical parallels

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are often more complex than they seem at first, I nonetheless think that probing the cycle from labor's nadir in the 1920s to its resurgence during the late 1930s and World War II can be instructive. In significant ways the current labor scene resembles the 1920s, with employers gaining the upper hand and the union strength of World War I and its immediate aftermath receding farther and farther into memory. It is not irrelevant, then, to ask how organized labor revived in the 1930s and speculate about the likelihood of that happening again.

The first impulse of many labor historians would be to point to the importance of the passage of federal legislation, particularly Section 7A of the National Industrial Recovery Act of 1933 and then the National Labor Relations Act (NLRA or Wagner Act) of 1935, as the determining factors in labor's revival. When Uncle Sam and FDR let workers and employers know that they supported workers' right to organize and bargain collectively, the argument goes, there was no turning back. By analogy, if only Bill Clinton, Robert Reich, and others in the White House and Congress would take decisive action to protect unions, the climate for labor would improve today.

My research (Cohen 1990) on the experience of rank-and-file workers in Chicago during the 1920s and 1930s indicates that federal action was important, but not sufficient. True, it gave legal assistance and legitimacy to industrial workers' longstanding efforts to organize. But it still took grassroots, rank-and-file militance to spur national politicians to enact pro-labor legislation and then to ensure that the Democratic administration implemented it in the ways intended, so that laws and rulings were not obfuscated by the maneuverings of corporate lawyers. Then, as now, labor's right to hold NLRB-supervised elections did not always lead to them taking place and being honored.

My research into the CIO's struggle to organize manufacturing plants in Chicago concludes that a "Whig" history of the state's growing role in industrial relations on behalf of labor overlooks the extent to which the pressure of rank-and-file workers brought about the support of the New Deal state as well as how mixed in impact much of this governmental action was, necessitating additional pressure from the rank and file to achieve its promised ends. To a large extent, it was the actions of workers that ensured these new protections by the state.

First, it took strikes and other agitation by rank-and-file workers to move Roosevelt's administration from a symbolic but unenforceable acknowledgment of workers' right to organize under the NRA to the establishment of real machinery to facilitate unionization through the Wagner

Act. Widespread work stoppages in the months after the NRA passed made 1933 a more militant year than any since 1921. To be sure, the violent strikes initiated by auto workers in Toledo, teamsters in Minneapolis, and longshoremen in San Francisco during 1933 and 1934 most alarmed the Roosevelt administration, but so too did the calmer grassroots organizing of industrial workers like those who made steel and tractors in Chicago. Workers at U.S. Steel's South Works and International Harvester's Tractor Works agitated particularly hard to turn the company-dominated Employee Representation Plans (ERPs), set up in the wake of the NRA, into launching pads for genuine unions. Worker pressure at all levels pushed at the limits of the NRA, and when it was ruled unconstitutional helped convince the administration to back the Wagner Act.

Although the Wagner Act was a big improvement over the NRA, it still had limitations that required rank-and-file workers to keep the pressure on employers at the shopfloor. For instance, Armour and Company refused to recognize the results of NLRB-supervised elections, while International Harvester persisted in illegally promoting "independent" unions that it dominated and stalled for time through legal maneuvering. At these plants and many others, workers resorted to slowdowns and similar shopfloor actions to keep the heat on their employers. When, for example, Armour refused to recognize the Packing House Workers' Organizing Committee (PWOC) after a fair election, workers responded with a plantwide "whistle bargaining" strategy of meeting every grievance with a secret signal to stop work. Another approach, the "Rizz-ma-tizz," gave the illusion that workers were producing normally, while in actuality they were slowing down to keep their foreman from making his quota.

The Wagner Act necessitated shopfloor activism not only because of weaknesses in its bureaucratic procedures but also because of its supposed strengths. By requiring unions to win by majority vote, the NLRA forced them to gain widespread support in the plants they were organizing. A small group of militant workers could close down a plant and make demands on management on behalf of all employees much more easily than it could win the support of a majority of workers. The NLRA thereby pushed militants to develop shopfloor strategies to broaden their base among the rank and file. Organizing success so depended on rank-and-file action, in fact, that a top-down union like the Steelworkers' Organizing Committee (SWOC) found itself anxious to suppress the rank-and-file participation it had previously encouraged once a contract was signed. National SWOC leaders struggled to discipline rank-and-file members at U.S. Steel to respect prerogatives from the top and still pay their dues.

Significantly, at steel mills where SWOC did not yet have contracts and hence could not control the rank and file, shopfloor agitation persisted. According to a grassroots leader at Inland Steel, workers "never had it so good" as before they got a contract, when the rank and file ran the show. Locals at mills like Inland Steel, he continued, remained more autonomous and "the workers developed the most militant and the most inspiring type of rank-and-file organization that you can have. . . . As a result of the enthusiasm of the people in the mill, you had a series of strikes, wildcats, shutdowns, slowdowns, anything working people could think of to secure for themselves what they decided they had to have" (Cohen 1990:306-7).

The machinery of the NLRA, therefore, cannot alone be credited with bringing mass production workers into unions during the 1930s. The big breakthrough at U.S. Steel took place before the Wagner Act was ruled constitutional, and the union struggles that followed elsewhere required at least as much shopfloor support from rank-and-file workers. Often it mattered more that workers could use the threat of government intervention against their employers than that the government in fact intervened, as when a Swift worker fought off his bosses's illegal harassment by yelling that they either give him a discharge card or get the hell away from him, "unless they wanted to sit in the witness chair and tell the government what theywere trying to do" (Cohen 1990:308).

Recognizing that the mindset and behavior of rank-and-file workers mattered greatly in bringing about the industrial union breakthroughs of the 1930s has repercussions for contemporary labor. In an era of intense competition for jobs due to industrial decline and corporate downsizing and sharp tensions among workers resulting from affirmative action and identity politics, it is difficult to imagine a reoccurrence of the rank-and-file solidarity that the shopfloor actions of the 1930s required.

But here history can help us again, for it reveals that the CIO in Chicago—as across the nation—faced a situation not so very different during the 1930s. First, the economic problems of the Great Depression were obviously worse than today, but still workers competed with each other for jobs and the favor of managers empowered to distribute much reduced working hours. Second, then as now, workers' ranks were divided. Race, ethnicity, and skill divisions had a long history of undercutting union solidarity, most recently during the big strikes following World War I. Many Chicago factory workers in the 1930s were first- and second-generation immigrants who spoke a European language more fluently than English and who distrusted Chicagoans outside their own tight ethnic communities. Similarly, African Americans were often more suspicious of what they viewed as "white unions" than of their white employers, and past experience in the South and in the era of 1919 had given them good reason to be. True, some of these tensions began to decline over the course of the 1920s and early 1930s (Cohen 1990). More workers were American born and educated and English speaking, and they had come to share more mainstream cultural experiences as mass culture gradually displaced immigrant cultural life. Employers' welfare capitalist schemes of the 1920s, moreover, had ironically encouraged new kinds of contact and cooperation on the shopfloor, breaking down longstanding barriers between workers. Nonetheless, industrial workers in a city like Chicago were not natural allies, inevitably fated to be comrades in arms.

But how, in the midst of the Great Depression with a history of worker disunity, did labor militants and the CIO inspire a working-class population to recognize that individual survival depended on collective action and solidarity? This is obviously a difficult and complex question, but the part of the answer I want to stress today is that the CIO explicitly constructed what I call a "culture of unity" to energize the kind of broad-based organization necessary to catalyze the state for labor and to challenge employers. This was a multidimensional project which gave people tremendous psychological, social, and cultural support for casting their fates with unions. It operated simultaneously on the symbolic but powerful level of wearing union buttons, to encouraging social interaction outside work through new union recreation programs, to explicit strategies for overcoming racial and ethnic divisions. Whereas in 1919, for example, black steelworkers in Chicago had been excluded from most union meetings and quickly became identified with strikebreaking, in the 1930s interracial solidarity became a great concern of the SWOC's campaign. Everywhere that the CIO organized in Chicago, in fact, according to a packinghouse organizer, "we were making a *religion* of racial unity." We need not romanticize it. "Overcoming prejudice didn't mean anyone got invited to somebody's house for Christmas dinner," the same unionist noted (Cohen 1990:337). But in crucial ways the CIO went further in promoting social harmony than any other institution in existence at the time.

I would like to suggest that the moral of this historical story for the present is that it is time for a revival of a union-initiated "culture of unity." Undeniably, the world is a different place in the 1990s than the 1930s. Most notably, the potential for unity through class identity has been diluted as postwar prosperity has encouraged a more middle-class consciousness among many working people. But new grounds exist for unity that were not as compelling in the thirties. For example, the American Airlines flight attendants explicitly built on the prevailing female gender identity and ties of that occupation to coalesce a nationally dispersed work force in a declining industry. Most importantly, I want to stress that if the 1930s is any guide, improvements in the current environment for labor will not come solely from changes in national policy but have to be accompanied by changes within the hearts of workers on whatever the modern day "shopfloor" might be. Just as Section 7A and the Wagner Act were not enough in the 1930s, so President Clinton's intervention on behalf of the flight attendants would not have happened if they had not mobilized. And if established unions or newly constituted organizations can manage to cultivate a new sense of shared fate and mutual respect among workers, labor could find itself at the forefront of a larger cultural revolution that this country certainly needs. After more than a decade of a revived Social Darwinism under the Reagan/Bush regime, labor could be poised to shape an alternative culture where the good of the many is more defensible than the entrepreneurial success of the few, and where multiculturalism serves to build a collective culture based on mutual respect, not just to embody demands for respect from particularistic social groups.

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"Amnesiacs in a Ward on Fire": Gender and the Crisis of Labor Viewed from the 1930s

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Current debates about the crisis of American labor in the 1990s question both the origins of the crisis and the serviceability of the past in explaining and reversing labor's declining membership and power. Some argue that structural changes in the labor force, the economy, and the political system have rendered history irrelevant. (Kochan, Katz, and McKersie 1986; Heckscher 1987; Brody 1989, 1992). We are no longer an industrial country, but a postindustrial one; workers identify less as workers than as members of social groups.

Arguing that the labor movement's problems are rooted in its assumption of power in the decade of the 1930s, other scholars have taken a historicist turn. Labor unions, it might be argued, do not require an industrial labor force, a productivist focus, nor a particular politics. "Labor" is not just an institutional structure resistant to change but a social movement capable of adapting to and instigating it. Thus the question is whether the crisis of labor is located in politics that are focused in the workplace and on production—its organization predicated on the existence of a largely industrial work force—or if the labor movement has or can recapture a politics located in the realm of social reproduction.

Gender politics are central to understanding this debate. The ideology of gender difference in our society is implicated both in the changes that occurred in the 1930s and in the way that we have remembered, understood, and forgotten Depression-era labor. Rooted in a politics of social reproduction conducive to the participation of women, that labor movement began to take off in the mid-1930s. By the end of the decade, however, the labor movement became more workplace-oriented, constrained by a focus on production that left little room for community and family concerns and limited to a formal party politics. Due to bureaucratization, it

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was also increasingly dependent on the rationalization of labor relations and to the state machinery of mediation and arbitration (Schatz 1983; Tomlins 1985; Faue 1991).

This process had severe consequences for the labor movement of today. It marginalized rank-and-file participation—especially the participation of women; it suppressed dissent outside fairly narrow channels; it traded off the interests of its weaker unions and members for the sake of the stronger. In its focus on the workplace and labor relations machinery, it both ignored workers outside its ranks and delegitimated noninstitutional efforts.

In all of this, the labor movement did exceptionally well by its members in terms of wages, working conditions, and benefits—at least from the period of World War II through the 1960s. Two generations of workers lived with the postwar labor accord and prospered. But the labor movement of the 1930s neither fully understood nor advocated an inclusive membership, even as labor leaders sometimes represented themselves as the voice of the working class, nor did the labor movement lay down foundations for the vastly different climate of the postindustrial age.

What went wrong was the product less of poor prognostication than of faulty memory. In the process of establishing stable centralized unions with viable economic power and routinized political authority, the labor movement forgot how to build, organize, and extend the membership. Indeed, as the "iron law of oligarchy" (in the language of Max Weber) descended on labor's social movement, reordered authority relations, and routinized decision making, an inescapable and necessary byproduct was amnesia. The memory of how things were done was replaced with an institutional memory—or set of rules—about the way they should be done, in the way that custom and tradition disappear before codified law. In the 1930s this lapse of memory "disappeared" community-level leadership (what Weber might characterize as charismatic leaders) from the story of unions.

There was no single forgetting here. The economic revival of the postwar years did not wipe out working-class memory of a fundamentally different movement; new bureaucratic unions did. Labor papers of the period frequently misspoke and mistold the stories of earlier labor struggles, as in the disappearance of the 1909 shirtwaist strikers from the 1930s retelling of the origins of the International Ladies' Garment Workers' Union (Faue 1991:96). By the end of the 1930s labor unions and labor historians misplaced Depression-era heroes as well. Not surprisingly, community-level leaders disappeared first, and we should expect no less in a labor movement that was centralizing. Then those who took no formal union office were submerged in the collective identity of "picket line," "crowd," and "workers." This collective amnesia was necessary—for institutional union history legitimated authority and grassroots memory disrupted it; but it nonetheless had the consequence of displacing not only the marginal, weak, and local from the institutional memory of unions and communities. It also suppressed the memory of how the labor movement built, struggled, and prospered in the first place.

The contemporary crisis of labor was and is similarly shaped by amnesia about movement building, politics, and gender. It possesses a strong resistance to recognizing demographic and political changes that is comparable to the labor movement of the 1930s. First, like the 1930s, the postwar period experienced shifts in the labor market and in family economies that have gone largely unrecognized—or certainly unmet—by the organized labor movement. As early as 1955 commentators predicted a crisis of labor (Mills 1956; Bell 1960); yet George Meany, head of the unified AFL-CIO, summarized union attitudes: "Why should we worry about organizing groups of people who do not want to be organized?" (Shostak 1991:59). His assumption that membership in the craft and industrial sectors would provide long-term stability for unions almost dictated indifference as a strategy; the underfunding and disappearance of new organizing campaigns were superficial symptoms of chronic problems.

The postwar AFL-CIO was similarly indifferent to the context that motivated labor force participation. Different family needs (especially the need for childcare among the growing number of two-income families) and new economic trends, which diminished opportunities for new generations of union workers, did not alter labor's strategy. Moreover, union leaders exhibited profound indifference to the consequences of demographic and economic changes that were already public knowledge. In a prophetic essay, sociologist Daniel Bell argued that labor had reached its saturation point in manufacturing. All other sectors of the labor force—agricultural labor, small firms, southern and rural industries, clerical, service, and professional work—were, from this perspective, "unpenetrable." Automation caused worker alienation and played into the employers' hands by creating redundant labor. Economic restructuring and global competition followed, and government was no longer amenable to "helping" labor as it had been in the 1930s (Bell 1964).

There were more than political and economic obstacles in the way. According to Bell, the language of labor stood between the new workers (especially young female workers in clerical occupations) and the blue-collar industrial unions which were, by implication, male arenas of contestation with management. Another problem was faulty memory; labor neglected its own successes in organizing clerical and service workers in the 1930s (e.g., Cobble 1991). But while Bell and others were proven wrong in their pessimism about organizing service workers, Bell's argument about the demise of unionized industrial labor was prescient—only underestimating the speed of decline.

Contemporary labor commentators on the crisis of labor have as their central complaint and reason for union membership decline the deterioration of the manufacturing sector, which had been overwhelmingly unionized prior to the 1980s. In his analysis of the Hormel strike, for example, Peter Rachleff (1993) argues that revitalizing the labor movement requires the organization of service workers, but most of his prescription is grounded in the industrial sector. By using the Hormel strike as the template for the rebirth of the labor movement, Rachleff implicitly advocates the industrial model of unionism. Yet what was distinct in the Hormel case was not its manufacturing base but how the strike against the company overran the labor relations machinery and flowed into the public sphere of community politics (see also Moody 1988; Geoghegan 1991).

We similarly participate in a deathwatch over the United Auto Workers, keeping track of precipitous drops in membership and mourning the loss of auto-parts plants. While these losses are real, economic trends are away from the manufacturing sector and toward service work as the core of the labor force and even of organized labor. We need to remind ourselves that the UAW's largest local is comprised of government employees. AFSCME, SEIU, and the teaching federations are the fastest growing and most visible members of the union labor force in this country. The recent victory of flight attendants prefigures the emerging importance of "new labor" in the political and economic realm.

The distinctly different unionism of the 1980s and 1990s is centered in clerical, service, and especially public-sector employment, where women comprise a substantial plurality—and even a majority—of the work force. In recent years the unionization of women increased while men's declined, an increase founded in part on the organization of the public sector. In a recent survey, 14.8% of working women and 21.3% of working men were in unions; and women constitute the majority of new union members (66%). Women are not, however, adequately represented in labor union leadership. The same International Labor Organization survey found that while women in the U.S. accounted for 37% of union members, they made up less than 10% of union governing boards and headed only two major unions. While women play a local and regional union leadership, their influence does not percolate to the national level (Cobble 1991; Crain

1991; Swoboda 1993). The future will bring increasing numbers of women both to the labor force and to the union movement.

The question is whether we are merely experiencing the inevitable lag between structural changes and cultural/political response. The neglect of women workers in the labor movement, at least in part, echoes labor's belated integration of ethnic workers in the 1930s after decades of opposition. It also parallels the incorporation of industrial unionism into a largely craft union movement. Should we agree with Charles MacDonald's argument in a recent article that union membership figures experience first an "abatement" and then "a reversal of the trend . . . without a major shift in union mission"? (McDonald 1992). I want to contest McDonald's optimistic forecast and to say that a major shift *is* required. The changes in the demographic and occupational profile of the work force require different strategies and a particular attention to women's dual workload in the family and the workplace.

The amnesia about the 1930s has a particular meaning not only for the labor movement's inclusion of women and minority members but for the structures and processes by which labor unions might rebuild in the post-Reagan/Bush era. That is, emerging working-class organizations in the 1930s recovered their viability and action in the period through a model of unionism which today, more than ever, is applicable. Community-based unionism, which incorporates workplace struggle into a broad strategy of community and political change, was the key both to the growing numbers of labor adherents in the 1930s and to the specific inclusion of women.

Community-level labor activism capitalized on local institutions and networks (in churches, ethnic organizations, neighborhood groups) that were insulated from corporate control and participated in a broad-based strategy that linked productive with reproductive concerns, workplace with family and community, and politics with local power. It was not a new configuration of labor—union membership has always thrived on integrated strategies of workplace, community, and political struggle—but the Depression witnessed the accession to national power of a labor movement built through local efforts. It also was a social movement that exhibited strong inclusive strategies that at least formally acknowledged the need for gender and racial equality and at least temporarily overcame ethnic division (Moody 1988; Gerstle 1989; Faue 1991; Geoghegan 1991).

Not all the unions that built—or rebuilt—in the 1930s were community-based. The centralized organizing campaigns of the steelworkers' union, for example, overran community-based efforts. Corporations which moved into the industrial union camp of the CIO were variously organized, sometimes with community-based efforts, at other times through a fairly centralized takeover of preexisting company unions. Most of those efforts, however, came late in the decade of the 1930s when the CIO could mobilize resources from the renewal of unionism in coal and the auto industry. Top-down organizing in major corporations did not partake in the general strike atmosphere of the great 1934 strikes in San Francisco, Toledo, Minneapolis, and the national textile industry.

Yet precisely because the union efforts of the early 1930s were decentralized, dispersed in geography, located in small businesses, and tied to the service sector (in the case of longshoremen and truckers), we might learn some lessons from them. To use one example, the community-based movement which made Minneapolis a union town originated in the organization of trucking. That is, the 1930s labor movement in Minneapolis was founded on a service industry which provided delivery to every large and small business in the city. Those lines of transportation proved crucial not only to union building among truckers and warehousemen but among workers in textile and garment production, iron work, and clerical service. The trucking industry, moreover, was organized much as garment production and clerical work; it was located in small firms with a small and unstable work force, where solidarity had to be built between workplaces. Had the truckers relied only on a workplace-based strategy, they would not have organized the unemployed, would not have capitalized on community-level protest in support of the strike, nor have looked beyond workers in their own industry. While the truckers' strike became an indelible part of the labor history of Minneapolis, however, the broad reach of its strategy and its incorporation of the community—including women as workers and wives—was left for the generation of social historians of labor during the 1970s and 1980s to rediscover.

The contemporary crisis of labor has its origins in the subtext of gender and memory which underwrote labor ideology and politics in the Depression decade and the postwar period. Memories of community-based struggle were obscured, hidden, and displaced in the amnesia of a successful and centralized union movement. Reconstructing the history of the social movement phase of unions becomes crucial to the excavation and reclamation of the labor movement because it reclaims the memories as well. Memories of the past serve both as reminders of useful customs of movement building as well as places where alternative futures can be imagined. Whether current labor politics also adopts a politics of forgetfulness (or amnesia) will shape its solution to the current crisis. To appropriate the text by Olga Broumas, "Like amnesiacs in a ward on fire, we must find words or burn."

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Have We Been Here Before? Prospects for a Future for American Unionism

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The parallels are striking. Union density was measured at 12% in 1929, and today, if we take the private-sector nonagricultural labor force, things have returned to this "nadir" (even if public-sector figures boost the total slightly to 16%). In the 1920s, injunctions regularly made hash of the strike weapon, while preventive unionism was legally sealed by the 1917 Hitchman decision legitimatizing the yellow-dog contract; today's analogues—the threat of replacement workers, the toothlessness of NLRB organizing protections, and a variety of state antilabor statutes (especially right-to-work laws and outright bans on public-sector collective bargaining)—work just as effectively.

In the short run the trends of the twenties proved a recipe for frustration and despair. Heady dreams of "industrial democracy" nurtured in World War I gave way to a corporate hegemony of open-shop campaigns and the American Plan. Politically, the 1920s witnessed national rule by Republican elites out of touch with, if not wholly unsympathetic to, the problems of working people and their unions. The picture was so bleak that the president of the American Economic Association, George Barnett, in 1932 saw "no reason to believe that American trade unionism will so revolutionize itself within a short period as to become in the next decade a more potent social influence" (Barnett 1985:6).

On both the industrial and political fronts, a not dissimilar twelve-year span was inaugurated for U.S. labor forces in 1980. Loss of jobs and deregulation have vitiated the traditional ranks of big labor, while the same declining numbers have meant less influence in the public sphere. Falling a mere one vote shy of significant labor-law reform in 1978, contemporary unionism has suffered a nearly relentless series of political setbacks: the firing of striking air-traffic controllers by President Reagan in 1981, popular

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resentment (even among union members) of AFL-CIO endorsement of Walter Mondale in the 1984 presidential primaries, and finally defeat over NAFTA (first, via fast-track negotiating authority granted to President Bush—and accepted even by usual labor stalwart Rep. Richard Gephardt—and second, with final passage secured by the all-out efforts of Democratic President Clinton in November 1993) suggested that labor had again lost its seat at the table of national power (Valelly 1993).

The comparison to the twenties, of course, is not without its compensations. Most notably, the prediction of 1932 turned out to be wrong. The great new burst of modern unionism and labor politics that we associate most closely with the CIO and the New Deal loomed just beyond the horizon. Might today's setbacks similarly signal a darkness before the dawn?

In addressing this issue, I want first to draw on the impressive recent labor historiography of the thirties to identify the basic building blocks of past progress. Then, with help from social scientists and labor strategists, I hope to translate the "lessons of the past" into future projections. In other words, assuming we have been here before, how can we get "there" again?

It is a truism, but one worth repeating, that trade unionism depends on the ability to regulate specific labor markets—by workplace-centered action or by statute. Judging from recent studies, the industrial unionist tide arising in the thirties succeeded on both fronts by taking advantage of three intersecting historical forces. Broadly speaking, these encompassed a Keynesian, or consumptionist, policy response to the Great Depression; the intervention of the political order to restructure industrial relations; and rank-and-file militancy knit by a popular-nationalist ideology. The three factors so reinforced one another, moreover, that rather than treating them separately, it makes more sense to observe their interaction in particular historical cases.

Not coincidentally, two of the future architects of the CIO—John L. Lewis and Sidney Hillman—had struggled creatively, if fitfully, for decades to cap the evil genie of price competition in their industries. Lewis, as David Brody (1993) brilliantly captures in a recent essay, had seen an earlier stability resting on negotiated regional wage differentials (or "competitive equality") in the bituminous coal fields come unglued in the aftermath of post-WWI slumping demand and the pressure of nonunion supplies in Kentucky and West Virginia. In "avowedly conservative, even Darwinian" terms, Lewis pressed the case for driving out low-wage, inefficient mines in favor of an industrywide, high-wage alternative. By the late twenties, however, he recognized that only "massive intervention of the state" could provide the necessary leverage. His first breakthrough came in the "Appalachian

Agreement," the soft coal code established through the NRA in 1933—a compromise stimulated in large measure by spontaneous strikes and serious disorder in the Pennsylvania region. The market stabilization hatched through the government under the New Deal passed in the post-WWII era back to private hands, where the big operators—convinced by Lewis' wartime displays of collective defiance—willingly negotiated a single national standard with the UMWA (pp. 131-74).

Sidney Hillman was, if anything, even more explicit than Lewis in tying the future of organized labor to an economics and politics of market regulation. Marvelously evoked in Steven Fraser's (1991) recent portrait, Hillman's trade union education began with Chicago's pattern-setting Hart, Schaffner and Marx agreement of 1911. Thenceforth, the combination of timely applications of shopfloor power together with strong public appeals won the backing of both enlightened industrialists and key legislators. The result, well-ensconced by World War I and then reestablished in the thirties, was a "proto-Keynesian" formula, assimilating trade unions into a high-wage, technically self-adjusting, consumer capitalist expansionism. This entente over union recognition and wage floors—established in the garment trade via negotiation, government mediation, and informal community pressure (and attached to a broader agenda of social welfarism through a thriving internal union culture)—was ultimately extended nationally and encapsulated in the Wagner Act and the success of the CIO. "A decade before the Flint sitdown strike," argues Fraser, "the CIO already existed," at least as a "managerial-political institution" (p. 332).

As a "cultural" institution, however, the CIO would have to await the developments of the thirties. Recent studies have emphasized the impact of cultural homogenization together with a politicized nationalism to explain the momentum of the era's mass struggles. "Without new kinds of commitment by ordinary factory workers," argues Lizabeth Cohen (1990) about Chicago industrial workers, "the help of neither the state nor union organizers would have been adequate to achieve such a major breakthrough" (pp. 301, 324-25, 333). Linked across ethnic boundaries by a "common ground" of consumption and communications, the CIO, according to Cohen, was able to forge a new "culture of unity." Other new converts to industrial unionism, like Woonsocket, Rhode Island, French-Canadian textile workers, likewise framed their demands in the thirties within a discourse of "the American way" (Gerstle 1989:219).

While framed within a national—and even nationalistic—context, the stability of the labor accord hatched in the thirties depended on political-economic developments stretching well beyond the nation's borders. The Great

Depression-World War II experience of "[saving] capitalism from itself," Robert Kuttner (1993) has recently noted, defined the parameters of postwar economic policy not only in the U.S. but throughout the industrial world until the oil shock of the early 1970s. With variations from heavily Social-Democratic Scandinavia to Christian-Democratic Italy to the more conservative collective-bargaining regime of the United States, capitalism, in Kuttner's words, was "managed and national." Within these "mixed economies" of the West, the combination of Keynesian demand management and union power bargaining up wages temporarily produced a "virtuous circle":

> Expensive labor made it rational for industry to substitute capital for labor. As labor was shredded through increasing capital intensity, it was absorbed elsewhere in the growing and fully employed economy. Capital investment yielded real productivity growth and rising living standards, which were shared more or less equitably due to the power of the unions. High wages, in turn, created consumers with the purchasing power to buy the products (pp. xi-xii).

Sustained as it was by U.S. postwar economic dominance, this circle could not forever remain unbroken. First evident after the oil shock of 1973, the rules of the game affecting both the workplace and public policy changed abruptly. Pressed by stagnant growth in home markets, transnational corporations have taken advantage of technological advances in production and communication to tap cheaper labor pools around the world. In the process the entire social edifice upon which U.S. industrial unionism had arisen has come undone. In drastically altered circumstances, therefore, how might labor reconstitute the old three-part harmony of state policy, union strategy, and worker cultural unity?

Given the inevitability (including many positive consequences) of a global economy, pursuit of a "global Keynesianism"—balancing high demand and rising wages with environmental safeguards—supplies a plausible policy vision. On the labor front, such a policy of democratically managed capitalism might take various forms. On the one hand, the U.S. must, for the first time, take seriously the convention-setting agenda of the International Labor Organization in Geneva. These covenants (most of which remain unratified by the U.S.), which currently rely on moral suasion to curb the worst abuses of labor rights and working conditions, should be given teeth, either by connection to United Nations sanctions or by assimilation within GATT or other international trade agreements.

Secondly, the AFL-CIO should maintain the momentum of its losing but still influential "Not-This-NAFTA" fight to keep the public spotlight on U.S.-Third World relations. If economic integration is a good thing, it might be argued, then further measures of economic and social coordination should also follow. Debt relief in exchange for expanding minimum wages and public works programs, for example, would cushion the blow of unrestricted investment in cheap labor. Even more significant, of course, would be acceptance of a negotiated "competitive equality" (to invoke the terms of the old UMWA regional agreements) to operate within regional or more global trading networks. Such an agreement, operating through what Stephen Diamond (1993) proposes as a "trinational social rights agency" might set targets for expanding minimum wages as well as monitor plant closings and new investments. In the latter case, compensation or adjustment spending could be ordered if a claim could be proved that new investments were aimed not at new markets in Mexico, for example, but to reexport to old markets in the U.S. from which production had been uprooted (p. 256). Retired Machinists leader William Winpisinger's more radical wish list is also worth preserving for future reference. Among other measures, he advocates requiring "full multinational disclosure of intra-company transactions, transfer pricing polities, profit-loan swaps and bank tie-ins," as well as amending the 1974 Trade Adjustment Act to withhold favored-nation status from those countries which, rather than developing their own internal markets, are manufacturing strictly for export (Winpisinger 1989:100-101).

Any new international statutory apparatus would equally require an active solidarity among workers across borders. Whether in monitoring basic economic and rights issues or in coordinating workplace actions from demonstrations to slowdowns to strikes, a new level of both interunion and worker-to-worker contact is called for. Until now, for example, the International Trade Federations (e.g., International Metalworkers' Federation and Postal Telegraph and Telephone International centered in Geneva) have functioned more as political and educational branch offices than command centers of labor relations policy. In the future, however, this international tail may have to start wagging the union dog.

Beyond organizational links, moreover, must come a new common ground of international citizenship. Environmental campaigns (aimed largely at middle-class opinion) have perhaps pointed the way here, but examples like the Nestle boycott and recent NAFTA-related initiatives between U.S. delegations and dissident Mexican unions suggest the potential for both coordinated organizational cooperation and worker-to-worker contacts. On a more abstract front, it is perhaps not too far-fetched to imagine a salutary cosmopolitan impact upon working people from greater access to travel, communication, and even musical understanding across national borders. If a Pink Floyd song could become the anthem for young East German dissidents, might not, say, Ladysmith Black Mambazo equally address the despair of the unemployed in the U.S. and Western Europe?

The policy prescription for a new labor order in fact proves easier than the strategic formula for rebuilding the political base that will transform a desirable vision into reality. In this respect, the 1930s model poses a key dilemma. On the one hand, it suggests that worker militancy and a measure of political radicalism (Lewis's unruly Pennsylvania miners, the sit-downers, and Communist Party agitation) will themselves help to transform the social-political terrain. In today's climate might this translate into a move from industrial unionism built around the employer-centered recognition drive toward a more polymorphous "community unionism" involving coalition-building, family and support organizations, corporate campaigns, independent labor electoral efforts, and an experimental range of workplace actions including civil disobedience (Rachleff 1993; LaBotz 1991; Brecher and Costello 1990)? With or (as increasingly seems likely) without the protection of NLRA Section 8(a)2—disallowing company unions or other employer interference with worker representation—should not labor also demand plant-level works councils as a forum for broader industrial citizenship?

On the other hand, we remember that the very edifice of the New Deal-postwar accord was fashioned not only out of cross-class materials but with crucial support from business and engineering types who accommodated the collective-bargaining wage floor into their own visions of consumerist expansionism. Where will such capitalist partners come from in the global marketplace? Surveying the vicissitudes of worldwide ethnic wars and mass poverty, will the denizens of Apple Computer, AT&T, Maytag, and Lazard Freres agree that, yes, some international labor rules and standards would in the end redound to economic growth, social stability, and, in turn, corporate profit margins? If such an entente is possible on paper, how might it, in fact, be facilitated?

Does such an end require ever more "flexibility" or effectively collaborationist policies (as seemingly adopted in Australia to help the Labor Party stay in power) on the part of the unions to convince big business that they can indeed "get along" (MacShane 1993)? Or does not labor first have to reassert its "obstructionist" capacity to prove once again that the economic engines cannot function smoothly without its assent? Surely there would have been no Protocol of Peace (to cite one important precedent) had garment workers and their unions not tied up the industry in strikes, demonstrations, and political pressure? But if the latter is the case, who and what instrument will be the battering ram of renewed insurgency? Resurrecting a credible combination of militancy and diplomacy is perhaps U.S. labor's biggest test.

On balance, the vitality of the U.S. labor movement within the world economy of the future is not impossible to imagine. The earlier tableau of twentieth-century history obligingly points the way to a trade and investment policy of global Keynesianism, a set of international labor and welfare standards dually enforced by regulatory sanction and independent worker action, and labor organizations capable at once of addressing a wide range of immediate concerns as well as placing their members in instant contact with brethren around the globe. No, it is surely not Yogi Berra's "deja-vu all over again." But the embers of an earlier era may nevertheless offer some warmth to a labor movement otherwise shivering in the dark.

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DISCUSSION

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My job this afternoon is to comment briefly on two of these fine papers—Gary Gerstle's and Liz Faue's—and to add my own perspective as a historian. Like my fellow panelists, I, too, believe in the relevancy of history, despite the counterassertions of many both within history and industrial relations. Indeed, in an era of shifting paradigms and fundamental transformations in the employment relation, historical and comparative studies are now central to advancing our intellectual understanding. As Faue eloquently explains, reclaiming our lost past can help us rediscover truths we *once knew* but have conveniently or inconveniently (as the case may be) forgotten. Or as Gerstle and Cohen argue, history can give us lessons that, in Gerstle's words, "may help us imagine how organized labor can once again command respect and influence."

History can also give us an intellectual self-consciousness—a bird's-eye view that takes us above and beyond our limited present. We see for the first time that it's water we are swimming in and we realize that there must be other choices—land, for instance, or air. Once our traditions, our embedded assumptions, and our unquestioned frameworks are revealed for what they are—historical constructs—we can better dismantle them. We can better escape the dead weight of our past.

After discussing the papers by Faue and Gerstle, I'd like to return to that dead weight. For I think we should look to the 1930s and the rise of industrial unionism as a way of unlearning our past, as a way of moving beyond the solutions and strategies of industrial unionism. The world of the 1990s differs fundamentally from that of the 1930s. We need to be aware of the historical traditions that bind and hobble us as well as those that are worth reclaiming.

Gerstle's careful and thought-provoking paper reminds us that labor's economic resurgence in the 1930s was coupled with a truly remarkable "political reawakening." After all, the 1930s was not just about a fundamental restructuring of economic relations between labor and capital as some

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would argue but about the creation of a *new party system.* The Democratic party transformed in large part as Gerstle outlines. A new politicized and radicalized working-class constituency emerged. (Gerstle emphasizes the transformation among ethnics, but it is also important to note the shift that occurred among African Americans. They voted Democratic for the first time in the 1930s, abandoning their historic ties to the party of Lincoln.) Also, as Gerstle details, a new, more progressive policymaking elite came to power—an elite who obviously could read the political winds and who came to support certain working-class causes out of political expediency but who also had prior and independent philosophical commitments to a new economic and governmental order. The pathbreaking work of Gerstle, Fraser, and other historians in this area is now being reinforced by scholarship from other arenas (for example, the recent account by Barenberg [1993] on the passage of the Wagner Act). Barenberg's account sees the passage as resting largely on Robert Wagner's Deweyian obsession with social harmony and with finding an alternative both to paternalism and to social conflict.

Gerstle concludes his reading of the 1930s and labor's rise to political power by underscoring the importance of the cultural in the midst of the political and the critical role that language and political discourse holds for those concerned with wielding political power. What are the lessons for Gerstle? First, labor must once again appeal to the new ethnics—in this case women and the new immigrant minorities. I concur. Labor certainly could take more advantage than it has of the so-called gender gap in politics and the desire for citizenship and political enfranchisement among the new immigrants. Labor also, as Gerstle asserts, is in crying need of alliances with sympathetic elites and of repositioning itself so that its mission is articulated in a way that embraces our society's "core values and principles."

Like Gerstle, Faue enjoins organized labor to move beyond the narrowly economic or "the realm of production" to the "realm of social reproduction." Labor must "develop integrated strategies of workplace, community, and political struggle," she argues. The rise of industrial unionism and the creation of national union structures, in Faue's view, meant the decline of grass-roots activism and the marginalization of women and minorities. Her key "both to increasing the numbers of labor adherents" and to including women is "community-based unionism."

Faue's call for integrated strategies and for an inclusive, broad-based unionism that recognizes the concerns of workers beyond the workplace should be heeded. The recent successes of the Justice for Janitors campaign, the union upsurge among Latino immigrant drywallers in Southern California, or even the militant and effective general strike among New York's Chinese garment workers in the early 1980s are all examples of what can happen when labor pursues a combined workplace and community-based strategy. We should, however, also redefine community to include nongeographically based communities such as occupations. Occupational ties can be potent ones as in Cohen's example of the recent American Airlines flight attendants strike or as detailed in my own work on waitresses and their unions (Cobble 1991).

Let me conclude by returning us to the economic realm and to the workplace. I'd like to offer two observations that flow from my recent work on the 1930s and its relevance to current labor law reform efforts (Cobble 1994). Both observations have to do not with the successes of industrial unionism but with its limitations.

First, as Tomlins (1985) and others have argued, one troublesome legacy of industrial unionism may well be its tendency to rely overly on politics and on state regulation. I don't see our breaking labor's fall by increasing state regulation. Instead, especially outside of mass production, labor may best be served by what Lane Kirkland recently referred to in his testimony before the Dunlop Commission as the "free play of economic forces." If labor is to organize a service and mobile work force, it must have the economic weapons it once had: the secondary boycott, the right to picket for recognition, and the freedom to engage in sympathy and other so-called "secondary" actions. Without the power of *self-regulation*, labor is doomed to dependence on a state that in my view is no match for global capital.

Second and last, institutional reform is critical. There is a structural crisis today just as there was in the 1930s. And just as industrial unionism superseded craft unionism, so too must new forms of postindustrial unionisms emerge to meet the needs of the new work force. What these new forms of unionism will be is unclear—whether associational, community-based, enterprise, occupational, or something not yet dreamed up. But history can help make these new forms possible. Not only can we remember lost traditions, reassemble and extend past practices, but we can discard and leave behind what no longer matches our current realities. Perhaps one irony of looking at the rise of unionism in the 1930s is that to "get there again," to misquote Leon Fink, we might actually need to make different choices.

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DISCUSSION

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My comments focus on the excellent papers by Leon Fink and Lizabeth Cohen, both of them distinguished labor and social historians. Fink's paper examines how the new global economy undermines the Keynesian logic of 1930s-style industrial unionism. Globalization surely has hurt unions in the tradeable sectors of *all* advanced nations, yet one must remember that the post-1973 drop in union density was steeper in the United States than elsewhere. Explaining why this is so requires attention to the internal conditions that have made recent U.S. developments distinctive.

Rather than run down a roster of causal factors, let me offer a couple of historical reasons for the exceptionally calamitous events of recent years. First, consider U.S. welfare capitalism, which was more elaborate in the 1920s than in other countries. Instead of dying out in the 1930s, welfare capitalism reconstructed itself to fit changing circumstances; it reemerged in the 1960s as the modern nonunion model, a set of corporate practices inimical to traditional unionism. Another result of welfare capitalism was the relatively small size of the U.S. welfare state; this preserved a sizeable arena for private welfare activities. While unions eagerly negotiated generous benefits for their members in the 1950s, today they find that such benefits put them at a competitive disadvantage. Finally, our meager welfare state makes it difficult to standardize conditions and organize workers in low-wage labor markets.

A second factor to consider is the Wagner Act. The act undoubtedly helped to promote unionism in the 1930s and 1940s, even taking into account the caveats raised by Cohen. We need, however, to historicize the act; that is, to recognize that its assumptions were grounded in particular cultural and historical circumstances. Those circumstances produced the act's obsession with company unions, its emphasis on exclusive representation, and its conviction that unions would bring order to labor markets on a company-by-company basis.

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A product of its times, the Wagner Act nevertheless had unintended consequences that have promoted union decline over the last twenty years. For example, the decentralized wage bargaining encouraged by the act has the effect of raising costs for unionized employers above those of their unorganized competitors; this creates strong incentives for firms either to shed existing unions or to bitterly resist the formation of new ones. The shedding process began after the Second World War and was accelerated by the industrialization of the South and the inflationary shocks of the 1970s.

The act also has inhibited the development of new representational forms that might better "fit," in a Darwinian sense, the current environment. For example, nonmajority representation (an old idea recently resuscitated as "associate membership") is not feasible under the act. And the recent *Electromation* decision reminds us that anything which resembles a company union—from teams to works councils—may be unlawful.

Finally, the act's economic rationale—boosting wages to prevent underconsumption—makes little sense in a globalized economy, as Fink observes. Nor does the phrase "industrial democracy" set our jaded, postmodern souls aflutter. Thus the labor movement lacks compelling economic and political visions to inspire public support.

The importance of shared vision animates Cohen's insight that a "culture of unity" helped to build industrial unions and might do so again in the future. That earlier sense of unity was, in part, the result of factors peculiar to the era, as Cohen herself has argued in her magnificent book. Take, for example, the Depression. Its breadth and severity created common concerns that cut across the divides of race, region, gender, and social class. Also, the economy then was highly concentrated and tightly linked. A small group of companies defined the modal work experience, sustained new patterns of mass consumption, and made it easier for government to coordinate economic policy. The economy today is more differentiated; there is no such thing as the "typical job" or the "typical worker." Also, the effects of globalization are less extensive and less uniformly negative than were those of the Depression. Hence it's harder in the 1990s to define common interests within or even across economic and demographic groups. Perhaps we should give up searching for broad banners and instead identify more differentiated, localized affinities, such as community, profession, gender, and ethnicity (all of which recently have been tried in new ways as a basis for unionism, although, as Faue argues, more can be done), as well as less obvious categories such as family status, consumption, sexual orientation, age, and educational credential.

In closing, let me point out that the panelists all have chosen to discuss union *formation* but said little about the *content* of unionism. To me, what's striking about the 1930s is how the new industrial unions promoted a bureaucratic project initiated by the era's most progressive firms: tying workers to a given employer, regulating those ties with rules regarding seniority and discipline, and adjudicating rules through a grievance procedure. With its content corresponding to corporate "best practice," industrial unionism often improved organizational efficiency, and, as a result, received support from the elites mentioned by Gerstle (high wages were only part of the story). Also, managers found it easier to live with unions than they initially had feared.

Today, however, unionism's content lags behind the practices of progressive employers, who are inclined to manage along nonbureaucratic lines. While some unions are changing their approach, most are less in tune with managerial reforms than they were fifty years ago. Moreover, the average mid- to large-sized nonunion firm nowadays provides much the same "package" as the average union. In short, unions have less to offer unorganized employees, employers, and policy elites than they did in the 1930s. Yet history has its limits; the past may be more of a hindrance than a guide to figuring out how to change labor's practices to fit the modern workplace.

VI. INTERFIRM CONTRACTING AND LABOR RELATIONS IN U.S. MANUFACTURING

The Rise and Fall of Collaborative Labor Relations in Chicago's Small-Firm Metalworking Network

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In this paper I examine how Chicago's small-firm metalworking industry is changing its labor relations given the supposed emergence of "network production" in manufacturing. Will these metalworking suppliers aim to achieve more collaborative labor and interfirm relations so they can become more globally competitive? What does the history of this industry tell us?

Based on my research of Chicago's metalworking industry from the 1920s to the 1990s,[1] I argue that whether firms learn to collaborate among themselves—and management, in turn, with labor—is contingent upon the past history of alliances within a regional production complex as well as the current distribution of power among various actors. For instance, Chicago's metalworking firms did in fact pursue a collaborative "high performance" model of interfirm and labor relations from the 1920s until the 1950s. Subsequently, Chicago's large manufacturing firms developed strategies for lessening their dependence on this highly organized and powerful network of suppliers and their craft labor. With the reemergence of network production today, however, manufacturers must again solve their age-old dilemma. How can they increase cooperation among suppliers and with

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labor without stimulating a strong and demanding regional metalworking supply network as in the past? The answer is to develop mechanisms for keeping the region's metalworking supplier industry and its craft labor subdivided. Since network alliances confer power on the collaborators, as I show below, they stimulate a never-ending and dynamic set of defensive actions by other actors in a regional production complex. We must document these countering strategies of potential partners to understand under what conditions labor and interfirm collaboration can remain stable or not.

A Collaborative High-Performance System of Labor Relations and Work

Within the last decade, theorists have debated the need to transform global manufacturing systems. Some argue that mass production—which U.S. manufacturers successfully pursued in the post-World War II era—is not able to provide low-cost and high-quality products in today's highly fragmented, fluctuating, and uncertain markets. Instead, new flexible production systems are more efficient in today's global marketplace (Piore and Sabel 1984; Best 1990).

These new systems bring with them a radically different system of labor relations and work; they utilize a highly skilled and autonomous work force to pursue "continuous improvement" in organizational efficiency, process innovations, and product quality. These new high-performance work systems encourage collaboration between labor and management in all levels of firm decision making. Likewise, customer firms increase innovation and competitiveness by expanding supplier participation in corporate decision making and problem solving (Best 1990; Appelbaum and Batt 1994).

Thus theorists hypothesize that all actors in a production chain—manufacturers, workers, and suppliers—must now collaborate if firms and regions are to become competitive against the Japanese, the Italians, and others who have implemented these new, flexible, and participatory work relations. Some argue that actors can build long-term collaborative relationships through informal negotiations, or "studied trust" (Sabel 1992). Others maintain that only formal institutions (such as employers' associations) ensure lasting collaboration—as occurs in Germany's system of "diversified quality production" (Streeck 1990). Regardless, the hypothesized goal is the same—all actors in a production chain need to establish long-term collaborative relationships for success in today's global marketplace.

I would argue that while this goal is desirable, however, it is rarely obtained. In fact, by creating the theoretical ideal of the inclusive and stable collaborative network, theorists have obscured how such alliances actually operate. By documenting the history of one such alliance—the Chicago metalworking industry's trade association—over the long term from the 1920s to today, I have obtained a more realistic picture. I have discovered, first of all, that alliances emerge between different sets of actors to reflect their often divergent economic interests or goals. Some may have the survival of a particular firm in mind when negotiating an alliance; others may work toward the success of a regionally based industry or occupation.

Secondly, the forms of collaboration among these economic actors—workers and management, customer firms and their suppliers—change over time. Because an alliance can increase the relative power of the collaborators vis-à-vis others in a regional production chain, the collaborators can eventually secure more favorable terms for themselves. This stimulates defensive actions by actors who have been excluded from an alliance in a previous period and may result in the breakup of the former alliance and the establishment of new sets of partners. Rather than seeing this theoretically as an unstable and, therefore, unsuccessful example of network production, I think these shifting alliances may be the norm. Once we understand that actors make and break alliances for strategic purposes, we can better describe the periods when such alliances appear to be stable.

Furthermore, we also see how the implications for labor or interfirm relations in today's alliances are not automatic; collaborative customer-supplier relations do not necessarily infer more participatory labor relations or vice versa. Instead, whether and how an actor collaborates depends on the history of past relationships and the relative distribution of power within a production complex. The following brief history of labor and interfirm relations in the Chicago metal-related complex illustrates this argument further.

The Heyday of the Metalworking Supplier/Labor Alliance—the 1920s through the 1940s

Chicago's metalworking sector in the past represents the prototypical collaborative work system that today's theorists describe. This network of small producers and their highly skilled craft labor collaborated in producing high-quality, innovative, and customized products. The partnership that workers and shop owners forged gave them greater bargaining power vis-à-vis the manufacturing complex at large.

Chicago's metalworking supplier industry—which produces tools, dies, and machined parts—initially depended on the region's mass producers for its markets. With excess capacity in the metalworking industry following

World War I, large manufacturers played one metal shop off against another. Prices and wages plunged as cutthroat competition increased in the emerging tool-and-die industry (White and Sinclair n.d.; Rockwood n.d.).

Interestingly, in 1925 the IAM (International Association of Machinists) offered a solution to the metalworking supplier industry's troubles. Only through collaborative action, it held, could both workers and metal suppliers hold the line on price and wage cutting. The union helped the small firms form a trade association—the Tool and Die Institute—with this implicit bargain as its foundation. The trade association encouraged the building of trust between metal shop owners; developed price, cost, and quality standards for the industry; and used peer pressure on its members to uphold these standards. The federal government also strengthened Chicago's new form of collaborative metalworking production by sanctioning industry cartels and price and wage standards under the National Recovery Act of 1933. Chicago's metalworking trade association encouraged industry price and wage standards through the 1940s to ensure a supply of highly skilled and loyal craft labor—a key ingredient to the precision-oriented work process in these shops (Rockwood n.d.; T&DI 1920s-1940s; Hawley 1966).

Large Customers Fight Back with Supply Alternatives in the Postwar Era

In the period following World War II, Chicago's large customer firms sought to lessen their dependence on the strong supplier/labor alliance from which they were excluded. They developed several metalworking supply alternatives which eventually weakened the supplier/labor alliance.

Expanding the captive shop—the 1950s. Facing the united front of Chicago's metalworking suppliers and their workers and an increased need for their tooling services during the postwar boom in demand for manufactured goods, the large customers sought a mechanism to even out this power imbalance. They turned to the captive shop as a key strategy. The auto industry, for example, first added substantial captive capacity in toolmaking and precision machining in the mid-1950s. This initial expansion duplicated, in-house, the skilled metalworking capacity that manufacturers earlier purchased from independent shops. Manufacturers felt that the captive toolrooms gave them greater control over the toolmaking and parts production process; captive shops also paid lower wages to skilled workers (AM 1961; U.S. Congress 1970; Arnett and Smith 1975).

Applying numerical control in the second captive expansion—the 1960s. In the 1960s, customer firms revised their captive toolroom strategy with numerical control (NC)—the new metalworking technology. NC (first developed for the military) linked computers to the design and production of metal parts. Large manufacturing firms (such as the automakers) strove to perfect this technology for commercial use. Manufacturers could produce tooling and bring new car models to market faster with NC, while also decreasing their dependence on the skill of the contract shops. Lower-paid and less-skilled labor could produce high quality and complex tooling and machined parts with NC. Many observers predicted that the NC revolution would stimulate the "demise of the traditional small job shop" (Corplan 1964:45) which utilized skilled craft labor to achieve similar precision (U.S. Congress 1970; Arnett and Smith 1975).

Outsourcing overseas and the cost squeeze of the 1970s. In the 1970s, macro conditions and the continued increase in foreign competition made the "high tech" captive toolroom strategy untenable. Firms faced recession and slow growth in this period. They also experienced double-digit inflation, a tight money policy of the Federal Reserve, and changing consumer demand which now favored low price over quality. Companies stopped investing in NC because of its initial high cost, the rapid changes in the new technology, and the difficulty of proving its effect on direct manufacturing savings (AM 1976a).

Furthermore, manufacturers began to worry about the lower cost, rather than high quality, of their new foreign competitors, which had already "made substantial inroads in important industries" (e.g., radio and television, automobiles, steel) by the mid-1960s (Hopper 1970). Thus manufacturers focused on cost reduction as a strategy. At the same time, wage and benefit packages rose at a faster rate in the captive shops due to the effectiveness of industrial unions. This should have stimulated manufacturers to increase subcontracting, but industrial unions objected. Left with the increasingly costly captive toolrooms, manufacturers sought tooling and other parts offshore from much lower-priced and lower-wage European and Japanese suppliers (AM 1970; Arnett and Smith 1975; Brown 1976; AM 1976b).

The Trade Association Breaks Its Alliance with Labor

How did Chicago's metalworking industry respond to these strategies of its customer firms? It accommodated to customer pressure enough to break its bargain with craft labor, while still maintaining its interfirm guild ties.[2]

In the mid-1950s, for instance, the contract tool-and-die shops in this region were concerned with the expansion of their customers' captive facilities. Chicago shops, facing the highest skilled wage rates in the country, started to underbid each other; this threatened their collaborative interfirm guild ethic. At the same time, the aggressive new steward of the machinists' union called strikes against the largest metalworking shops for higher wages. This marked the beginning of the end of the supplier/labor alliance. The trade association organized a collective response against the union and, more importantly, kept significant local customer firms (e.g., Hotpoint, International Harvester, Stewart-Warner, Sunbeam, and Zenith) informed of its progress in holding labor costs at bay (Rockwood n.d.; T&DI 1950s).

By the mid-1960s, manufacturers hoped NC would allow them to wrest control over skill from the contract suppliers and their craft labor. The trade association resisted this development by furiously upgrading the technological sophistication of its member firms. For instance, its technical committee disseminated knowledge about the new technologies to its members with the help of IITRI—the Illinois Institute of Technology's Research Institute. Yet, the association's new technological strategy notably weakened the role for craft labor. Suppliers increasingly accepted the widely held view of that time that NC should significantly lessen the industry's use of and need for skilled labor (T&DI 1960s).

In the 1970s, Chicago's suppliers responded to their customers' new strategy of importing tooling and parts by lowering their internal costs, especially those related to labor. Metalworking production shops typically turned to Mexican and Polish immigrants who entered metalworking as semi- or unskilled production workers. Tool-and-die shops replaced the "generally trained" and highly skilled toolmaker with the semiskilled specialist. The association changed its training program to reflect the increased use of lower-skilled workers (T&DI 1970s; McCormick 1993).

Thus the Chicago metalworking industry's collaborative production and labor relations system eroded in the postwar period. The industry could not maintain the bargain behind the supplier-labor alliance—that highly trained workers would produce high quality and precision metal parts in return for a wage premium—in light of customer efforts to find supply alternatives. These customer strategies, however, reached their limits by the 1980s.

The 1980s and the Return of a Collaborative Work System?

By the late 1970s, a sea change occurred in American manufacturing. Many manufacturers saw production with all its attendant problems as too risky. They reversed the trend of integrating all production activities within the corporation and instead started to "disintegrate" or increase their subcontracting (AM 1982). This strengthened Chicago's network of metalworking suppliers for a time. Yet the customer's dilemma remains: How can it seek metal parts, production knowledge, and collaboration from Chicago's highly organized suppliers without increasing such suppliers' power and demands for a larger piece of the pie? Furthermore, how can the customer demand quality and continued innovation without also encouraging the reforging of a collaborative relationship between suppliers and precision-minded craft labor?

The late 1970s and the diversified regional network. By the 1970s, Chicago's metalworking trade association began to counteract the strategies of its multinational customers in ways other than cheapening its labor. It expanded its membership, its identity, and its control over the regionally based metalworking industry. Although this strategy involved a courting of customers into a supplier/customer alliance—after ties with labor and the union had been broken—this also strengthened the trade association's hand in the face of its customers' increasingly global subcontracting activities. Customer/manufacturers responded in a subsequent period to this reenergized trade association with their own firm-controlled supplier alliance.

Chicago's metalworking trade association expanded its membership in the late 1960s through the mid-1980s in several ways: it increased the metalworking subspecialties it represented, it expanded its service area, and it expanded substantially in terms of its overall size. For instance, the association nearly doubled its 1970 membership by the end of the 1980s—remarkable in a period of slow economic growth. By the mid-1980s, the association had significantly refashioned its identity. It now represented not only a wide array of metalworking supplier subspecialties but customer firms as well. Corporations such as Sunbeam, Motorola, Schwinn Bicycle, and Continental Can now belonged. The association added "manufacturing" to its name to reflect these changes. No longer were the highly skilled tool, die, and precision machine shops exclusively running the organization.

At the same time as the association diversified its membership to reflect the region's entire metal-related production chain, it also became active politically. It joined other PAC groups, its staff registered as lobbyists, and it participated in several national-level coalitions (T&DI 1970s-1980s). The association also began to market its expanded network to the world as an alternative to overseas subcontracting districts and it encouraged ties between its supplier and customer members (e.g., by organizing an intraorganizational trade show) (T&DI 1980s). In addition, the association rejuvenated its technological preeminence in the 1980s after a period of dormancy. For instance, the association reinstituted its technical seminar series on such topics as quality control, robotics, and JIT ("just-in-time" inventory systems). Thus this diversification strategy served the purpose of increasing the association's influence among all metal-related manufacturers in the region to better counteract the increasingly global strategy of the larger multinational manufacturers (AM 1982; T&DI 1980s).

The 1980s and the customer firm's response—a firm-based supplier network. At the time that American customer/manufacturers began to disintegrate their activities, they also educated themselves about the advantages that supplier networks offered their successful competitors (especially the Japanese). Chicago presented multinational manufacturers with an already organized metalworking supplier network to tap for their needs. Yet the Chicago network carries disadvantages—its past alliance with labor, its history of interfirm ties through a guild association, and its ability to push regional demands upward on customer firms. Given this history, larger manufacturers discontinued their membership in Chicago's metalworking trade association and began to develop their own supplier networks. These networks solve the customer's problem of how to increase interfirm collaboration while also controlling suppliers' power and prices.

Today's multinational customer firms have followed a network strategy which, first of all, selects a preferred pool of suppliers from among all the metalworking firms in the region. Selected suppliers must meet tough standards for quality, service, delivery, and/or cost. "Competitive selection" places pressure on Chicago's supplier complex at large. Nonselected suppliers work hard to become selected by meeting customer standards. Selected suppliers, given some security by customers (e.g., long term contracts), are constantly reviewed for compliance.

Not only does the supplier selection process weaken the collective voice of the regional complex, but so too do other customer expectations. Customers wanting to minimize supplier contacts with "one-stop shopping" encourage their preferred suppliers to develop a range of product lines and process capacities. This weakens the preferred suppliers' former ties to other upstream suppliers. In many ways customers treat preferred suppliers as extensions of themselves—much like the integration of the earlier captive toolroom strategy, which increases customer control over supplier operations and costs.

A third mechanism for solving the manufacturers' problem has been to set up a global supplier network. Customers encourage collaborative linkages and information exchange among their suppliers on the basis of product markets (e.g., sheet metal fabricators). But the suppliers in this network are linked globally, not locally; exchanges are carried out, for example, between one supplier firm in Chicago, one in Florida, and one in Taiwan. In this way, multinational customers have joined the advantages of foreign outsourcing to a collaborative network strategy.

Conclusion and Implications for Today's Labor Relations

What we see in Chicago in the 1990s, then, is two competing versions of network production. One is regionally based and encourages lateral collaboration among all metalworking suppliers and their metal-related customers in the region. To the extent that this network would increase the skills and participation of its workers—as theorists currently suggest it should in order to remain globally competitive—it would empower the region's metalworking complex at large vis-à-vis their large multinational customers. This development would also threaten to raise prices and wages as small suppliers returned to their labor alliance of old in order to achieve higher quality, precision, and innovation in production.

Chicago's second version of network production—that which is firm-based—aims to keep the prices and power of the region's supplier base in check. It, too, seeks high quality, but at a low cost. Therefore, lateral collaboration among all suppliers in the region—and they with their workers—must be partially inhibited. This is accomplished through several mechanisms: competitive selection, the identification of preferred suppliers, quasi-integration, and global supplier networks. The ball is now back in the trade association's court. It must devise a new strategy to counterbalance these firm-based networks or experience deep divisions within its ranks.

Acknowledgments

Although the conclusions herein are my own, I wish to acknowledge support for this research from the following organizations: the John D. and Catherine T. MacArthur Foundation through MIT's Center for International Studies, the Economic Policy Institute, and the Sloan Foundation through MIT's Industrial Performance Center. I also wish to thank the following for their helpful comments: Bennett Harrison, Gillian Hart, Susan Helper, Richard Locke, and Michael Piore.

Endnotes

[1]To research Chicago's metalworking industry for my dissertation, I interviewed informants at approximately 70 suppliers, customer firms, unions, immigrant assistance organizations, and relevant government agencies in two-year increments from 1988 to 1992. I also talked extensively with personnel at the Tooling and Manufacturing Association (formerly

T&DI); I reviewed their historical documents and other sources of historical data (e.g., the *American Machinist*, U.S. Congressional hearings, consultant reports).

[2]I describe here how the trade association accommodated to customer demands by making changes in its labor relations. But the trade association also resisted customer pressures. I discuss these "strategies of resistance" in greater detail in my dissertation.

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Supplier/Customer Participation and Worker Participation: Is There a Linkage?

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In recent years automakers in the U.S. have begun to have their parts producers participate more in activities such as product design and quality assurance. Simultaneously, the parts producers have also increased participation by their employees. This paper explores the relation between these two trends.

This paper grows out of a stream of research which suggests that understanding the structure of one market often requires understanding the structure of key markets to which it is linked. Recent studies have shown linkages between product markets and supplier participation and between financial markets and worker participation (Helper and Levine 1992; Levine and Tyson 1990). Past research also provides some evidence of a link between employee and supplier participation. For example, a 1990 survey of the Fortune 1000 found that companies with above-average levels of employee involvement have a third more employees in units that undertake "collaboration with suppliers in quality efforts" (40% vs. 30%) (Lawler et al. 1992).

Proponents of total quality management and similar techniques usually prescribe that a firm establish participative relationships with customers, suppliers, and its own employees. However, these discussions usually occur in separate chapters. (See, for example, GAO 1992; Dertouzos, Lester, and Solow 1989; Aoki 1988.) In this paper we explore whether participative relationships with different types of producers are or should be found together. In particular, we investigate whether information sharing (whether through ongoing discussions or formal committees) between the

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focal plant and its suppliers and customers is correlated with information sharing between the plant and its workers. Our results are still preliminary. In the future we will also examine the question of the parties' incentives to participate in such activities and the effects of participation on productivity, quality, and safety.

Supplier/Customer Participation

The last decade has seen the spread of new forms of supplier relations throughout the U.S. In industries ranging from computer software to retailing, high-performance organizations are turning upstream and downstream companies into business partners. These relationships are characterized by a high degree of interaction between customers and suppliers for the purpose of continuous improvement of their joint product and process (Johnston and Lawrence 1988; Helper 1991).

One indicator of the magnitude of the change is that the percentage of U.S. auto-parts producers who provide detailed information about their production process to their customers has doubled over the last ten years, from 38% to 80% (Helper 1993). Such data allow automakers and their suppliers to make their processes compatible with each other, thus improving productivity and quality. For example, one firm realized that its customer's blueprint specified the polishing of a component that the final consumer would never see. When the firm better understood the use of the part, it was able to eliminate this unnecessary operation.

There is mounting evidence that long-term, information-rich relationships between suppliers and customers lead to faster product development, higher quality, and lower inventories. For example, Clark (1989) estimated that supplier contributions account for one-third of the Japanese automakers' advantage over their U.S. counterparts in total engineering hours required to design a new car. The reason is that a Japanese automaker rarely designs a part that it requires for a new model. Instead, it will specify exterior dimensions and performance characteristics and allow a specialist supplier to design the part to best match its process.

However, achieving the high levels of information flow characteristic of these participative arrangements requires high levels of relationship-specific investment by both sides. Intensive communication over the course of a long-term relationship means that the parties come to understand each other's products and processes very well, leading to a high cost of switching business partners. For example, because of the subtle interactions between a stamping press and the chemical composition of steel, it would take NUMMI (the GM-Toyota joint venture) two years to switch suppliers for its rolled steel.

Thus supplier participation reduces the customer's bargaining power (Helper and Levine 1992). In the old system, if a supplier wanted a price increase or did not deliver sufficient quality, an automaker could credibly threaten to cut off purchases because it had many alternative sources of supply. (In the 1970s, for example, Ford had 27 wiring harness suppliers; now it has four.)

Worker Participation

Along with the rise in customer participation has been an increase in the degree to which employees are involved in the design of their jobs. The premise is that the person who does a given task all day is likely to have many ideas about how that task can be done better. The Japanese technique of *kaizen* (continuous improvement) involves practices such as quality circles and statistical process control which systematically tap workers as a source of insight.

This movement toward more employee involvement has occurred throughout U.S. industry; there has been a vast amount of experimentation in large U.S. companies. For example, a 1990 survey found that more than 75% of large U.S. employers had some form of employee involvement (Lawler et al. 1992). In our survey we find that almost half (47%) of the workers in an average auto components plant had attended a quality circle or related meeting in the last six months.

As in the case of suppliers and customers, more participation leads to improvements in quality, productivity, and flexibility. For example, after Toyota took over the management of GM's Fremont plant in 1982 under the NUMMI joint-venture agreement, it instituted a broad-ranging program of worker participation. In the following years productivity almost doubled, while NUMMI's quality rating went from worst to best in the GM system. Such examples can also be found at parts producers. At Ford's Sheldon Road components plant in Detroit, worker suggestions about the root causes of defects on one line led to significant reductions in both the number of defects and the number of inspectors.

Supplier/Customer Participation and Worker Participation: Are They Linked?

Reasons to Expect a Linkage

Below we discuss three reasons why having participation with one group might increase the returns to having participation with other groups.

Benefits of a long chain of communication. The process of continuous improvement benefits greatly from good channels of communication all the way from the automaker's marketing department to the supplier's shopfloor. For example, in 1991 Honda of America found that its customers wanted a continuously variable heater control, instead of the initial design which allowed the vent to be only on or off. A team of engineers and operators at Honda's supplier realized that they could achieve variability with the existing design if they could tighten the tolerances enough so that the plastic louvers could come to rest anywhere in their range of motion, not just at their endpoints. Implementing this insight, however, meant modifying the production process at five or six places. Operators contributed many of the suggestions that reduced variability by understanding interactions between different steps in the process. In this example the supplier's high level of employee participation made customer participation work, since Honda was able to implement the change quickly and with minimal cost of redesign and new tooling.

More effective just-in-time production. Worker participation can improve processes as well as products. In the early 1980s, defect rates of parts supplied by Japanese companies were on the order of one-tenth the rate of those supplied by U.S. firms (Mitsubishi Research Institute 1987). Such quality is both a cause and an effect of Japanese companies' widespread use of employee participation in conjunction with "just-in-time" (JIT) techniques. Since there is little inventory, any problems in the supplier's production process may shut down a customer's assembly plant at a cost of up to $1 million per day (Clark 1989). Such risk increases incentives for understanding root causes of problems and preventing recurrences. Employee participation can be crucial in permitting problems to be solved quickly so the line will begin running again.

Although worker participation can be useful, many improvements can be achieved by participation with customers alone. If parts producers' engineers and managers are observant and creative enough, "*kaizen* from above" can have large payoffs, at least at the beginning of a continuous improvement effort. For example, a plant in Mexico with 100% annual labor turnover and no quality circles was able to win a quality award from Honda. In some instances, reduction of buffers has led more to an increase in effort by workers than to process improvements that benefit everyone. That is, sometimes JIT achieves productivity improvements by having workers work harder, not smarter (Babson 1992). We will investigate these effects in future research.

However, there are limits to the effectiveness of this strategy. For example, JIT production by suppliers requires tight linkages between the customer's and the supplier's processes. If both supplier management and workers pitch in to understand the root causes of quality problems, then inventories can be reduced more than otherwise.

Economies of joint implementation. Both forms of participation require significant and similar changes in management vision. The company must move from a low-trust environment to a more cooperative system involving high levels of communication, skills, and relationship-specific investments supported by a foundation of trust and commitment to long-term relations (Aoki 1988).

Instigators of Participation

Since implementing participation is not easy, major changes are unlikely to happen without a champion. One possibility is that the pressure for change could be generated within the focal organization, in which case the firm would move to establish participation with both its workers and its own input suppliers. (Presumably the firms would have little influence over their customers, since automakers are much larger.) Components producers did seem concerned about employee participation. When asked about the most important goals for their business unit's manufacturing strategy, parts-maker marketing directors in Helper's (1993) survey rated "increasing employee involvement" an average of 4.5 points out of a possible five, tying with "increasing quality" as the top priority.

Another possibility is that customers are the primary instigators of participation, and that they are working their way down the production chain starting with the focal organization's management and proceeding to its workers. Some automakers actively encourage their parts producers to adopt employee involvement programs.

Honda of America, which runs an intensive technical assistance program, finds that its suppliers' human resource practices are a key obstacle to adoption of the continuous improvement philosophy. For example, Honda had spent a great deal of money ($1 to 2 million by the supplier's estimate) helping one of its plastics suppliers but had not succeeded in helping the firm to run its process competently when Honda personnel were not present. A key problem was the company owner's unwillingness to share financial information with the workers, which led them to doubt the urgency of the need to change. When a machine broke down during one of our site visits, the machine stayed down for a long time. One reason was that workers stood and watched while a technician fixed it; they did not offer suggestions or work to prevent accidents by cleaning up the work area, which was littered with plastic pellets.

Ford also believes that there is a linkage between customer and worker participation and for this reason has begun to encourage its suppliers to take advantage of training offered by Ford's Human Resources Development Center (HRDC). As a company publication explains:

> It is in Ford Motor Company's best interests to help our suppliers get the most effective training they can. . . . The lines between Ford Motor Company and its external suppliers are becoming less and less clear. As we help our suppliers improve, our people can work more effectively in a team environment with them, and that will lead to higher quality products (Ford 1993).

Methods

The argument presented above implies that companies with high levels of participation with their customers will have higher returns from employee involvement, and vice versa. That is, there are synergies in information flow from having both customer and worker participation; these synergies mean that adopting one form of participation increases the benefits of adopting the other. Therefore, a firm that has worker participation should be more likely to have customer participation than a firm with no employee involvement. To the extent the argument is correct, companies understand the linkages, and companies have had time to optimize their customer and employee relations policies, the basic test is whether the two sets of policies are positively correlated. Such correlations are not intended to show causality; they merely test whether companies that involve their employees in decision making also involve their customers and suppliers.

We perform three types of tests. The first is to see if customer and supplier participation is correlated with worker participation at U.S. auto-parts makers currently. The second aims to distinguish who is driving the implementation of participation. If customers are the driving force, then firms who participated with their customers four years ago should be more likely to have worker participation now. This test allows us to test the hypothesis described in the previous section that customer participation leads to employee participation, as engineers first fix obvious problems and then turn to employees for ideas about more subtle improvements. Conversely, if the motivation for participation is internal to the firm, we should expect to see a correlation between participation with workers and participation with suppliers. (In this case, we would *not* expect to see a correlation with customer participation, since firms are presumed to have little influence in inducing the automakers to collaborate with them, however much they might want such interaction.) The third test examines the impact of customer policies on single-plant firms separately, since customers might have a greater influence on such firms than on companies with a more elaborate corporate structure (Kelley, Harrison, and McGrath 1994).

Because of limited degrees of freedom, we in general rely on indices of the variables of interest: supplier and customer participation and worker participation, either through work groups or through labor-management committees. We also use an attitudinal measure of employee participation that measures managers' dependence on workers' effort and involvement. The questions that make up each index are listed in the appendix.

We also incorporate a number of control variables that may affect the introduction of employee participation. These controls include work force characteristics such as whether there is a union and the percentage of production workers who are high school graduates, plant characteristics such as total employment and number of machines, and a measure of Japanese influence (which is 1 if the plant is owned by a Japanese firm or has a Japanese firm as its principal automotive customer, 2 if both are true, and 0 otherwise).

Data

The automotive examples cited in the text come from field research conducted by Levine and Helper over the last several years. The survey data were collected by Helper in fall 1993 under the sponsorship of the International Motor Vehicle Program at MIT. Questionnaires were sent to 1600 plant managers at firms located in the U.S. or Canada which directly supply automakers in the U.S. or Canada. The sample was selected in two ways. The first group (676 questionnaires) consisted of plants that had been identified in a companion questionnaire sent to parts-maker marketing managers in spring 1993. The second group (924 questionnaires) was comprised of additional plants randomly selected from the Elm Guide to Automotive Sourcing. In both cases, the respondent provided us with data about their production of a typical component for their most important customer who is an automaker. The respondent plant also provided us with data about their own suppliers' participation.

In the analysis reported below, we used data from 146 to 170 plants (depending on missing values). Taking into account plants that were either not applicable (they were not first-tier auto suppliers) or unreachable (mail sent to them was returned unopened), the response rate was 15%. In the future we will have more observations; by January 1 we had received 400 questionnaires.

Preliminary Results

Table 1 presents regressions that use customer and supplier participation to predict employee participation at the focal plant. Close relations with *customers* in general do not predict employee participation. These results are robust to a variety of specifications: we ran the regressions with and without control variables, with different sets of controls (see below), using Tobit and OLS, combining the customer participation variables into a single index, with and without the supplier participation index, testing for the joint significance of the customer participation variables, and using other measures of worker participation (suggestions per worker and suggestions implemented per worker). (We did find that plants that provided customers with more information about their process did receive more suggestions per worker. Also, plant managers who believe they have a flexible agreement with their customers report more worker attendance at labor-management committee meetings. However, they also report *less* powerful work groups.)

In contrast, we found that companies with close relations with their *suppliers* have more powerful committees, more powerful work groups, a greater percentage of workers attending meetings, and managers that depend more on their workers.

We did not find support for the hypothesis that participation with customers four years ago leads to participation by the focal plant's employees today. We found some support for the hypothesis that single-plant firms are more susceptible to customer influence in that single-plant firms who participate with their customers have significantly more dependence on their workers. Single-plant firms that have a Japanese customer have less dependence. (These results are not presented.)

Since worker participation is highly correlated with supplier participation, but not with customer participation, we have some evidence in favor of the hypothesis that, automaker rhetoric to the contrary, the primary source of pressure for participation comes not from the automakers, but from *within* the firms themselves.

As expected, joint labor-management committees are more powerful in plants with a union. In addition, committees are more powerful in older plants and plants with a higher proportion of high-school graduates (column 1 of Table 1). Managers report a lower dependence on their work force when they have few machines per worker, older machines, a union, and when they have experienced significant idle capacity for several months in a row within the last four years (column 3). Workers are more likely to attend committee meetings if they are union members or high-school graduates (column 5).

TABLE 1

Relation Between Employee and Supplier Participation

	Power of Committees		Power of Work Group		Management's Self-Reported Dependence on Worker Effect		% Workers Attending Group Meetings		% Workers Attending Committee Meetings	
	coeff.	s.e.	coeff.	s.e.	coeff.	s.e.	coeff.	s.e.	coeff.	s.e.
Measures of Supplier and Customer Participation										
Participation that this plant has with its suppliers	0.099**	0.030	0.063**	0.031	0.170**	0.054	4.065	5.031	9.472**	3.771
Provides customer with breakdown of process steps	0.016	0.020	0.0003	0.021	0.019	0.036	1.727	3.150	2.991	2.454
Both plant and customer willing to modify agreement	0.006	0.017	-0.034*	0.018	0.002	0.031	-2.639	2.791	3.935*	2.180
Engaged in ongoing discussion with customer	0.014	0.019	0.002	0.020	0.031	0.034	2.003	3.123	0.749	2.455
Control Variables										
Log (employment)	0.003	0.025	0.014	0.026	0.039	0.046	1.996	4.248	-8.267**	3.376
Union	0.118**	0.045	0.043	0.047	-0.360**	0.083	-8.723	7.391	10.939*	5.847
Percentage of shop work force with a high school or GED diploma	0.001*	0.001	0.001	0.001	-0.0004	0.0015	0.224	0.140	0.218*	0.122
Log (number of machines which are in regular use in the plant)	-0.015	0.023	0.032	0.024	0.070*	0.042	-1.994	3.915	2.531	3.058
Log (number of machines less than 5 years old)	0.014	0.025	0.024	0.027	0.077*	0.046	3.780	4.226	1.377	3.290
Log (age of plant)	0.072**	0.028	0.008	0.029	0.053	0.050	-1.642	4.645	3.117	3.564
Plant has had significant idle capacity for several months in a row in last four years	0.102**	0.041	-0.014	0.043	-0.180*	0.074	8.772	6.850	-0.253	5.221
Plant has Japanese ownership or customer	0.054	0.040	-0.026	0.042	-0.062	0.072	-3.338	6.414	-5.710	5.053
No. of observations	170		170		165		155		146	
R^2	0.230		0.109		0.236		0.081		0.172	
Adj. R^2	0.172		0.040		0.175		0.004		0.097	

*$p < 0.10$, **$p < 0.05$

Other control variables that we tried and found to be insignificant were age of the product's design, number of components in the plant's product (a measure of complexity), and naming GM as one's customer. We entered separately the variables for Japanese ownership and having a Japanese customer; we still found that, in general, having a union is a much more effective predictor of worker participation than is having Japanese influence.

Conclusion

The argument presented in the first part of this paper suggests that there should be a positive interaction between a focal plant's participation with its customers and participation by its employees. Our data also show widespread diffusion of participation with customers and employee participation taken separately. For example, 81% of plants had more than 30% of their production workers attending quality circle meetings in the last six months (a measure of the extent to which workers share their information about the production process with management). On our analogous measure of customer/supplier information sharing, we found that 81% of plants agreed with the statement, "We provide our customer with a very detailed breakdown of our process steps." However, only 66% of plants have both types of participation—exactly what one would find if the two policies were only randomly associated.

There are several possible explanations for this result. The theory (that customer participation and worker participation are more productive if used together) could be wrong, managers could be unaware of the interactions, or it could take time for firms to adjust. It could be that four years of participation with customers is simply not long enough to generate worker participation. (Managers at Honda of America told us that encouraging worker participation is one of the last stages in their technical assistance program with their suppliers.)

Another possibility is that social and private incentives diverge. If information sharing requires the parties to make relationship-specific investments, then the powerful party will have less bargaining power than if their dealings were strictly arm's-length. The reason is that the weaker party can "hold up" the stronger party for a share of its product-market rents. The larger are these rents, the greater is the stronger party's incentive to avoid making relationship-specific investments (Helper and Levine 1992). This can lead to a situation in which it is precisely those plants where relationship-specific investments are most efficient who will be least likely to make them. For example, suppose a focal plant participates closely with its customer, leading to high profits. The theory presented above says that the efficiency gains to employee participation are higher where customer participation is also present. However, since the rents that employees in a high-participation workplace gain access to are also greater in this situation, such plants may be reluctant to implement employee involvement programs. Conversely, if rents from a relationship with customers are low, a firm has little to lose by implementing participation with its employees and its suppliers.

Appendix

Construction of Indices

Participation that this plant has with its suppliers (α = .75). Sum of the proportion of suppliers:

with statistical process control
with Just-In-Time production
who receive technical assistance
with Just-In-Time deliveries
with a contract longer than one year
who help design the product

Participation with the plant's focal customer. The negative of the respondent's scores on the following items (1 = strongly agree, 5 = strongly disagree). (Each of these items was entered into the equations separately):

"Both our business unit and our customer are very willing to modify our agreements if unexpected events occur;"
"We provide our customer with a detailed breakdown of our process steps;"
"We are engaged in an ongoing discussion with our customer about ways to improve both their operations and ours."

Power of work group (α = .65) and **power of worker-management committees** (α = .72). Proportion of the following tasks over which managers claim the work group (labor-management committees) has influence:

work methods and task assignments
the purchase of new tools
subcontracting work to suppliers
changes in product design
safety and health policies
selecting supervisors or team leaders

Management's self-reported dependence on worker effort (α = .55). The negative of the sum of the responses to the following questions (1 = strongly agree, 5 = strongly disagree):

"We frequently ask workers at our plant to help us in ways not specified in their job description."
"Our plant's performance depends crucially on the active cooperation of our unskilled and semiskilled workers."
"Each year we expect our shop workers to make substantial improvements in their own methods of operations."
"Workers sometimes feel reluctant to share their ideas about improved work methods with management." (reverse coded)

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Collaborative Practices Within and Between U.S. Manufacturing Establishments in 1991

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Experiments with internal organizational structures designed to transcend hierarchical and cross-functional barriers to communication and coordination, to provide flexibility in solving problems, and to increase workers' attachment to their employers have been underway in this country and elsewhere since the 1970s. Especially in large firms, such practices as employee participation in new collaborative problem-solving mechanisms with management, self-managed work groups, skill-enriching job redesigns for employees in the middle and bottom of occupational hierarchies, and employee stock ownership and profit-sharing plans open to employees at all levels of the organization represent efforts to reform existing bureaucratic systems of management.

Another development widely thought to be evolving more or less independently of these intraorganizational reforms is the forging of several types of collaborative activities between different business organizations. External or interorganizational collaborative interchanges between companies include formal efforts to jointly design and develop new products as well as informal interchanges between engineers and managers of separate companies that have long-term contractual ties, as in relational subcontracting. The auto industry has taken the lead in simultaneously reducing the number of its first-tier suppliers and entering into longer-term contracts with those still in the network as a sign of relatively greater commitment intended to promote mutual trust. One motive behind managers' interest in such interorganizational collaboration is to gain access to the know-how and resources within another enterprise without having to incur the full costs of acquiring and managing that organization.

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In this paper we explore the actual extent of the separate and joint occurrences in the American economy of forms of employee participation and labor-management cooperation within the workplace and interfirm collaborative manufacturing. We make use of a 1991 nationally representative stratified random sample of managers in 973 U.S. manufacturing plants that are engaged to some extent in the machining production process. This "machining-intensive, durable-goods" (MDG) sector consists of many small establishments but also the branches of major aerospace, auto, farm and industrial machinery manufacturers, producers of engineering and scientific instruments, and suppliers to the leading auto and aircraft companies.

Our data enable us to measure (1) the incidence of various forms of employee participation, (2) the incidence of a number of forms of interestablishment collaborative manufacturing practices, and (3) the extent to which these practices coincide (i.e., whether companies and production units exhibiting new structures for rewarding employees and enhancing their participation in and control over management decisions are also more likely to be engaged in participative arrangements for extending collaboration and joint decision making with key suppliers and customers). The unit of analysis is the individual establishment, and the perspective is that of the production manager of the "focal organization" (FO). Our principal thesis is that we may infer that management has embarked on a *collaborative* manufacturing strategy when internal relations (i.e., between management and employees) and external relations (i.e., between the focal organization and its largest customer, most important subcontractor, and most important technology vendor) are characterized by jointness in responsibility and control over resources, rewards, and risks.

Comparing Intra- and Interorganizational Collaboration

Theory from organizational sociology, industrial economics, and management strategy provides the basis for expecting that successful organizations operating in the same kinds of market niches will exhibit similar organizational structures, either through a process of adaptation and reform of existing structures or through selection by the market of survivors with the appropriate structures. Efforts to explain the heterogeneity of organizational structures typically attribute these to differences in the external environment. The environment is viewed as an arena in which threats or opportunities from other organizations are manifested. We conceptualize the "environment" in terms of the behavior of key organizations—a firm's major business customers and suppliers—as viewed by the management of our focal organizations.

There is, of course, considerable disagreement among theorists about the extent to which management shapes the environment or even can adapt existing organizational forms to new environmental conditions. Some have persuasively argued the case for entropy in organizational systems. Yet whether by happenstance, experimentation, or as part of a conscious strategy, major management innovations do occur from time to time and come to dominate because of their superiority for managing particular environmental conditions. These new forms allow organizations to influence their own environment and, in some cases, shape the environment of other organizations in unprecedented ways. More generally, all theories of business strategy assume some degree of feedback from managerial decisions to the environment. The notion of "fit" between the organization's structure and the environment (with causality running both ways) is a theme repeated in economic and sociological formulations.

The just-in-time production system (JIT) offers a contemporary example in which there seems to be a strong case for viewing this innovation in management practices as requiring adaptations in both the external environment *and* internal organizational structures. JIT attempts to rationalize production by institutionalizing demand pull (*kanban*) inside the factory. That, in turn, necessitates forging new kinds of external relations with suppliers so as to provide timely delivery of parts and products. In order to maintain this system of production, workers within the facility must coordinate their activities to a far greater extent than in a system in which the holding of inventories is an acceptable (and partly unpredictable) practice. At the same time, organizations employing JIT are compelled to have frequent interchanges with their suppliers to coordinate delivery and ensure that the suppliers are able to meet the timeliness and technical requirements of JIT delivery.

Similarly, when coupled with advances in manufacturing technology, customers' demands for high quality at lower costs in small volumes may compel suppliers to adopt a flexible form of internal work organization in which blue-collar workers and engineers collaborate (as contrasted to the classical linear system of innovation running from design to production to distribution). The objective is to make it possible for the supplier to become involved with its customer at an early stage of product design, thereby enhancing what practitioners call "design for manufacturability."

In much of the literature on new forms of employee participation, there is a widespread conviction that collaborative problem solving, job enlargement, gainsharing, and the rest will become increasingly widespread because of their superiority in resolving problems of coordination within the firm and the need for more rapid diagnosis and resolution of production problems affecting quality and efficiency. Initially as a strategic choice by enlightened (or possibly just endangered) managers, then through an ordinary process of imitation, such practices are widely held to be spreading throughout American industry in all sectors of the economy.

We are suggesting that the *institutionalization* of these new forms of participatory employee involvement beyond the stage of experimentation may depend on whether or not they are at least consonant with and supportive of an overall strategy of close collaborative ties *between* organizations. Understanding more about the congruence of these internal and external organizational practices may help us to better predict and even promote (should it be advisable) the diffusion of employee involvement within companies.

Internal Cooperation Between Managers and Their Employees

Within the context of manufacturing, generally, and with special reference to the MDG sector, we measure four aspects of work organization and labor-management relations that afford employees a greater opportunity to affect decisions regarding technology and work practices, to address problems, and to materially benefit from their efforts:

1. *Shared control of technology* allows operators of computer-controlled automated machinery (PA technology) to write the programs, thereby enriching the skill set of their jobs.

2. *Group problem solving* entails setting aside time away from the routine execution of tasks to involve workers in discussions and decisions regarding the use of technology, the resolution of production problems, and other related workplace issues (these discussions may include both workers and managers, or they may be the province of self-managed teams).

3. *Gainsharing* increases the portion of the financial returns to collaborative efforts that are distributed to the workers; examples include profit-sharing plans and employee stock ownership programs.

4. *Unionization* performs both functions, allowing workers to participate in decision making through the union structure, and to share in the benefits of increased efficiency through collective bargaining over wages and benefits.

TABLE 1
Incidence of Forms of Employee Participation Internal to the Establishment in the U.S. Machining-Intensive Durable-Goods Sector: 1991[1]
Grouped Variables

	Single Plant n=545	Branch Plant n=423	Test Statistic	All Plants n=968	Number of Valid Responses
Problem-solving groups[2,3]	.40	.74	10.52**	.46	964
Gainsharing[2,4]	.28	.52	7.60**	.31	964
Union[2]	.06	.26	8.70**	.09	962
Shared control of technology (among PA adopters)[2,5]	.78 n=354	.69 n=338	2.68**	.76	692

[1]Because the survey was administered to a size-stratified random sample of establishments in the MDG sector, all reported proportions and means are weighted by the inverse of the probability of inclusion into the sample.

[2]Differences of proportions are tested using a two-tailed Z-score at the .05 and .01 levels. *$p \leq .05$, **$p \leq .01$

[3]If the focal organization has joint labor-management problem-solving committees or self-managed production worker problem-solving committees, then it has problem-solving groups.

[4]If the focal organization has employee stock ownership or profit sharing, then the focal organization has gainsharing.

[5]The estimates of blue-collar programming are conditioned on the adoption of programmable automation (PA).

Table 1 shows the incidence of these organizational forms among all MDG establishments in the United States in 1991 and then by whether the establishments are single plant, generally smaller enterprises (SPEs), or whether they are branches of multiunit companies (BPs). Among all producers in this sector, 46% of establishments have some sort of problem-solving group established at their plants. The difference between the SPEs and BPs is very large; about three out of four branch plants in the MDG sector have problem-solving committees, compared to only four in ten of the single-plant firms.

Traditionally, the presence of unions has been a predominant mechanism to enable workers to participate in management decisions affecting their jobs and the primary means for balancing power between employees and their employers. But the incidence of unionization is sharply declining in the U.S. In the MDG sector, production workers are represented by unions in only 9% of all establishments. Unionization is significantly higher among branch plants (26% have unions) than among single-plant firms, only 6% of which are unionized.

The most significant change in technology within MDG establishments during the 1980s has been the introduction of programmable automation. When responsibility for programming this technology is delegated to machine operators, the effect of this change in technology can be "reskilling" rather than "deskilling" of these occupations. In 76% of all MDG establishments that have adopted this technology, at least some operators have regular responsibility for writing programs to direct their machine tools. The sharing of control over technology through the expansion of operator skills into the programming function is actually somewhat more prevalent among the generally smaller SPEs than among company branch plants. But for both types of firms the diffusion of this practice had obviously proceeded quite far by 1991.

Other forms for enhancing employee involvement, such as joint labor-management, problem-solving committees (LMCs), are better characterized as in an unstable "churning" stage, with about as many businesses discarding these institutions as the number adopting them. Table 2 shows the change in implementation of LMCs between 1987 and 1991. The overall proportion of establishments with LMCs did not change significantly during this period; about half of all MDG establishments have such committees. But as shown by the off-diagonal elements of Table 2, 38% of those establishments that did not have LMCs in 1987 subsequently adopted this organizational innovation, while an almost identical fraction (35% of the establishments that *had* implemented LMCs by 1987) subsequently eliminated them.

These aggregate statistics mask sharp differences between SPEs and BPs. Among the former, joint committees are indeed *not* being institutionalized, at least not yet. But in branch operations, only 22% of those BPs that had implemented LMCs by 1987 subsequently discontinued them, while fully 76% of those that did not have LMCs in 1987 introduced them by 1991. Among branches of generally larger companies, LMCs clearly *are*, for better or worse, being institutionalized in American industry.

By contrast, management's assignment of the programming function for PA technology to the operators, rather than assigning it to specialist white-collar programmers or engineers off the shop floor, is a form of skill enhancement of blue-collar jobs that has increased rapidly in all forms of business enterprise. As shown in Table 3, fully two-thirds of all establishments that were without such job design in 1987 had adopted it by 1991. Meanwhile, only 7% of all establishments that had implemented operator programming by 1987 had discontinued the practice by 1991. Operator programming has increased among BPs as well as among SPEs, but the skill-enhancing approach to job design in branch plants still lags behind its incidence in small companies.

TABLE 2

Change in Implementation of Joint Labor-Management Problem-Solving Committees between 1987 and 1991[1]

1987 Status	1991 Status LMC Present n=496	 No LMC n=222	 1987 Percent Distribution
LMC Present n=443	65.3%	34.7%	48.0%
No LMC n=275	38.2%	61.8%	52.0%
1991 Percent distribution	51.2%	48.8%	100.0%

[1]718 establishments provided information on joint labor-management problem-solving committees in the two-survey periods.

TABLE 3

Change in Implementation of Operator Programming between 1987 and 1991[1]

1987 Status	1991 Status Operator Programming n=289	 No Operator Programming n=127	 1987 Percent Distribution
Operator programming n=143	92.7%	7.3%	55.7%
No operator programming n=273	66.8%	33.2%	44.3%
1991 percent distribution	81.3%	18.7%	100.0%

[1]416 establishments provided information on operator programming in 1987 and 1991.

That overall union incidence within U.S. industry has been declining steadily is no news. What we uncover is that this decline is a result both of previously organized establishments shedding unions at a rate of 23% over five years and of little union success at penetrating previously unorganized workplaces, with gains of only 1.3% over the same time period. These findings reinforce the growing impression that without major changes in the regulatory or political climate, conventional forms of employee representation are likely to play less and less of a role in industrial governance in the years ahead.

Interorganizational Collaborative Manufacturing Practices

We consider several types of external collaboration with the focal organization's largest customer, its most important subcontractor, and its most important technology vendor. All of our information on the relationship between an FO and these key partners comes from interviews with the production manager responsible for the machining production process in the FO. We have no information from the FO's partners regarding *their* perceptions of ties to the FO. In each of the three types of interfirm ties, the partners' importance to the FO is assessed in terms of the machining production process.

Only 12% of the FOs do not ship the output from the machining process at the plant to some external customer but instead use that output solely to make replacement parts or tooling used in another production process within that plant. For these FOs we do not have information on collaborative ties to their customers. Similarly, not all plants that are themselves engaged in the machining process depend on subcontractors that also do machining. Forty-one percent of the FOs do not rely on machining subcontractors. Finally, we asked the production manager about his or her experience with the machining technology vendor (either a manufacturer or a distributor) whose shipments to the FO during the past four years exceeded in value those of any other vendor, domestic or foreign. Organizations that did not purchase any equipment from a machining technology provider during this period were not queried about that contact. However, two-thirds of our FOs did purchase at least one new machine tool between 1987 and 1991.

We constructed measures for assessing the collaborative ties between an FO and each partner based on responses to survey questions about the machining production process experiences of the production manager with the partner organization in the previous two-year period (1989-90). These questions were used to construct four separate measures of interfirm collaborative behavior: financial risk sharing, mutual technical assistance, joint design and development of products and techniques, and intensity of interaction as measured by the frequency of face-to-face meetings between technical or managerial staff of the FO and its partner. Because of space limitations the following discussion focuses on FO-customer links.

Of particular interest is the joint development or design of products, widely thought to be the essence of collaborative manufacturing. Many of the products manufactured in the machining process are customized to the specifications of particular customers. When the United Parcel Service places an order for a new conveyer system that it wants built solely for its own use in distribution centers, it will have specific requirements that an industrial machinery producer will design into the system. Sometimes a customer's requirements are so specialized that the design process itself is undertaken as a joint endeavor.

In both the localized "industrial districts" and in more spatially extensive production networks, our FOs may collaborate in the development of wholly new products with their subcontractors or customers, each making a contribution to the design/development process. Organizations that use a new technology, especially "lead users," will embark on collaborative ventures with technology vendors to further develop or adapt equipment and techniques. Vendors find these alliances advantageous for learning about new applications. The user collaborates in order to gain a proprietary technological edge, however temporary that advantage may be.

Some collaborative ventures with another firm, particularly with respect to the development of new products, may be quite formal, if only to clarify intellectual property rights between the two organizations. But face-to-face contacts between members of the two organizations provide another avenue through which *informal* collaborative ties can be forged and maintained. Close collaborative relationships are indicated by the intensity of these interactions which we measure by their frequency.

Now consider the incidence of focal establishments' collaboration with their largest customers over the two years prior to the 1991 interview. Eighty-five percent of the FOs in this sector participated in technical meetings with engineers and managers from their largest customers at least once during 1990. These meetings occurred rather frequently, about 22 times per year on average. Half of the focal establishments report undertaking joint development or design of products with their customers, and one-fourth report that they both give technical assistance to their customer and receive technical assistance from their customer. Finally, 22% of all focal plants report that their largest customer shares financial risk with them by providing financing towards the purchase of materials and equipment or by loaning equipment to them. When the sample of focal organizations is divided between SPEs and BPs, we see that on every indicator a higher proportion of branch plants have collaborative ties with their most important customers than do single-plant enterprises.

TABLE 4

Internal Collaboration and Largest Customer Relations
(All Establishments with External Customers for Machining Output)

	Group Problem Solving		Test Stat	Gain sharing		Test Stat	Shared Control of Technology		Test Stat	Union		Test Stat
	yes	no		yes	no		yes	no		yes	no	
Customer finances FO's inputs	.20	.22	1.26	.24	.20	0.64	.25	.24	0.25	.19	.22	0.84
Mutual technical assistance	.37	.16	5.92**	.35	.21	5.92**	.30	.16	3.36**	.30	.25	2.28*
Joint development or design	.60	.44	4.15**	.59	.47	4.15**	.59	.43	3.39**	.65	.49	3.69**
Largest customer participates in technical meetings with focal organization	.90	.81	3.39**	.89	.83	3.39**	.88	.90	0.65	.96	.84	3.95**
Number of meetings	26.00 (51.52)	18.49 (32.08)	1.96**	20.82 (40.26)	22.61 (43.61)	0.54**	22.48 (37.53)	17.35 (29.54)	1.45**	23.30 (45.62)	21.96 (42.35)	0.34*
	n=430	n=215		n=319	n=326		n=348	n=141		n=154	n=490	

The Coincidence of Internal and External Collaboration

There are strong theoretical reasons to suppose that businesses that adopt collaborative external practices may also be more likely to adopt (or to have already adopted) arrangements internal to the enterprise which support and promote broader employee participation. The coincidence of these internal and external organizational forms may be driven by an underlying technical interdependency (as in a network system) or in connection with efforts to implement a JIT system of worker (and supplier) control. Both external and internal organizational forms of cooperative interchange and collaboration may be responses to recent shifts in market conditions, such as heightened international competition and the associated increased pressures to cut costs.

Among manufacturing establishments in the MDG sector, we find that internal and external forms of collaboration often do coincide, especially in the case of single-plant enterprises. For example, Table 4 shows the incidence of collaborative ties between the FO and its largest customer for the pooled sample. For 12 of the 20 comparisons shown in the table, we find indicators of external collaborative ties to be significantly higher when the plant has one or another form of employee participation. In other words, when there is a particular internal form of employee participation such as a group problem-solving process, external collaborative ties to the FO's largest customer are also more likely to occur on four of the five indicators. The highest association (by this criterion) occurs with mutual technical assistance; compared to plants without any internal employee participation, those with group problem solving, gainsharing, and a skill-enriching job-design approach to the use of PA technology are more likely to have a relationship with their largest customer in which there is a mutual exchange of technical assistance.

At a more disaggregate level, we discover that association between internal and external forms of collaboration is statistically significant more often for SPEs than for BPs. This generalization holds as well for the upstream linkages (i.e., for FO-subcontractor and FO-vendor relations). For branch plants, only 3 of the 20 comparisons are statistically significant in the expected direction, while this is true for 8 of the 20 SPE comparisons. Branch plants are more likely to engage in mutual technical assistance with their largest customers if there is a group problem-solving process in place. Both joint design and development of products and mutual technical assistance are more likely to occur in branch plants that permit operators to share control over the technology through the practice of operator programming.

Among those single-plant firms that have a group problem-solving process, a gainsharing plan, or shared control over the technology, the incidence of mutual technical assistance and joint-product design or development with the largest customer is significantly higher than for SPEs without such arrangements for enhancing employee participation.

Preliminary Generalizations

Group problem solving and gainsharing are the internal participatory mechanisms that are most often associated with collaborative activities with the three types of external partners. With respect to gainsharing in particular, plants with such plans are more frequently associated with collaborative backward linkages to subcontractors and to technology vendors. For both single-plant enterprises and branch plants, the incidence of group problem-solving structures is consistently associated with a significantly higher frequency of meetings between the FO and its partner. For the customer-FO comparisons, we find that for both branch plants and single-plant enterprises, shared control of technology through operator programming is strongly associated with mutual technical assistance and joint design or development of new products.

We find greater congruence between internal and external collaborative forms of organization among single-plant enterprises than among branch plants in this sector. It may well be that the former are effectively substituting external collaboration for networked interchanges that are internalized within the parent companies of which the latter are a part. Inconsistencies between approaches in managing internal and external relations that are observed at the plant level may derive from the greater complexity of governance within the multiunit firm.

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Furnished by authors upon request.

The U.S. Labor Market: "Institutions" ≠ Rigid and "Unregulated" ≠ Market-Clearing

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The models used in accepted wage theory are too simple and need to be supplemented. This is not exactly news. (Sumner Slichter 1929, as cited in Ulman 1992).

Economists typically assume that in unregulated markets supply approximately equals demand; conversely, they assume that institutions such as unions or government regulations create inefficiencies and move the labor market away from the equilibrium of supply and demand. In fact, U.S. labor markets show important deviations from the supply and demand equilibrium even when there are few rigidities due to unions or regulations. Conversely, an increase in the power of institutional forces such as unions can sometimes move labor demand and supply closer. In the following review of recent research, I show that human capital and compensating differences explain only a fraction of labor market outcomes, while theories of bargaining, fairness, and efficiency wages are useful for understanding both regulated and unregulated labor markets. (By "fairness" I mean employees' perceptions of fairness, not an ethical standard.)

The Wage Structure Within an Enterprise

Human Capital Theory

The leading neoclassical explanation for labor-market phenomena is human capital theory, which posits that workers performing complex jobs that require more skill receive higher wages. Mincer and Higuchi (1988) used this framework to study why wages increase more rapidly with tenure in Japan than in the U.S. and why turnover rates are lower in Japan. They

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assume that industries where wages increase rapidly with age or tenure have more investment in human capital. They find that such industries have lower turnover. They then conclude that the differences in wage profiles can explain most of the U.S.-Japan differences in turnover.

I investigated their assumptions with a richer data set and found that steep wage profiles are not associated with high levels of training in either the U.S. or Japan. In addition, I replicated their methodology and found that steep wage profiles are not associated with low levels of turnover in either nation (Levine 1993b). Thus there is at best mixed evidence that human capital theory provides a unifying framework for understanding why some employers have more rapid wage growth than others, or why Japan and the U.S. differ in wage growth and turnover.

"Compensating differences" is an additional neoclassical theory for explaining wage differences. It posits that jobs with anomalously high wages have unmeasured undesirable working conditions. Research on the effects of working conditions on wages have been mixed at best. Brown (1980), for example, surveys studies that augment standard wage equations with measures of undesirable work conditions; these coefficients are rarely both positive and significant.

By contrast, compensating differences are usually present when wages are determined by unions (Dickens 1984). The presence of unions increases workers' collective information and ability to evaluate hazards. This increase in information implies that unions can make the full-information assumption of the competitive model *more* valid (just as unions' monopoly power make the assumption of price taking less valid). Even in the former U.S.S.R. where wages were set centrally, unpleasant jobs (such as mining) were usually paid a wage large enough to compensate for the danger; prestigious and safe professional jobs typically did not receive high wages, yet (as compensating differences theory suggests) people still desired to take those jobs.

Fairness and Efficiency Wages

The efficiency wage hypothesis posits that productivity of similar workers depends upon wages; thus firms set wages taking into account how wages can affect effort, unmeasured human capital, turnover rates, and recruitment costs. (Katz [1987] surveys this literature.) These theories imply that relative wages may affect productivity.

Institutional theories of wage determination in Europe and Japan stress that relative wages within the enterprise will be strongly constrained by considerations of fairness, custom, or centralized union bargaining.

Although union influence is lower in the U.S. than abroad, it appears that fairness and custom considerations lead to rigid relative wages in the U.S. as well.

The prescriptions found in U.S. compensation textbooks (e.g., Milkovich and Newman 1990) assume that historical wage relativities constrain wage adjustments. These texts assume that when companies disrupt relativities, they suffer from reduced motivation and increased turnover, absenteeism, and antimanagement activity by unions. Moreover, the compensation literature recommends a system of pay determination based on job evaluations and wage surveys that *institutionalize* these relativities. Practitioners following the advice of compensation textbooks will automatically maintain relative wage rates within broad occupational groups (e.g., within all blue-collar workers).

To better understand the role of institutional processes in pay determination, I surveyed compensation executives at major U.S. employers (Levine 1993c). These employers were given scenarios and asked what wages they would recommend for different jobs. When market wages for closely related occupations diverged, most respondents did not recommend adjusting relative wages within the company. Specifically, the scenario stated that there was a 12% rise in market wages for nonunion senior carpenters, and a 4% market wage rise for junior carpenters. Seventy-eight percent of respondents recommended identical wage increases for both occupations at their own employer. When the occupations were not closely related (blue vs. white collar), most respondents recommended partial or full adjustment to the market. Interestingly, even in this condition 12% of respondents recommended no change in relative wages.

Compensation executives' emphasis on relative wages appears to be sensible in that employees also focus on relative pay. For example, in a separate study Cowherd and I found that companies with above-average pay dispersion have lower product quality; product quality, in turn, is more sensitive than is productivity to whether workers are putting out high levels of effort (Cowherd and Levine 1992). Market forces often lead companies to override norms of fairness, but in my survey and interviews, even executives whose companies systematically break workers' norms of fairness acknowledged that there are substantial costs of doing so (Levine 1993c).

The Wage Structure in the Labor Market

Excess Supply and Demand

The forces that constrain relative wage adjustment within a company also act to slow adjustment to market forces. Neoclassical models typically assume that wages adjust rapidly in response to excess supply and demand unless institutions such as unions or government regulations impede adjustment. In fact, wages adjust quite slowly to excess supply in the U.S. In my survey of compensation executives, I also gave employers differing facts concerning excess supply of labor. Moving the regional and industry unemployment rates from 5% to 10%, lowering vacancy and quit rates, and having managers report little difficulty in filling vacancies had virtually no effect on these executives' wage recommendations.

Follow-up interviews with a subset of compensation executives strongly supported the hypothesis that unemployment rates are not important determinants of pay changes in large organizations. The respondents neither formally nor informally considered unemployment rates when determining pay adjustments. One respondent asked incredulously, "You mean take advantage of the fact that there are a lot of people out of work?" She, like most of the other executives, stated, "I think that is very short-sighted." They all felt that companies had to keep up with the market or lose their good people. Furthermore, they all felt that unemployment rates were not useful indicators of the fundamental determinants of the demand for their employees. Furthermore, although all of the companies had offices that were geographically dispersed, none varied regional wage differentials in response to changes in regional labor market conditions.

Instead, many of these executives appeared to assume, as one noted, "Unemployment rates tend to be impounded into local wage rates, so we do not focus on and build the unemployment rate into our structure changes." Similarly, company-specific indicators of excess supply (e.g., turnover or queues) are distrusted because managers and recruiters *always* claim they need a larger salary budget. These games distort the value of any information they give concerning quit rates or applicant queues. If the executives responsible for determining compensation do not utilize information on excess supply and demand but wait for others to adjust first, then it is not surprising that wages adjust slowly to changes in labor market conditions.

These results also appear to generalize across nations. In a number of studies, large companies in Japan, Canada, and the U.S. all show low responsiveness to unemployment rates (Layard et al. 1991).

Ability-to-Pay Theories

A number of observers have noted the relatively greater variability of relative wages in the U.S. than most of Europe and have concluded that the U.S. labor market is more flexible—supply and demand shocks are causing wages to adjust in order to clear the market. Unfortunately for theories of labor flexibility, wages tend to adjust in a fashion that *impedes* the movement to equilibrium. Specifically, some industries enjoy positive productivity shocks. Wages rise in these industries but employment does not increase; instead, currently employed workers enjoy higher compensation (Bell and Freeman 1991). Wage fluctuations do not appear transitory (as in a labor market when wages must rise temporarily due to search costs as companies expand). Instead, high-wage companies and industries continue to pay high wages for many years (Groshen 1989; Levine 1992). These patterns are consistent with a model where the employer's ability to pay determines wages because of fairness or bargaining power considerations.

In the U.S. the decline of unionism to less than 12% of the private-sector labor force decreases the relationship between ability to pay and wages; compared to a generation ago, both unions and the threat of unionization are less important. At the same time, the U.S. has experienced rapid growth of gainsharing, profit sharing, and employee stock ownership plans (ESOPs) which institutionalize a link between compensation and an employer's ability to pay. Participation in gainsharing plans, for example, increased by more than half between 1987 and 1990 (from approximately 5% to 8% of the nation's work force). (Gainsharing plans typically pay bonuses based on a plant or company's productivity or cost savings. These data are described in Lawler et al. [1992].) ESOPs showed lower proportional growth but still grew by several million members in the last decade and now have almost as many participants as unions have members (Blasi and Kruse 1991).

Tying compensation to the performance of a plant or corporation can provide important incentives. Nevertheless, the resulting wage distribution will not necessarily be that which clears the labor market. Intuitively, labor-owned companies maximize pay for performance but also respond slowly to excess demand for output or to unemployment. As companies move to pay for group performance, they move in the direction of becoming labor-owned.[1] With one instrument trying to accomplish two goals, it is little wonder that neither is met perfectly.[2] Thus the growing role of pay based on profits, productivity, or stock prices will continue to link compensation with ability to pay and continue to cause deviations from the competitive supply and demand model.

Pattern Bargaining

An important source of relative wage rigidity in the U.S. has been pattern bargaining, where a union bases its pay demands on the wage settlements of other unions within its industry or in a related industry (e.g., steelworkers focusing on autoworkers' wage settlements). In an early study Eckstein and Wilson (1960) achieved a median R^2 of .97 when using measures of ability to pay for all heavy industries to predict wage settlements in each individual industry. (Since the regressions had only five data points, the high R^2s were not that impressive; nevertheless, in nine of ten industries the all-industry variables predicted better than the own-industry variables.)

More recently, pattern bargaining has declined markedly, and most bargaining takes place at the company or plant level. For example, in a bitter strike the autoworkers were unable to maintain the pattern between International Harvester and the auto companies. Importantly, the move to company- or plant-level bargaining does not imply a better approximation to market-clearing wages. Pattern bargaining implies that workers receive equal pay for equal work, regardless of the financial health of their employer. This condition is precisely the implication of the competitive model. (Equal pay for equal work is necessary but not sufficient for equilibrium; the wage level matters as well.)

As Sweden has found out so painfully, decentralized bargaining that permits bargained wages to adjust to local ability to pay can greatly *impede* the adjustment to market-clearing levels. In Sweden the principle of equal pay for equal work made it difficult for unions in an industry with high productivity to win high wages. The relatively low wages in these sectors increased the employment in these highly productive industries (and, correspondingly, encouraged job loss in low-productivity sectors). The result was a diminution of sector-specific, rent-seeking, and relatively low levels of inflation. National-level bargaining broke down about three years ago. Since then, unemployment rates have skyrocketed from below 4% to more than 10%.

Efficiency Wages

While my tests of several implications of human capital theories (cited above) fail in both the U.S. and Japan, efficiency wage theories appear to be relevant in both countries. For example, I examined the effects of paying above-market wages within a Japanese and a U.S. local labor market (Levine 1993a). In both countries, workers at high-wage plants also have low probability of quitting and report high commitment. The measure of market wages controls for skills, training, demographic characteristics, and job characteristics. In all, the estimated effects from paying high wages are positive for 15 of 16 outcome measures in the U.S. and for 11 of 12 measures in Japan. Twelve of the 16 coefficients in the U.S. (but only 4 of 12 in Japan) are statistically significantly different from zero at the 5% level. The pattern of the results is inconsistent with the hypothesis that the high wages merely measure human capital or compensating differences, while it is consistent with theories of fairness, ability to pay, and efficiency wages.

In a complementary paper, I found that companies with above-average wage increases enjoyed above-average productivity increases; furthermore, the effect appeared large enough to pay for itself (a key implication of the efficiency wage hypothesis [Levine 1992]). These results, coupled with a host of other studies supporting the presence of non-market-clearing wages in nonunion labor markets, support the importance of efficiency wage and ability-to-pay factors in determining wages.

Conclusion

Institutional differences are crucial for understanding different labor market outcomes in different nations. Nevertheless, that investigation must begin with a common set of theories: fairness and bargaining power are relevant in the nonunion sections of the U.S. as well as in the highly unionized sections of Europe or Japan. In addition, that investigation must begin with a clear understanding of the facts: contrary to the implications of market-clearing theories, wages do not move flexibly to clear the U.S. labor markets, and sectors with fewer or weaker institutions may be further from the market-clearing equilibrium.

Endnotes

[1]Aoki (1984) models a firm that is jointly owned by its employees and capital stock providers. Such an enterprise acts midway between a labor-managed firm that maximizes profits per worker (at the occasional cost of failing to expand employment) and a traditional capitalist enterprise that maximizes profits.

Weitzman (1985) has argued that some forms of profit sharing will stabilize employment, since new hiring reduces profits per worker; thus current workers pay an implicit wage subsidy for marginal workers. Unfortunately, the forms of compensation that are rising in importance are unlikely to produce this effect. ESOPs are based on stock prices, not on current revenue or earnings. Gainsharing plans tend to focus on physical productivity and costs and factor out the shifts in demand that are most important for the Weitzman effects to operate. With cost-constant returns to scale over the relevant range (as Weitzman assumes) and gainsharing tied to average variable cost, gainsharing plans will exhibit none of the employment-enhancing effects Weitzman describes.

In addition, the new forms of compensation are often linked to new forms of employee involvement; employee involvement moves the enterprise in the direction of the labor-managed enterprise that Aoki models and away from the high-demand firm modelled by Weitzman.

[2]With complicated contracts and workers paying up-front bonds to buy jobs, the wage can both motivate and clear the labor market. Dickens et al. (1989), explain the difficulties with up-front bonds.

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VII. DISSERTATION SESSIONS

Rethinking Ability-to-Pay Bargaining Models: The Phelps Dodge Case

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On July 1, 1983, 2400 workers went on strike against the Phelps Dodge Corporation, then the second largest domestic producer of copper. The strike affected four remote company towns in Arizona: Morenci, Douglas, Ajo, and Bisbee, plus El Paso, Texas. Phelps Dodge had rejected the industry pattern stipulating a three-year wage freeze and retention of the cost-of-living adjustment clause. The strikers, mostly Mexican-American, belonged to 13 unions in a coordinated bargaining structure led by the United Steelworkers. One month into the strike the company hired permanent replacements. Violence erupted and the National Guard was twice called upon to protect strikebreakers. The strike lasted more than two years and ended in union decertification. The strikers lost everything: their jobs, their union, their homes, and their community, where three generations of miners had toiled for Phelps Dodge Copper.

Two possible explanations have been offered for the declining rate of unionization in the U.S. economy. Structural changes and import penetration are one common explanation; increased management opposition caused by the union/nonunion wage differential is another. However, neither explains the 1983 Phelps Dodge strike. To explain that strike and others like it requires strategic choice theory. Further, ability-to-pay and ability-to-make-pay models of relative bargaining power must be amended to reflect the expanded range of options and strategies that employers today are choosing to exercise.

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The structural change hypothesis contends that recent shifts in demographic, geographic, and demand variables have been unfavorable to the expansion of unionism. The shift from blue-collar manufactured goods to white-collar services, the large proportion of the increase in employment accounted for by women, youths, and part-time workers, and the relocation of industries from the Northeast and Midwest to the South and Southwest have eroded traditional union strongholds. Also, the union pay differential may have reduced union employment by encouraging capital substitution, subcontracting, and relocation.

Linneman and Wachter (1986) claim that more than half of the estimated 6.8% decline in the share of employment held by union members between 1973-1984 was due to the increase in the union wage premium. Their explanation is the familiar downward sloping demand curve for labor, with its inverse relation between wage rates and (union) employment. Edwards and Swaim (1986) find that the union wage differential in the private sector remains substantial and does not seem to have narrowed in the 1980s. They propose that the union/nonunion wage gap may have widened because union control is slipping most rapidly in jurisdictions where wages are lowest. Intense competition has resulted in a disproportionate elimination of the weakest union contracts, subsequently resulting in heavy union job loss in marginal and peripheral enterprises. In the face of import penetration and deregulation, the survivors of the shakeout in the union sector are a pool of older, high seniority workers employed in a shrinking core of large establishments. Using regression analysis, Farber (1985) estimates that at most 40% of the decline in unionization during 1956-78 is explained by shifts from manufacturing jobs in favor of white-collar jobs, southern production locations, and the increase in female workers. As Farber notes, this analysis leaves a large portion of the decline unexplained.

The managerial opposition hypothesis contends that a hardening of management's attitudes toward unions is a major cause of the decline in unionization. Freeman (1985) asserts that the declining rate of success in National Labor Relations Board representation elections is a critical factor. He estimates that 40% of the decline in union success rates is due to increased management opposition in the form of positive labor relations, as well as legal and illegal antiunion campaigns. Twenty percent of the decline is attributed to decreased union-organizing expenditures per nonunion worker, and 40% is due to structural changes in the economy plus unknown factors. Freeman (1986) asserts that the union/nonunion wage differential is the cause of management's opposition to unions. He finds that (1) the union wage differential is positively and significantly related to employer unfair labor practices (ULPs), (2) employer ULPs have a negative effect on unionization rates, and (3) the union wage differential has a negative effect on unionization rates. Freeman concludes that as much as one-fourth of the decline in the proportion of labor organized through NLRB elections may be attributed to the increase in the union wage premium during the 1970s.

The loss of 2,400 union jobs at Phelps Dodge cannot be explained by structural causes. The company had experienced no significant demographic changes in its company town labor force or geographic shifts in production. The industry is not in a secular decline. Phelps Dodge has become the largest copper producer in North America, earning record returns on equity: 37% in 1988, 20% in 1989, and 27% in 1990. Nor will the union wage differential, whether through structural changes or by managerial opposition, explain the strike, because virtually all of the U.S. copper producers were unionized in 1983. Phelps Dodge was (and is) the low-cost producer in the domestic industry and is in the lower half of the world's cost spectrum (Phelps Dodge 1982; U.S. Dept. of the Interior 1982). Furthermore, at the first bargaining round following the strike (1986), unions representing the rest of the domestic copper industry agreed to $3-4 per hour wage concessions, making Phelps Dodge the high-wage employer in the industry and creating an inverse union/nonunion pay differential. Phelps Dodge stated it had no intention of forcing similar cuts on its nonunion workers. "Wages will not be cut in the future to match those at union plants. If you don't treat people well, they're going to go union and we don't want that" (Ladd 1987). When Phelps Dodge's remaining union contract expired at Tyrone, New Mexico, in 1987, Phelps Dodge did not press for the wage concessions negotiated by the industry's unions in 1986, preferring instead to grant a wage freeze in return for a four-year contract (Ladd 1987). This situation illustrates that what is occurring on the industrial relations terrain is much more complex than a wage-employment trade-off or management opposition to a rising union wage premium.

Kochan, Katz, and McKersie (1986) posit a different explanation of the decline in unionization and the source of management's opposition to unions, which is more consistent with the Phelps Dodge case. They claim that while structural changes account for some portion of the post-1960 decline in unionization, "a full understanding of that decline requires a reconceptualization of managerial strategies, structures, and policies" (p. 8). Using econometric analysis, Kochan et al. find that wage changes collectively bargained in the early 1980s systematically deviated from trends established in the post-World War II period, indicating that we are in a critical transformational period in industrial relations. Kochan et al. assert that "the conclusion that management had adapted and accepted unions as legitimate partners misinterpreted as a change in managerial preferences or ideology what was actually a pragmatic or strategic adaptation to the high costs of avoiding or dislodging established unions" (p. 14). In choosing how to respond to new business opportunities or competitive pressures, the deeply rooted preference of American managers for operating nonunion often dominates their choices, except in cases where preexisting high levels of unionization constrains this option. This is consistent with the broader set of American values that stresses individualism, the primacy of one's right to defend individual property rights, and the desire to maintain managerial control, autonomy, and worker discipline (Bendix 1956; Atleson 1983).

Changes in the external environment (economic, social, political, legal) create a need for adjustment in business strategies. In making these adjustments, the employer faces a range of options. A key premise of the Kochan et al. analysis is that employers exercise considerable choice in responding to external cues; however, the options are filtered and constrained to be consistent with the values and philosophies of the key decision makers. In some companies, such as Phelps Dodge, these attitudes or norms have diffused from founders or senior executives (Kochan et al. 1986; Cleland 1952). History plays a large part in constraining the acceptable alternatives. Kochan et al. claim that one of the strongest factors influencing option choice is management values toward unions. A historic and firmly entrenched opposition to unions is embedded in the belief system of U.S. managers. It is through this lens that decision makers weigh options in response to external cues. Employers' values have not changed regarding unions so much as the range of acceptable responses has expanded. Not since the 1920s has it been as socially and politically acceptable for U.S. management to publicly adopt a union-free preference.

Kochan et al. point out the great diversity in the nature and consequences of concessionary bargaining among firms facing similar pressures. They claim that to understand the cause of this variation, we must examine the different business strategies adopted by different firms. My thesis shows that Phelps Dodge's domestic competitors faced similar, if not greater, economic pressures in 1983, yet their bargaining outcomes were quite different. Phelps Dodge has a documented history of antiunion policies and activities (Byrkit 1982; Dubofsky 1969; Lingenfelter 1974; Jensen 1950). From the inception of the U.S. nonferrous metals industry in the 1840s, labor relations have been characterized by violent and bitter confrontations. Labor organizations were opposed in a multitude of ways:

strikebreakers, Pinkertons, injunctions, back-to-work movements, company unions, and paternalism were all used. Even after Phelps Dodge signed its first union contract in 1946, long strikes were necessary to secure agreement at nearly every subsequent contract expiration. Each contract expiration presented an opportunity to challenge the authority of the unions, which Phelps Dodge had never accepted as legitimate participants in the wage determination process. It is through this lens of history and values that Phelps Dodge considered its possible options in response to the severe cyclical downturn in 1983.

Phelps Dodge accurately assessed the economic and political environment, perceiving that the 1983 negotiations presented an excellent opportunity to challenge the power of the unions. The unemployment rate in the county where Morenci (Phelps Dodge's main facility) is located was 66.9% in January 1983 (U.S. Congress 1983). Out of economic necessity, many of the workers crossed the picket lines. Also, the recessionary price of copper reduced the effectiveness of any disruption in production. Phelps Dodge chose the trough of the business cycle to attack its labor organizations and disrupt a long-term bargaining relationship. It exploited a short-term situation to make a long-term change in labor relations. The company was aided and encouraged by the changing labor relations environment, including the policies of the Reagan administration, the interpretations of the judiciary, and a public opinion unsympathetic to unions. Given the firm's history of contentious labor relations, it was not unexpected that Phelps Dodge would choose a bargaining strategy in 1983 that would include forcing a strike, hiring permanent replacements, and decertifying the unions. The Phelps Dodge bargaining outcome in 1983 was different from the rest of the industry because its choices and business strategies were different. Although the other major copper producers were facing equal, if not greater, competitive pressures, Phelps Dodge chose to respond to the situation in a unique way. Phelps Dodge would not ignore the excellent opportunity presented by the recession to weaken or destroy an institution it always considered unnecessary and illegitimate.

Using an ability-to-pay/ability-to-make-pay model based solely upon profits, productivity, and bargaining structures (Craypo 1986), one might have predicted an eventual settlement between Phelps Dodge and its workers. Employers have the greatest ability to pay when they are efficient producers, are expanding output, and have pricing power in their product markets. The Phelps Dodge Corporation produced 20% of the copper mined in the United States in 1983, making it the second largest domestic producer. As noted above, the firm is the low-cost producer in the domestic industry and is in the lower half of the world's cost spectrum. The corporation is vertically integrated, and the domestic copper industry has historically been highly concentrated. Figures from the U.S. Department of Commerce indicate that in 1958 the four largest primary copper producers (SIC 3331) accounted for 87% of sales. This figure declined to 71% in 1966 but had returned to 87% by 1977. The trend since 1977 has been toward even greater concentration in the copper industry. The 1982 figure for the percent of sales accounted for by the four largest companies was withheld to avoid disclosing data for individual companies. The figures for copper smelting (SIC 33311) and refined primary copper (SIC 33312) reflect an equal or greater degree of concentration. Such concentration gives copper oligopolists pricing power, enabling them to maintain copper prices several cents per pound in excess of those on the metals exchanges. While this sum sounds like a modest margin of difference, a one-cent increase in the average yearly price for copper adds approximately $10 million to Phelps Dodge's annual profits (Webster 1987). In addition, the spatial limitations of copper mining provide a natural barrier to entry, reducing the firm's competition.

The ability to reduce production costs also increases an employer's ability to pay. Productivity gains enable employers to offset negotiated increases in labor costs. If wages grow at the same rate as labor productivity and other factors remain the same, unit labor costs do not increase. Recent productivity increases in the U.S. copper industry have been quite large. Data from the Bureau of Labor Statistics indicate that the average annual percent change in output per employee-hour for the period 1947-1985 in primary copper (SIC 3331) was 2.4%. For the period 1980-1985, the average annual percent change was 12.4% (U.S. Dept. of Labor 1987, 1990; U.S. Dept. of the Interior 1988). By comparison, the change in output per employee hour in the manufacturing sector of the economy averaged only 1.3% annually during 1980-1985 (U.S. Council of Economic Advisors 1991). These large increases in productivity in the copper industry were achieved by closing high-cost mines, adopting greater capacity equipment, and introducing solvent extraction-electrowinning, a new technological process in copper production. Phelps Dodge's production costs were cut from more than 80 cents a pound in 1981 to roughly 55 cents in 1987. These statistics indicate that increases in labor costs for the U.S. copper industry were more than offset by the extraordinary increases in productivity over the 1980-85 period.

While the employer's ability to pay is based upon markets and production processes, the unions' ability to raise wages depends mainly upon two organizational factors: the extent of worker organization and the ability to stop production. This is achieved when appropriate bargaining structures are attained and competitive unionism is eliminated. Following many years of counterproductive disputes and membership raids, competitive unionism ended in the U.S. copper industry in 1967 with the merger of the International Union of Mine, Mill, and Smelter Workers and the United Steelworkers of America (USW). The USW used this opportunity to press for coordinated bargaining, which the unions considered necessary in order to match the increasingly concentrated and integrated copper industry. This issue was finally settled in the courts with the *Phelps Dodge* decision of 1972 (Third Circuit Court [67 LC ¶12,563]), which allowed coordinated bargaining among the 13 unions representing the workers of Phelps Dodge. The decision was implemented by the National Nonferrous Coordinated Bargaining Conference, led by the USW. Although the copper unions never achieved industry or companywide bargaining, the developments of 1967 and 1972 greatly enhanced their ability to make pay by centralizing bargaining and eliminating the companies' ability to "divide and conquer" or whipsaw the unions. Managerial prerogatives and the firm's autonomy were eroded by pattern bargaining and the coordinated negotiating structure, thereby increasing Phelps Dodge's resentment of its labor unions. Although a multi-industry pattern was evident prior to 1967, after the union merger the copper industry was more directly and tightly linked to key bargains in the steel, aluminum, and container industries, with the result that settlements in the four metal industries became virtually identical.

The market power and large annual increases in labor productivity of the domestic copper industry meant that the U.S. producers were in a position in 1983 to continue paying their then-current wage levels. The industry was in a cyclical downturn, not a secular structural decline. The spatially limited nature of mineral reserves and the huge capital costs involved present substantial barriers to entry. Phelps Dodge's high degree of vertical and horizontal integration, its large market share, pricing power, and advantageous cost position put it in a better ability-to-pay position than other domestic copper producers. Furthermore, increases in labor costs could have been offset by the large annual increases in output per employee hour. Although Phelps Dodge had the ability to pay, the company also had the power to resist if it so chose.

This case and others like it demonstrate the need to model the employer's bargaining power more explicitly. Management should no longer be viewed as responding passively by setting the employment level in response to the union-determined wage rate. The recent recognition in the literature that unionization in the U.S. is dependent on management's behavior and strategies, as well as workers' preferences, means that future models of relative bargaining power will treat management's power separately and distinctly, instead of expressing it as a default to the union power position. It can no longer be assumed that if the employer has the ability to pay, the union is in a strong position and the employer will pay.

The author suggests modifying Craypo's model of relative bargaining power (1986) by adding a section detailing the employer's ability to resist (see Table 1). The author also proposes subsections D,E,F under the union's ability-to-make-pay column. While the result is not as clean and elegant, the added complexity reflects current bargaining developments. The employer's ability to resist paying includes such factors as company finances, inventory size, the ability to continue production, the ability to shift production to other facilities or locations, diversification (providing cross-subsidization), monopsony power, and the economic impact of the strike (lost profits and the ease of finding replacement workers). Additionally, the employer's will to resist paying depends upon the company's leadership, history, philosophy, and choice of strategies. The union's bargaining power depends not only upon extent of organization, coordination, and appropriate bargaining structures, but also on union characteristics such as cohesion, leadership, history, and choice of bargaining strategies (e.g., the use of limited strikes, slow downs, sick outs, and corporate campaigns). The business cycle influences the union's ability to make pay through its effect on the losses a strike can impose on the company and also through the availability of alternate temporary jobs to offset the strikers' loss of income. The political, legal, and social environment affects both the union and employer's bargaining power.

The Phelps Dodge strike is not a unique or isolated case. A 1982 survey by *Business Week* indicated that 11% of the firms asking for concessions were taking advantage of the bargaining environment by pressing for concessions when their economic situation was not adverse (Capelli and McKersie 1985). Employers may view strikes today as an opportunity to rid themselves of union contracts and to hire a new, often less expensive, work force; the strike has paradoxically become one of management's strongest weapons. Just ten years ago the tactic of hiring permanent replacements was rare; most employers considered it unwieldy and bad for public image. In 1990, however, a Bureau of National Affairs survey of 204 firms found that more than 80% of the employers would consider hiring permanent replacements in a labor dispute (Baker 1990). Permanent replacements

TABLE 1

Sources of Bargaining Strength

I. Employer Ability to Pay
   A. Ability to pass on higher labor costs
      1. Market power through industrial concentration
      2. Spatial limitation
      3. Regulatory rate setting
      4. Government contracts and subsidies
   B. Ability to reduce production costs
      1. Productivity gains

II. Employer Ability to Resist
   A. Company's finances
   B. Ability to stockpile
   C. Ability to continue production
      1. Technology
      2. Skill considerations
      3. K/L ratio
   D. Ability to shift production
      1. Capital mobility
      2. Horizontal integration
   E. Diversification
   F. Monopsony power
   G. Business cycle considerations
   H. Employer will to resist paying·
      1. Leadership
      2. Company history
      3. Company philosophy
      4. Strategic choice
   I. Political, legal, social environment

III. Union Ability to Make Employer Pay
   A. Organization of the relevant work force
      1. Product market and spatial considerations
      2. Skilled labor market considerations
   B. Absence of competitive unionism, multiunion coordination
   C. Appropriate bargaining structures
      1. Product market and spatial considerations
      2. Skilled labor market considerations
   D. Union characteristics
      1. Leadership
      2. Union history
      3. Solidarity
      4. Bargaining strategies
   E. Business cycle considerations
      1. Ability to impose losses
      2. Ability to offset income loss
   F. Political, legal, social environment

actually were hired in 30% of the strikes in 1989, a record number (Bernstein 1990). This employer strategy is made easier when recession swells the ranks of the unemployed and underemployed. Gramm (1991) adds considerable evidence concerning the union-breaking motivation behind continuing production by choosing to hire permanent replacement workers. In her survey of strikes involving 1,000 or more workers during the period 1984-1988, she finds that when permanent replacements were hired, the mean duration of the strike was 363 days, as opposed to 72 days when temporary replacements were used and 64 days when no replacements were hired. (In 88% of the strikes studied, production continued by shifting the work to nonbargaining unit personnel.) In addition, the mean operating capacity of firms using permanent replacements was 77% of full capacity, compared with 90% when temporary replacements were used, and 57% when no replacements were hired.

National Labor Relations Board statistics indicate that decertification elections numbered 112 in 1950, 237 in 1960, 301 in 1970, and soared to 902 in 1980. Unions won 33% of those elections in 1950, but only 23.5% in 1982 (Fulmer 1981; Thompson 1984). Also during the period 1960-80, employer unfair labor practice (ULP) charges nationwide rose fourfold, the number of charges involving discharge for union activity rose threefold, and the number of workers awarded backpay or ordered reinstated rose fivefold, while the number of NLRB certification elections remained roughly constant over this period (Freeman and Medoff 1984). These data make a powerful point: management strategies in labor relations are changing rapidly, and any model that strives to analyze bargaining outcomes must take these changes into account.

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Essays on Human Resource Management Practices, Turnover, Productivity, and Firm Performance

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The assertion that human resource (HR) management policies and practices can impact firm-level outcomes such as turnover, productivity, and corporate financial performance frequently appears in the academic and popular press. An emerging body of literature in the fields of I/O psychology, human resources, industrial relations, and labor economics has argued that the use of progressive or "sophisticated" HR management practices can increase employee motivation, improve skills and abilities, reduce shirking, and enhance retention of quality employees (Jones and Wright 1992). In the popular press as well, a wide range of authors contend that the HR management practices selected by a firm have important implications for its performance (see Peters and Waterman 1982; Porter 1985; and Lawler 1986).

However, most of the prior empirical research on this topic has been limited by a focus on the firm-level impact of *individual* HR management practices (Belman 1992; Boudreau 1991; Guzzo, Jette, and Katzell 1985; Ichniowski 1992; Kleiner 1990) rather than on the firm's overall *system* of such policies. Such an approach provides little insight into the issue of primary theoretical interest in this line of research: the contribution of the firm's entire set of HR management practices to its performance. Conceptually, firm performance should be greatest when these policies are selected to work as complements or *synergistically*. Complementarity, or synergy, can be said to exist to the degree that the returns from adopting a set of mutually reinforcing HR management practices are greater than would be expected given the particular individual policies involved (Milgrom and Roberts 1993). Thus an evaluation of the overall system of HR management practices adopted by a firm should provide additional insights that would be missed by a focus on individual policies.

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This dissertation seeks to advance prior work by matching firm-level data on overall human resource management "sophistication" with objective measures of turnover, productivity, and corporate financial performance. I begin by operationalizing the concept of HR management practice sophistication. Based on prior empirical work (Delaney, Lewin, and Ichniowski 1989), I then develop and validate a scale measuring this construct (HRSOPH). Second, I calculate the effects of HRSOPH on capital market and accounting measures of corporate financial performance, as well as measures of intermediate human resources outcomes (turnover and employee productivity). Third, while prior empirical work has primarily focused on large manufacturing firms, I extend my analyses to include a national sample of both union and nonunion publicly held firms across diverse industries. Fourth, I also evaluate the impact of labor unions, which have a direct effect on turnover, productivity, and profitability but also an indirect effect on these factors through their influence on the adoption of HR management practices. Fifth, following Becker and Huselid (1992), I provide a "field test" of the dollar benefits associated with investments in HR management practices suggested in the utility analysis literature. Finally, because of the potential for endogeneity between firm performance and HRSOPH and the possibility that my sample is not a random subset of the population, I also correct for simultaneity and selectivity biases.

Data

The sample was drawn from the *Compact Disclosure* database, which contains capital market and accounting firm performance data on more than 12,000 domestic publicly held firms. Firms of foreign origin and holding companies were excluded from the sample, as were organizations with fewer than 100 employees, leaving 3,452 firms representing all major domestic industries. Information on each firm's HR management practices was obtained with a survey addressed to the senior HR management professional in each firm. This individual first received a prenotification letter, then the survey, along with a small monetary inducement, and nonrespondents received a follow-up letter. Usable responses were received from 968 firms for a response rate of 28%.

My measure of HRSOPH was adapted from Delaney et al. (1989). This scale reflects the use of HR management "best practices" in the areas of personnel selection, performance appraisal, incentive systems, job design, promotion systems, grievance procedures, information sharing, attitude assessment, and labor-management participation. In contrast to Delaney et al., who scored each policy as "present" if it affected *any* of the firm's employees, respondents to my survey indicated the proportion of exempt and nonexempt employees who were affected by each practice. The HRSOPH index was then calculated by multiplying the response to each question by the proportion of employees in the appropriate category (exempt or nonexempt). These values were subsequently averaged across all questions. The HRSOPH scale had a range of 4.30 to 99.53, a mean of 55.96, and a standard deviation of 16.20. See Huselid (1993a; 1993b) for a discussion of the relative strengths and weaknesses of this scale, along with evidence of its reliability and validity.

The Effects of HRSOPH on Turnover and Productivity

The goal of this dissertation was to determine the impact of the use of progressive or "sophisticated" systems of HR management practices on valued firm-level outcomes. HR management practices can be expected to affect firm performance indirectly, however, through the behavior of employees. And although an improvement in the quality or motivation of employees should ultimately be manifest in firm performance, a number of factors outside the control of the average employee (e.g., general economic conditions, competition in the product market, etc.), can mediate the links between individual employee performance and corporate profitability. Thus demonstrating that HR management practices can affect valued employee behaviors is an important first step in the process of establishing a link between HR policies and corporate financial performance, and I attempted to do so by exploring the links between HRSOPH and turnover and employee productivity. These intermediate human resources outcomes have long been of interest to both practitioners and scholars.

Models for turnover and productivity were specified within the context of the relevant literature for each dependent variable and included controls for firm size and industry, firm- and industry-level union coverage, compensation, capital intensity, industry concentration, R&D intensity, and recent sales growth. OLS and 2SLS equations (recognizing the potential for simultaneity between HRSOPH and employee productivity) with and without corrections for selectivity bias (using the Heckman procedure) were estimated for each model. To evaluate the consistency of the results across specifications, increasingly comprehensive models were specified for each dependent variable.

In each equation for turnover, the coefficient on HRSOPH was negative and statistically significant at conventional levels. As an estimate of the practical significance of these results, I found that each standard deviation increase in HRSOPH lowered turnover by 1.36% (7.45 relative %). However, these results do not necessarily imply that higher levels of HRSOPH will increase corporate financial performance. That is, turnover is primarily a function of wages, benefits, and working conditions, and firms with higher turnover often pay lower wages. A more convincing test of the impact of HR management practices on firm-level outcomes would link these practices with employee productivity.

Therefore, the next set of analyses evaluated the impact of HRSOPH on employee productivity (the log of net sales per employee). In each of these equations the coefficient on HRSOPH was positive and statistically significant. Again, as an estimate of practical significance, I calculated the impact of a standard deviation increase in HRSOPH on the numerator of productivity (net sales), while holding all other variables at their means. I found that each standard deviation increase in HRSOPH was associated with a $8,337 *per employee* increase in sales. However, this is a single period estimate, while investments in HR management practices are likely to provide returns for longer than a single year. Assuming (arbitrarily) that an investment in HR management practices in the current year provides a constant return over a five-year period, a one standard deviation increase in HRSOPH would provide a present-value increase in sales of $33,287 per employee (at an 8% discount rate).

Despite the statistical and practical significance of the impact of HRSOPH on turnover and productivity, these data do not necessarily imply that investments in HR management practices lead to enhanced profitability. For example, a deficiency of both turnover and productivity as dependent variables is that they do not reflect any costs associated with the adoption of more sophisticated HR management practices. Thus any financial gains from lower turnover or greater employee productivity could well be eclipsed by the costs associated with increasing HRSOPH. Estimates of the *net* benefits associated with investments in sophisticated HR management practices require the use of capital market and accounting measures of corporate financial performance. Such analyses are presented below.

The Effects of HRSOPH on Firm Financial Performance

To represent each of the facets of corporate financial performance that have been identified in the literature (Hirschey and Wichern 1984), I used two capital market measures and two accounting measures of profitability. The first capital market measure, Tobin's q, is a forward-looking measure of profitability, while the second, total shareholder return over a five-year period (TSR), provides an historical measure of economic performance. The first accounting measure, gross rate of return on capital (GRATE) is superior to the traditional return on assets or return on equity measures because it is not as greatly affected by accounting depreciation. Finally, I also calculated a traditional accounting measure of profitability (price-cost margin or PCM). A primary advantage of each of these dependent variables is that they provide estimates of the impact of HRSOPH that are net of any relevant costs.

Models were specified for each dependent variable that included controls for firm size, industry, firm- and industry-level union coverage, industry concentration, prior sales growth, R&D intensity, and beta. As above, four different estimation procedures (OLS and 2SLS, with and without corrections for selectivity bias) were employed for each dependent variable to help evaluate the consistency of the results.

Practical Implications of Sophisticated HR Policies

Consistent with the findings for turnover and productivity, I found the use of sophisticated HR management practices to have a statistically significant positive impact on corporate financial performance in each model. And as above, I calculated the impact of a one standard deviation increase in HRSOPH on each of the profitability measures as an estimate of the practical significance associated with the use of such policies.

When these estimates were made in terms of the market value of the firm, the per employee effects of increasing HRSOPH one standard deviation averaged $36,452 (relative to Tobin's *q*). When the estimates were made relative to TSR, the per-employee effects averaged $30,047. The overall effect across all estimation procedures and specifications was to increase firm market value an average of $33,250 per employee for each standard deviation increase in HRSOPH. Such increases in market value are unlikely to occur contemporaneously with investments in HR management practices, however. A more probable outcome is that this type of investment creates an asset that yields an annual return. Relative to the market value measures, if one assumes (again, arbitrarily) that these returns can be expected to accrue over the next five years, then a one standard deviation increase in HRSOPH would yield $8,328 per employee per year (using an 8% discount rate).

The next set of analyses provide estimates of the financial effects of increasing HRSOPH on the accounting profits. Relative to GRATE, each standard deviation increase in HRSOPH raised profits an average of $7,726 per employee. Alternatively, each standard deviation increase in HRSOPH produced an average increase in profits (relative to PCM) of $8,009. The average of all the annual profitability measures across all specifications and estimation procedures was $7,868, which is very similar to the five-year annuity values calculated above for the market value measures.

In summary, four distinct measures of corporate financial performance yielded very similar results. A one standard deviation increase in HRSOPH produced an increase in the market value of the firm of $33,250 per employee. Alternatively, the average expected annual increase in profits was $7,868 per employee. The magnitude of these returns was considerable, especially considering that these values are net of any additional costs that increasing HRSOPH may require.

Summary and Conclusions

This dissertation evaluated the impact of HR management practice "sophistication" on employee turnover, productivity, and corporate financial performance in 968 publicly held firms. The findings provided broad support for the hypothesis that investments in effective HR management practices lead to positive firm-level outcomes. The pattern of relationships was consistent across various dependent variables, estimation procedures and specifications, and in each case higher levels of HRSOPH had a statistically and practically significant effect on the outcome measures. Although the use of cross-sectional data limit attributions of causality, the consistency of the results across multiple dependent variables, the extensive use of control variables, and corrections for selectivity and simultaneity biases substantially enhance our confidence in the results.

These results have a number of implications for the theory and practice of human resource management. First, it is important to recognize that firms do not adopt individual HR management practices in isolation, but rather *systems* of such policies. Therefore, research examining the impact of individual HR management practices on firm-level outcomes is likely to be misleading. Second, much more research is needed on the antecedents and consequences associated with the use of sophisticated HR management practices. Specifically, how firms select HR management practices, the potential for complementarities or synergies among HR management practices, and the relationships between the use of sophisticated HR management practices and firm-level outcomes are all important areas for future research. Finally, future work should also examine the effects of HR management practice sophistication on a wider group of organizational stakeholders than simply the shareholders. For example, the calculations presented here only include the shareholder's portion of the gains from increasing HR sophistication. Presumably, labor should capture a portion of the value created by investments in HR management practices in the form of higher wages and benefits (Becker and Olson 1987). And because the use of more effective HR management practices can lower turnover and (presumably) enhance employment security, we may want to encourage firms to make such investment from a public policy perspective.

In conclusion, a substantial body of theoretical literature has argued that investments in progressive or sophisticated HR management practices can substantially enhance firm performance. This dissertation found broad support for this contention. Such a conclusion raises the obvious question, however: If the returns from the use of sophisticated HR management practices are so large, why aren't all firms using them? And in fact, the substantial variability in firms' adoption of these procedures is a puzzle for future work to explain. However, the recent interest in human resource management practices as a source of competitive advantage may be central to understanding why such large gains are possible. It may well be that the recency of this attention has created a market in disequilibrium, which would account for the presence of above-normal returns. Future research should also begin to explore whether the payoffs for the use of sophisticated HR management practices diminish as more firms begin to adopt them.

Acknowledgments

This dissertation was completed at SUNY-Buffalo in 1993 under the direction of Dr. Brian Becker. I am very grateful to Dr. Becker for his contributions to this manuscript. This research was partially funded by grants from the Human Resource Planning Society, the Society for Human Resource Management (SHRM) Foundation, the Mark Diamond Research Fund, and the SUNY-Buffalo School of Management. The interpretations, conclusions, and recommendations, however, are mine and do not necessarily represent the positions of these agencies.

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Tinker, Taylor, Soldier—Why? Renegotiating the Employment Relation When Organizations Introduce Computer Networks

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Managers, the business press, and scholars argue that workers need to work harder, longer, more intelligently, and with higher commitment to compete successfully in the changing global economy (Cohen and Zysman 1987). Work effort is being redefined away from compliant rule following and toward open-ended, proactive behaviors—engaged effort. Diverse factors contribute to the growing demand for engaged effort, including global competition and rising quality standards. However, technological change shapes the demand for engaged effort in specific ways.

New technologies are a primary agent in the rise of engaged effort. Although automation can result in the routinization of work (counting keystrokes), several studies have shown alternative implementations that reintegrate previously fragmented skills into new occupations (Zuboff 1988). These new occupations (e.g., operating equipment diagnostics, marketing, customer service representatives) share an important characteristic: key job requirements such as attentiveness, quality, and service are difficult or costly to monitor or coerce. Productivity in these jobs now depends on engaged effort.

In this thesis I develop a mid-range theory of the labor process for white-collar, nonmanagerial workers which acknowledges coexisting dimensions of conflict and cooperation. Revising existing labor process theory is essential to address issues of both technological change and the dominance of white-collar occupations and service industries. I use case studies of two organizations as the vehicle to develop new theory. I examine how introducing a new technology fostered different levels of engaged effort in two contrasting organizations. The technology studied is local area networks, or LANs. (A LAN is a group of personal computers connected by cable that

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permits users to share information [e.g., files] and devices [e.g., printers] and to communicate with electronic mail.) Two organizations were selected for their contrasting management practices: a hierarchical law firm (the firm) and a city government (the city) committed to delegating authority. Tensions emerged when nonmanagerial workers' opportunities for engaged effort were constrained by managers' beliefs about hierarchy and the division of labor embedded in existing employment relations. I find evidence of low levels of engaged effort at the firm, while many city workers appeared more willing to learn and innovate.

The Rising Demand for Engaged Effort

Contemporary studies of automated information systems point to a common set of changes in how work gets done. These changes include the

TABLE 1
Elements of Engaged Effort

Selected Sources	Continuous Learning	Paying Attention	Taking Responsibility	Problem Solving	Innovating
Organizational/ Technology Studies:					
Adler 1988, 1991	Skill improvement	Watchfulness	Reliability, responsibility	Problem solving, abstract understanding	Innovation
Weick 1987, 1990	Continuous shifting of learning curve		Reliability crucial	Abstract understanding	
Zuboff 1988	Learning	Attentiveness, "attentional requirements"		Problem solving; inference, procedural reasoning	"Informating"
Information Systems:					
Adoption studies	Learning (Johnson and Rice 1987)			Problem solving (Mankin et al. 1984)	Innovation experimentation, extensibility, usability (Johnson and Rice 1987; Bikson and Eveland 1991)
Other:					
Commission on Achieving Necessary Skills (BLS 1991)	Thinking skills	"Monitor system performance"	Responsibility	Problem solving, "troubleshooting" (in teams)	"Improve systems," creative thinking

Earlier references: Perrow (1984) on need for reliability of and attention to exceptions in processes with high cost errors; Baran (1987) on skill upgrading and expanded responsibility of insurance claims processors; Shimada and MacDuffie (1986) on fragile manufacturing systems sensitive to workers' skill, motivation, and adaptability; Woodward (1965); and Blauner (1964).

need for workers to learn continuously, to be attentive to and responsible for vulnerable systems, to diagnose and solve problems, and to innovate. These new elements of work effort emerge from two features unique to information technology. First, rapid rates of technological change make learning, solving problems, and innovating salient. Second, complex interdependent systems require responsibility and attentive monitoring. Such behaviors make concrete the meaning of engaged effort. The specific elements of engaged effort are outlined below and in Table 1.

Learning. Many workers are being asked to repeatedly learn new skills as new hardware and software are released (Zuboff 1988). Some research reports skill increases (George et al. 1989). Weick (1990) describes the process as a continuous shifting of the learning curve; effort is being redefined to include continuous learning.

Responsibility. New technologies often connect and integrate work processes, both reflecting and creating interdependence among workers. In banking (Alder 1988) and insurance (Baran 1988), eliminating multiple checks on data entry increased the risk of bad data contaminating all subsequent related transactions. Such highly interdependent systems magnify the need for responsible workers (Perrow 1986; Weick 1987).

Attentiveness. In continuous processing of goods or information, effort must go beyond passively observing data. Workers must pay attention and note deviations from normal patterns (Weick 1990; Woodward 1965). Adler (1988) describes a need for greater watchfulness; Zuboff (1988) describes the high "attentional" requirements of highly automated systems. Attentiveness includes problem anticipation and preemptive countermeasures to prevent problems from developing.

Problem solving. Successful implementations of information technology often require end users to solve problems. Successful problem solving depends on a user's ability to develop an abstract understanding of a system (Weick 1990; Alder 1988; Zuboff 1988). Some systemwide knowledge is necessary for users to understand both upstream causes and downstream consequences of their problem-solving actions. In many cases, problem solving arises because the new technology must be modified to meet the requirements of a specific site (Mankin et al. 1984; von Hippel 1988).

Innovation. The final element of engaged effort is continuous innovation or improvement of work processes. Again, rapid rates of technological change means that implementation is ongoing (Bikson and Eveland 1991; Leonard-Barton 1987). End users (information clerks, secretaries, data-entry operators) need time (slack) and autonomy to come up with innovative applications (Sproull and Kiesler 1991; Mankin et al. 1984). Moreover, new uses for technology are found only where workers have the opportunity to "fiddle" or experiment with it (Carroll and Perin 1988).

Overall, these studies point to very specific behaviors critical for changing work process that now depend heavily on information technology. Engaged effort is consistent with, but more specific than, general calls for high-commitment workers. Two factors are critical: First, the need for engaged effort extends beyond mid-management. Engaged efforts such as problem solving and innovation are required by end users, often low-level workers such as clerical workers, claims processors, and bank tellers. Second, the behaviors associated with engaged effort are not easily monitored or coerced. Technical and bureaucratic controls once seen as adequate for these workers are decreasingly appropriate.

Some Relevant Literature

What is the problem? There is a disjuncture between work processes that require engaged effort and employment relations that constrain such effort. The workers who need to learn, solve problems, and innovate are more and more often nonmanagerial workers. Increased autonomy, participation in decision making, and other kinds of socialization can encourage workers to do engaged effort. However, these work practices often conflict with managerial norms about the need for hierarchy and the abilities of low-level workers. These unresolved tensions appear in banking (Salzman 1990), insurance (Zuboff 1988), clerical work (Kanter 1983), and legal offices (Suchman 1992). There are several theoretical approaches to analyzing the labor process.

In neoclassical economics the employment relation is an instrumental and voluntary contract in which power is not invisible, but rather nonexistent (Alchian and Demsetz 1972). A radical critique take counters—taking as its core assumption conflict (or contested exchange) between workers and managers under capitalism (Bowles and Gintis 1986; Reich and Devine 1981). Other radical scholarship has produced a more subtle understanding of the nature of control. Edwards (1979) argues that the employment relation is characterized by "bureaucratic control," where control is embedded in rules and procedures. Burawoy (1979) looks at "despotic regimes" (where coercion prevails over consent) to "hegemonic regimes" (where consent prevails over coercion). Theses scholars point out that by focusing exclusively on the instrumental and coercive elements of employment, some radical economics shares with its neoclassical counterpart a view of the employment relation as a site of coerced effort extraction.

The current work builds on two themes inadequately addressed in the existing literature. First, in postindustrial management, the economic emphasis on "effort extraction" is better described by what Hirschhorn calls "attention extraction" (quoted in Block 1990:112). His use of the phrase is deliberately paradoxical; attention cannot be coerced. Researchers studying organizations recognize that passive compliance is an insufficient foundation for the employment relation; employment relies simultaneously on cooperation (Barnard 1968; Galbraith 1977; Katz and Kahn 1966; Simon 1991). Second, radical economic and sociological analyses are limited by an insufficiently detailed look at white-collar occupations in service industries.

This research begins with this question: How do firms experience and address the tensions that result when nonmanagerial workers attempt engaged effort and their attempts confront traditional hierarchical employment relations? Specifically, I hypothesized that organizational hierarchies would inhibit engaged effort by nonmanagerial employees.

Methodology

This paper studies the introduction of LANs into two sites, a law firm (the *firm*) and a municipal government (the *city*). The firm was selected because it has the sharp demarcation between "professional" and "support" staff typical of law firms. Thus I expected formal actions to solicit engaged effort from nonprofessional workers would be low. The firm has about 100 attorneys, 50 secretaries, and 150 other staff. Interviewing began in March 1991; about 20 interviews were conducted, 30 minutes to two hours in length. The city was chosen because of its reputed strong commitment to decentralizing its LAN and encouraging access by both citizens and staff. The city manager has expressed interest in receiving electronic mail from the city janitors. The city has about 1500 employees distributed across 19 divisions. Beginning in February 1992, I conducted about 12 interviews; I selected workers from departments most similar in their computer usage to the law firm (e.g., the city's legal department and city manager's office). Both LANs came on line in May 1991. Other data sources included training records, budgets, job descriptions, etc.

Different Levels of Engaged Effort at the City and the Firm

I developed both qualitative and quantitative measures of engaged effort. First, I used multiple qualitative indicators of different levels of engaged effort at the two sites (see Table 2). Two discussed here are "learning initiative" and "specific innovation" (word processing macros). The firm was unable to sustain ongoing learning by its nonmanagerial employees; they were unwilling to take the initiative to explore new uses for the new functions provided by the LAN. The firm sponsored a monthly training session. It made its boardroom available, including an overhead projector for a computer screen, provided hot lunch for all who attended, and treated the time as paid work time. The event was initially called the Computer Users' Group. The intent was for users to express their needs regarding learning a new topic, and with only minor support from the Systems Administration Department, conduct a one-hour training session during lunch. Later the event was relabeled the Monthly Training Seminar. The change from users' group to seminar reflected the reality that users were no longer providing topic ideas or organizing initiative; the systems administration staff was being forced to suggest topics and lead the meeting. Said one staff member, "It was supposed to be organized by a user . . . but it wasn't happening like that." Eventually the event was canceled altogether.

Rather than users with too few ideas, the city network manager describes trying to keep up with her users: "They come to us and say, 'Can we?' " She provides a long list of users interested in learning new features and applications: a public terminal in the lobby of City Hall, mapping software to graphically display toxic site clean-up projects for the Public Works Department, using the LAN to make current versions of contract forms available, and others.

The second qualitative indicator is the intensity of macro use. (Macro commands are linked chains of simple commands that function like a program to execute an action.) The firm used a word-processing macro to produce a pleading page or the cover page for a court document. The firm had limited success in an important step in automating document production using WordPerfect's macro language. This is important in a legal setting, where much text production is similar to previous documents. In October 1992, the human resources manager reported the firm contracted out for most of its macro development, with some secretaries doing "smaller" macros. However, very little internal development of new macros was occurring.

In contract, macro use in the city was quite widespread. There had been interest in offering a class on advanced macro programming, and in March 1992, there were 10 users signed up, so the class was given. By October 1992, training records show about 50 users had taken a macro class.

TABLE 2
Different Levels of Engaged Effort

The Firm	The City
Learning Initiative	
Computer Users' Group changed from being user-let to being organized by systems administration staff due to lack of ideas from users (trainer, software support specialist).	"I think the more we [information systems staff] do, the more they [users] think of to do. As fast as we put in the network, they wanted to put in [a public terminal] in the lobby; that was not my idea, that was City Clerk's idea. . . . The work orders system from public works—they have it on individual computers down there, and they said 'can we put it on the network so management up here can use it?' Sure.
Trainer offered small incentive (a highlighter) for attendees who completed a follow-up exercise. Only 2 of 50 did so. Finally, seminar disbanded.	
"As of recently, people just kind of want the easier, softer way. . . . We found this a lot; we'd go to a secretary's desk, and they get up so you can fix their document" (trainer, Jan. 92).	A lot of the things we've done I can take no credit for. They come to us and say 'can we?' At the very bottom user, there has been, 'this is how I used to do it, how do I do it with this [the network]?' "
Special Innovation (Macros)	
No software support staff had taken an advanced macro programming class (trainer, Jan. 92).	First advanced macro programming class was given in March '92 for approximately 10 students (network manager).
Secretaries do little macros only; contract out for larger ones (manager of human resources, Oct. 92).	Training records show about 50 users had taken macro class of Oct. 92.
Little internal macro creation taking place; software specialist maintains about 12 macros written by outside consultant (trainer).	One secretary in city manager's office wrote macros "up the wazoo" (network manager).

Quantitative analysis of help desk records also showed higher engaged effort at the city and lower effort at the firm. I examined 387 calls over three months (April, November, December 1992) at the city; 164 calls in one month (December 1992) for the firm. I classified each call into one of three categories: unusable (because not applicable or incomplete information), zero to low engaged effort, and significant positive engaged effort. Examples of zero or low engaged effort included: user needed help many times on the same problem, user did not try to reboot, and user unwilling to attempt a well-documented feature. Examples of positive engaged effort included: user attempted some problem solving or diagnostics, user attempted to use new feature, and user attempted "advanced" feature (e.g., importing graphics). At the city, 57% of the help desk calls showed positive engaged effort, but at the firm the share was only half that, 27%. Moreover, users at the city called for help at a lower rate than did firm users. There were .29 calls per active user at the city, but .60 calls per active user at the firm.

The qualitative and quantitative evidence combined to paint a picture of low engaged effort at the more hierarchical firm and higher engaged effort at the city. What might account for this outcome?

Engaged Effort Signals a Restructuring of the Division of Labor

The new skills associated with the introduction of the LANs and the need for engaged effort disrupted the existing division of labor at both sites. Informants from many occupations reported changes: attorneys did more typing, and the word processing center became an all-service department. Secretaries reported role ambiguity about whether unjamming printers was their job or the information systems' job. (There are parallels in manufacturing with line workers taking on small equipment repairs rather than placing a formal call for maintenance.) As one firm attorney put it:

> I think of word processing as just drafting my arguments; I don't think of it as getting a pleading [a document] out the door. . . . But that's an area of tension, believe me, in a law firm between attorneys and staff and computer personnel, because nobody completely understands what another's tasks or roles are and what delegation of labor *is* appropriate in every case.

In light of these changes, what emerged as critical was whether the existing division of labor resisted or accommodated workers' efforts toward learning, acquiring skills, problem solving, etc.; in short, did the employment relation support workers' attempts to become multifunctional and flexible (Coriat n.d.) and to do engaged effort? Key elements included training and changing job content both within and across job titles.

Training. The firm provided no formal training for the initial pilot users of the LAN. After the four-workstation training center opened, most training went to orient new hires, not to incumbent employees. Even after the firm's training center expanded, time for training remained *very* limited. Most informants named lack of time as the primary barrier to attending training sessions, informal learning, and problem solving. In contrast, in the city, the ten-workstation training center opened with great fanfare on the day the LAN came on line. Training was available to city workers as soon as they got connected to the LAN, and most workers were able to sign up for any job-related class they desired. The city's five-year plan explicitly recognized that staff needed time to learn and take training. The LAN manager made good on this commitment by letting one of the city janitors use her computer at night to practice the DOS skills he had learned during a day class. Delaying and relegating training to the lowest priority, below the heavy and continuous demands of daily work, signaled to the firm's support staff the relative unimportance of their new skill acquisition and partially accounts for their lower engaged effort.

Engaged effort within job titles. Two workers at the city, one legal secretary and one assistant analyst, both did high levels of engaged effort. They performed tasks outside of their narrow job titles. In both cases this was possible because of "encouraging" supervisors. The legal secretary, jointly with her boss (the City Attorney), developed a document-tracking database which entailed her taking several classes to learn database programming. The project paid off as the database evolved into a sophisticated budgeting and planning tool and did not remain merely an automated calendar. A similar pattern was observed in a single high-powered, attorney-secretary team at the firm. This attorney was very comfortable delegating some "lawyering" tasks to her secretary, and she (the attorney) greatly valued his (the secretary's) computer expertise. She relied on his skills with the LAN calendar, scheduler, and telecommunications to advise her about upcoming appointments. However, this team is unique at the firm. The information systems director said:

> What I'm hearing very clearly from the secretaries is that's what they want to be able to do [work in high-powered teams]. . . . I think the biggest obstacle to putting together those kinds of teams is that the attorneys are not aware of what needs to be there to make that happen—both in terms of the technology and organizational changes.

This pattern is consistent with the training in that managers do not encourage engaged effort by low-level workers based on beliefs (perhaps implicitly) that such workers lack needed skills and abilities.

Engaged effort across job titles. Despite the dominant pattern of low engaged effort at the firm, there are exceptions. They follow a pattern in that in almost every case, secretaries who eagerly learned the new technologies sought to move out of their secretarial roles. One became a trainer; another became a software support specialist. Thus the expanding information systems department created a new, intermediate category of job titles between attorneys and support staff. (There are a few other occupations such as library staff and paralegals.) On the one hand, the firm rewarded engaged effort by making these new opportunities available to secretaries through the internal posting of an internal labor market. On the other hand, the reward message is mixed because at least two such job transfers involved no *change in pay*. At the city, issues of computer skill content of jobs and "bridging" classes (job titles connecting clerical to management track positions) were addressed when all job titles were revised in 1987. I am currently investigating these data.

In summary, the rigid hierarchies and narrowly defined jobs of a traditional division of labor must "give" to accommodate engaged effort by low-level workers. Clearly, managers must believe potential gains exist before they are willing to commit resources to training, skill-upgrading, and higher pay.

Two Alternative Explanations

The first alternative is that different levels of engaged effort at the two sites are attributed to individual variation rather than structural factors. It is certainly true that individual initiative and comfort with computers explained some share of the variance. However, the trainer at the firm reported that the same secretary responded to training opportunities very differently. Within the (partial) protection of the training center, she wanted to learn new features and asked why software commands work as they do. However, back at her station, with "attorneys breathing down her neck," she just wanted to get the paper out the door. Another piece of evidence against an individual-based explanation is that pay for legal secretaries is not significantly higher at the city. Thus, it does not seem likely that the city is simply buying more engaged effort in the form of human capital.

A second alternative to my focus on the division of labor concerns the time pressures of legal work. Some argue that extreme deadline pressures preclude both training and the "slack" necessary for problem solving and innovating. The more leisurely pace of civil service work more easily accommodates engaged effort. Again, at one level, this is true. Nearly all respondents at the firm do identify lack of time as hindering training and other opportunities. However, the firm could have taken countermeasures, such as providing temporary "floaters," to cover secretaries' desks while they were at training. This was done on occasion, but not enough to make training universally accessible to low-level workers. I also plan to compare the departments within the firm with the highest and lowest deadline pressure (perhaps litigation and real estate). Finding low engaged effort even if time pressure is also low would partially counter this alternative explanation.

Conclusion

Blue-collar workers' resistance to job "upgrading" is incomprehensible without understanding the historical role of narrow job descriptions played in deterring arbitrary foremen. Some low-level workers' reluctance to apply new training is equally baffling without a complete understanding of the incentives and disincentives for engaged effort embedded in the division of labor. The number of affected workers is large. Some estimates predict that the share of networked personal computers will rise 60% by 1996 (Savitz and Wyatt 1993). With the number of PCs greater than 30 million and growing, LAN technology will affect millions of workers. To not allow this technology to enhance the enormous creative potential of human beings would be tragic.

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DISCUSSION

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Although my assignment here is to comment on Ruth Bandzak's dissertation, I would like to remark briefly on all the entries in this year's competition. The theses chosen for this session and many others submitted are ambitious projects seeking to critically evaluate and extend or revise industrial relations theories. In addition, many researchers, including some speaking today, also use case studies and other institutional research methods. These two aspects of the studies represent a departure from the narrower topics and emphasis on quantitative methods typical of dissertations in recent years. Their breadth and wide variety of research tools make a significant contribution to both the theories and methods of industrial relations research.

In discussing Bandzak's "The Strike as Management Strategy," I will first summarize the major contributions of her research, then note questions and future research issues that it raises. Bandzak concludes that often-cited explanatory hypotheses for reduced representation and bargaining power of unions don't apply to all major collective bargaining relations. In particular, in her case study of the 1983 Phelps Dodge/United Steelworkers of America (USWA) negotiations and strike, work force demographic changes, the threat of import penetration, and management resistance to unions due to the union/nonunion wage differentials do not explain management's determination to defeat the unions. Instead, Bandzak finds evidence supportive of Kochan, Katz, and McKersie's thesis of the transformational period of industrial relations: prior to 1983, Phelps Dodge management negotiated with unions because the costs of avoiding them were too high, not because they viewed labor as a legitimate partner. Once changes in the political, economic, social, and legal environment allowed them to choose a new direction, the history, values, and ideology of Phelps Dodge leaders moved them to try to destroy the unions.

A traditional "ability-to-pay/ability-to-make-pay" framework of bargain-

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ing outcomes fails to predict this outcome. As a low-cost producer with increasing productivity in an oligopolistic industry, Phelps Dodge had "the ability to pay." The unions had increased their "ability to make pay" by improving their bargaining coordination and establishing orbits of coercive comparison. One would predict an eventual settlement. That the parties failed to reach such an agreement strongly suggests that the framework needs expansion. Bandzak makes the very important observation that the resources which made Phelps Dodge able to pay, when paired with an antiunion environment and high unemployment, gave the company "the power to resist." Her description of how Phelps Dodge operationalizes this power is a familiar one in labor relations. The details are remarkably similar to those in the 1987 International Paper/United Paperworkers International Union strike, the 1983 Louisiana Pacific/Industrial Workers of America and Western Council of Industrial Workers strike, and countless other destructive negotiations in the 1980s—a fact which further validates her "power to resist" framework.

Bandzak's development of the "power to resist" concept raises two issues. First, why will some companies seize the opportunity to attempt unions' annihilation while others will not? Bandzak emphasizes the company's history and "attitudes or norms [which] have diffused from founders or senior executives." As a labor educator, I recognize this as an analysis frequently offered by union members. They identify corporate leaders' philosophies as the source of antiunion labor relations policy. Eastern Airlines had Frank Lorenzo, International Paper has John Georges, and so on. I am uncomfortable with this "great man" approach to explaining corporate behavior. While CEOs and presidents certainly have wide influence over corporate strategies, those leading publicly held businesses must ultimately answer to stockholders. Few investors will tolerate a vendetta against unions which proves more costly than a contract settlement, recent research on the cost of highly visible strikes notwithstanding. If not already done, I encourage Bandzak to examine corporate financial decision making closely, and I recommend the recent work of Adrienne Birecree in *Industrial Relations*. She argues that the concessionary labor demands made by John Georges stem largely from an attempt to respond to market forces and technological change and to recover from an ill-timed capital investment plan.

The second issue relates to her enlargement of the "ability-to-pay/ability-to-make-pay" model only on the management side of the equation. While conditions in the 1980s ushered in an era of management's "power to resist," they also produced expansion on the union side of the equation.

If her full thesis does not do so, Bandzak ought to examine the expansion of union options that create the "ability to adjust management behavior." Beyond the ability to organize and withhold labor, the new framework should take into account unions' ability to wage successful corporate campaigns and inside strategies and to trade participation in cooperative activities with management to achieve union goals.

A union's ability to alter management behavior, especially its strategic participation in cooperative programs, leads to the following research questions. If management overwhelms the union's "ability to adjust management behavior" and destroys the union, what are the long-run consequences? Does productivity increase? Do wages increase? Will the workers ever agree to cooperate with management to increase competitiveness, or does turnover and low morale swamp any apparent gains achieved by union decertification? Her thorough understanding of the history of Phelps Dodge gives Bandzak a unique perspective from which to examine these long-run issues at Phelps Dodge and in the U.S. copper industry at large.

DISCUSSION

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I would like to start my discussion with comments about all three dissertations that were chosen for this session and then focus on Huselid's paper.

First, I find it interesting that with no conscious intent or strategy on our part we chose three very different papers, which, I believe, represent a microcosm of IR research today. Bandzak's study of strikes is a traditional labor relations topic, but she adds an interesting, modern-day twist to it by showing how strikes can be used by management as a strategy. Huselid's research on HRM practices takes us into the realm of strategic human resource management, which is becoming a topic of interest to many IR scholars. Finally, Bishop's piece examines the notion of work systems reminiscent of Walton's work on control vs. commitment or, in Bishop's terms, control vs. "engaged effort." As such, we have three very different and interesting papers, encompassing both traditional and emerging topics.

Second, the research methods and use of theory of the three authors are quite different. For example, Bandzak and Bishop both employed qualitative case study methods. Bandzak's research, however, used existing theory, or strategic choice theory, to explain an event, while Bishop states her research is theory building. Their methodologies are definitely appropriate, as qualitative research is excellent for analyzing their research questions in depth. In contrast, Huselid's data are obtained via survey methods, and as a result, his sample consists of 968 firms. This gives us a broader, more generalized view of firm practices, which, again, is appropriate given his research question. Comparing the three, based on the short papers we were given, Bandzak and Bishop's works seem to be more theory driven, while Huselid's piece reflects a practical motivation.

In sum, I hope the three dissertations are representative of the type of research being done today. They address important, interesting questions

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by employing a variety of research methods. Additionally, the results of all three studies should be of interest to both academicians and practitioners.

More specifically, I would like to comment on Huselid's study of human resource management practices, turnover, productivity, and firm performance. I like this paper a lot, especially as it reinforces the notion that progressive HR policies and practices can provide a firm with a competitive advantage. Also, I agree entirely with Huselid that little empirical research has been conducted to substantiate this often-claimed logic. Therefore, I believe he has addressed an extremely important issue.

I like Huselid's belief that a systems approach is needed in studying the outcomes of HR practices. One question I have with this research, however, is whether or not he truly does achieve the use of a systems approach in his analysis.

First, his calculation for HR sophistication is uncertain, especially given the limited detail provided in the paper on his measures. From the information I have, I don't think he is able to capture the synergies that might result given different HR systems. Instead, he determines the degree to which certain "best practices" are conducted within an organization, rather than examining the degree of congruence and integration of these practices. Additionally, there is an assumption that "best practices" should be constant across organizations, which represents a "cookie-cutter" approach I don't necessarily agree with. On the other hand, it would be virtually impossible to examine all of the firms' practices in depth. It might be worthwhile, however, to use his survey data in combination with a few in-depth case studies of organizations in different industries. This should provide more support and credibility to his findings.

On the positive side, I like his integration of HRM with the use of capital market and accounting measures. The use of measures and methods from different disciplines allows us to more completely analyze various phenomena, and I am encouraged that he is drawing on other disciplines.

In terms of practice, I know that one of the concerns of many HR professionals today is how to demonstrate that what they do adds value to their organization. I am sure that practitioners in the U.S. and in Canada would be very interested in studies such as this.

Finally, I would encourage Huselid to continue with this line of research. One interesting expansion might be to conduct an international comparison (e.g., looking at firms' HR practices in countries such as Mexico or the Philippines in comparison to the U.S.) to see if similar results are obtained. It could be that an entirely different conclusion might emerge!

VIII. INDUSTRIAL TRANSFORMATION AND LABOR RELATIONS IN CHINA

Industrialization Strategy and IR Policy in Malaysia and the Philippines: Implications for Comparative Industrial Relations

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The notion that the logic of industrialism (Kerr, Dunlop, Harbison, and Myers 1964) would lead to a convergence of industrial relations systems has not been supported by history. However, industrialization is regarded as a central variable in explaining existing industrial relations policies or industrial relations system transformation (Deyo 1989; Sharma 1985). I argue that it is not the logic of industrialism nor the levels of industrialization, per se, but the choice of an industrialization strategy and the shifts between strategies that determines the changes in industrial relations policies (i.e., the shift from one industrialization strategy to another provides a window through which we can view the dynamics of industrial relations system transformation).

This paper uses case examples of government IR policies in Malaysia and the Philippines to evaluate the argument outlined above. I focus on IR changes at the macro-policy level rather than practices at the firm level. This paper is informed by the industrialization experiences of the fast developing countries in S.E. Asia. In almost all cases, they (e.g., S. Korea, Taiwan, Singapore) commenced with an import substitution industrialization (ISI) strategy but shifted to an outward-looking, export-oriented strategy. The export-oriented strategy invariably sought to capitalize on the

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comparative advantage of cheap labor mixed with foreign investment (e.g., Singapore) or cheap labor with local capital and imported technology (e.g., Korea). Given that the comparative advantage of cheap labor is transitory (other countries often offer cheaper labor), these economies then switched to export-oriented industrialization (EOI) based on higher technology and higher skills coupled with industrial deepening through the development of heavy industry (e.g., Korea), while some economies (e.g., Singapore and Hongkong) have moved beyond this stage to service-dominated economies. The experience of Malaysia is completely consistent with this development model. The Philippines, on the other hand, is an Asian exception with the economy and industrial base shrinking over the last decade.

Industrial Relations Under ISI in Malaysia (1957-1977)

The first phase of ISI (1957-1963) focussed on infrastructural and rural development, while industrialization was left to the private sector. The second phase of ISI (1963-1970) reveals the state as a leading actor in investment motivated by the new economic policy (NEP) that promised the economic advancement of Malays via regulation as well as direct investment of the state on behalf of Malays. For more detail on Malaysia's industrialization choices, see Kuruvilla (1993), Bowie (1991), and Spinanger (1986).

Industrial relations during this period reflected the system inherited from the British (Kuruvilla 1993; Arudsothy 1990). Collective bargaining was the preferred means of settling industrial disputes. The union registration process was used to control and weed out militant unions. The scope of bargaining was restricted, with transfers, promotions, job assignments, and layoffs being non-bargainable issues. The ability of unions to strike was circumscribed by various administrative requirements (see Kuruvilla 1993), and the industrial court had the power to refuse certification of collective bargaining agreements if it contained provisions deemed to be against the "national interest." The specific IR rules reflected the states' efforts to contain conflict in the interests of economic development (Kuruvilla 1993). I characterize this period as a "controlled pluralism," since the government did not always use the considerable powers at its command.

Industrial Relations Under Low-Cost EOI in Malaysia (1977-Late 1980s)

The resource crunch resulting from NEP policies, the state's failed program of heavy industries, and Malaysia's increasing foreign debt (which was 30% of GNP by the mid-1980s) forced Malaysia to embark on an intensive export promotion drive (Spinanger 1986; Kuruvilla 1993). The EOI drive was largely successful. By 1989 the manufacturing sector accounted for 42% of GDP and 40% of export earnings; the low-cost export sector accounted for 33% of export earnings; while the transnational corporations' share of total exports increased from 28% in 1971 to 58% in 1988. The electronics industry employed 16.7% of the manufacturing work force in 1988 and accounted for 24.8% of total manufacturing exports in 1989 (Grace 1990).

The dependence on foreign-dominated, low-cost, labor-intensive manufacturing for industrial growth forced Malaysia to adopt various industrial relations policies geared toward attraction and retention of foreign capital which are outlined below. The first direction of change in government labor policy reflected the need to contain costs in the export sector. Policy changes included extending tax and labor exceptions of pioneer firms, the refusal to enact minimum wage legislation for the export industry, alteration in the export sector (which used overtime given the labor shortage), a reduction in the rate of overtime pay for working on holidays and rest days, and the government's continued refusal to enact equal pay for equal work in the export sector where 78.6% of those employed were female (Kuruvilla 1993).

The second direction of change focused on union control in the export sector. Although the ban on unions in the electronics sector was lifted in 1988 due to international pressures, electronics workers were not permitted to affiliate themselves to national or industry-level federations. The electronics sector is largely union free. (Out of 140 electronics firms operating in Malaysia currently, only two are unionized with in-house unions.) The decision to allow only in-house unions in electronics is largely attributed to pressure from foreign investors (Grace 1990), although it is also consistent with the government's own acceptance of the low-cost, export-oriented strategy.

The third direction of change in industrial relations policy was manifested in a more activist stance of the government, arguably linked more to its role as an investor and employer as a consequence of the heavy industries program. Kuruvilla (1993) documents the different ways in which the new activism is manifested, including (1) extensive powers given to the labor minister to declare industries as "essential," (2) to suspend trade unions acting against the "national interest," and (3) a greater involvement in union recognition cases (with increased rejection of registrations in manufacturing) and in dispute settlement, where an increased number of cases were referred to compulsory arbitration.

Industrial Relations Under Advanced EOI in Malaysia (1988-Present)

As part of its Vision 20/20 plan, which envisages Malaysia being an advanced industrial country by 2020, the government has been actively supporting a policy of industrial deepening as well as attracting higher technology-based foreign investment. The central elements of labor policy have shifted away from cost containment and union control to training and skills development designed to provide a better quality work force necessary to attract higher technology investment. This shift in labor policy has been complemented by changes in education policies, policies stimulating the development of small scale industries with forward linkages to the electronics sector, investment policies to attract local investors as well as inducing foreign corporations to set up R&D establishments in Malaysia, and changes in immigration policies to alleviate the skilled and unskilled labor shortage. This shift in labor policy coincided with the worldwide revolution in production technology and work organization in the electronics industry that signified a transition from Fordist production methods to more flexible production systems characterized by broad-based training, high-wage labor, and employee participation in decision making. With the shift in state policy from its previous cheap labor focus, the practices of firms in the electronics sector also show a move away from low-cost human-resource policies to higher skill-based IR/HR policies (Rajah forthcoming). The export sector, however, still remains largely nonunion.

Malaysia's industrialization has left it with a very large export-oriented sector, which competes internationally and is becoming more technologically advanced, and an import-substitution sector characterized by both large, heavy industries (e.g., Proton cars) and small-scale subcontractors that compete domestically. Given the shift into higher-tech, high-skill production for export, the government is simultaneously reducing its involvement in industrial relations, while encouraging the growth of cooperative labor management relations in the ISI sector, whereas the export sector shows a trend toward positive human resource practices and upskilling in a nonunion environment.

Industrial Relations Under ISI in the Philippines (1950-1960)

During ISI the Philippines registered manufacturing growth rates exceeding 14% between 1949-53 and 11% in the 1953-59 period. Industrial relations was relatively pluralistic. Basic industrial relations institutions were primarily American, characterized by free collective bargaining, voluntary arbitration, unfair labor practice legislation, and business unionism.

During this period there was an increase in unionism, and by 1955 strikes had increased by 30% (Villegas 1988).

However, by 1960 it was clear that ISI had created a dependence on imports of technology and raw materials beyond the ability of the Philippines to pay. Stabilization loans sought from the IMF and the World Bank were granted on the condition that the Philippines government begin a shift to an outward-looking economy, eliminate tariffs against foreign goods, and devalue the peso.

The period between 1960 and 1972 was characterized by efforts to decontrol along World Bank-recommended lines. Foreign investment increased, but the rising cost of imports forced a closure of domestic factories, resulting in indebtedness and falls in real wages, which in turn resulted in a shift away from U.S.-style business unionism to more political unionism with the emergence of nationalist and antigovernment union federations and workers' and student movements. The social ferment in the forms of rallies, strikes, and people's marches caused widespread apprehension among the foreign investors, leading to the declaration of martial law in September 1972, a move hailed by both U.S. business interests and the IMF (Villegas 1988).

Industrial Relations Under EOI in Philippines

The declaration of martial law in 1972 allowed the technocrats and the World Bank advisers to implement the recommendations contained in the Ranis Mission Report (a World Bank-funded mission) and the World Bank Country Report of 1975, both of which argued for a full-scale, export-oriented agro and industrial strategy based on the comparative advantage of cheap labor. For specifics on export-oriented policies see Villegas (1988).

Labor policy was amended drastically in order to boost exports. First to guarantee industrial peace, a ban on strikes was instituted but later modified to apply to "vital" industries "including those engaged in the production and processing of commodities for export" (Villegas 1988:61). Second, compulsory arbitration was introduced through the NLRC. Third, unions were not allowed to build up strike funds. Fourth, unfair labor practices by employers were decriminalized. Finally, by decree no. 1458, striking workers were allowed to be permanently replaced.

The second direction of change in labor policy focused on a co-optation strategy adopted by President Marcos. The labor movement was restructured on a "one union in each industry" principle, to be affiliated with one recognized labor center, the Marcos-controlled Trade Union Congress of the Philippines. The purpose of the reform in union structure was to promote tripartism with the government, the TUCP, and the newly formed Employers Confederation of the Philippines (ECOP). However, other federations refused to agree to the restructuring proposal. In response, the government recognized the TUCP as the only legitimate labor center. Given the opposition from other labor groups, tripartism was never fully institutionalized, however.

The third direction of change in labor policy focused on the provision of cheap labor to the growing numbers of foreign investors in the export sector through limitations on increases in minimum wages and a downward revision of existing labor standards (Villegas 1988). Given the consequent failure of domestic industry under an export-oriented regime, the decline in real wages, and the increases in foreign debt (55% of GNP in 1981), the government approached the World Bank for additional loans, to which the World Bank replied with structural adjustment policies.

Industrial Relations Under Structural Adjustment (1983-Present)

The strategic thrust of structural adjustment led by the World Bank was a more determined implementation of EOI and a systematic easing out of inefficient Filipino firms. The Bank report emphasized "priority should be given to the continued expansion of labor intensive manufacturing taking advantage of the competitive aspect of labor costs" (Villegas 1988:70).

In terms of industrial relations, the government enacted BP 130 (which prohibited strikes against the national interest) and BP 227 (which allowed the use of law enforcement agencies to control strikers). In addition, procedures for termination of workers were simplified. More than 82,000 workers were laid off annually between 1983-85 in the wake of more than 3,000 plant closures. The closure of "inefficient" domestic firms resulted in a decline in union membership from 12.2% to 9.3% of the nonagricultural work force. These developments intensified the schism between the pro-government TUCP and other illegal labor centers such as the KMU and FFW which opposed structural adjustment policies; the schism continues to this day.

The advent of President Aquino in 1986 resulted in a continuation of structural adjustment policies dictated by the World Bank. Although the country experienced a modest recovery due to a favorable international economic climate between 1986 and 1989, it was back on a recessionary trend by 1990. The burden of servicing the debt (which had reached 93.7% of GNP by 1986) resulted in massive government borrowings that drove interest rates as high as 30% in 1990, which in turn had a crushing impact on investment and growth. The effect on domestic industry was disastrous, resulting in a deindustrialization in 1991 and 1992. Between 1986 and 1991 the contribution of industry to GDP declined from its high of 39% during 1980-85 to 34% in 1991, with similar declines in its share of total employment.

In labor relations terms, President Aquino liberalized industrial relations and withdrew a number of restrictive policies (see Villegas 1988). However, the soft pedalling on other labor reforms (such as the withdrawal of BP 130 and BP 227) soured the relationship between the government and the unions.

This experience of structural adjustment has left the Philippines with a large service sector, a shrinking industrial sector, and a stagnant agricultural sector. There is a large ISI sector that is in crisis due to successive devaluations and fiscal, monetary, and industrial policies that favor exports. The export-oriented sector remains small and an enclave. Within the manufacturing sector, cheap labor is still seen as the comparative advantage for export.

Industrial relations can best be described as conflictual, with lower numbers of strikes due to the weakness of unions but a large and increasing number of industrial disputes. Unionism is limited in scope, with union density being under 10% of the nonagricultural work force. The labor movement is weak and fragmented with 149 labor federations and 5600 independent unions. Bargaining is limited, as only 571,056 union members of the total of 3,142,031 members are covered by collective bargaining agreements. The intense union rivalry for membership ensures that no unity will occur. Labor standards continue to decline, and in 1992, 51% of all establishments inspected were found to be violating labor laws. Of these violations, 16% relate to nonpayment of minimum wages.

In relation to the Asian development pattern, the Philippines are still in the stage of EOI based on cheap labor. Although the transition to EOI was begun as early as the 1960s, it was only after structural adjustment that the Philippines became a fully export-oriented nation. Malaysia, on the other hand, commenced its EOI drive in the 1970s and has moved beyond simple EOI to EOI based on high-skill labor. The industrial relations systems of the two countries reflect the different stages of industrialization that they are in.

Implications for Comparative Industrial Relations

Based on the two cases briefly discussed and the experience of other fast developers, I identify below a few general propositions for future industrial relations research in developing countries.

In the context of the developing world, particularly Asian development, it is clear that there is an association between industrialization strategies and industrial relations policy of governments. Although the specific features of the industrial relations policies at the macro level differ based on the historical and political circumstances in each country, it is clear that the shifts in industrialization strategy from ISI to EOI based on cheap labor and foreign investment resulted in a significant change in industrial relations policy in Malaysia and the Philippines. In addition, in Malaysia we see another policy shift in industrial relations as the economy moves from low-cost EOI to a more high-tech EOI. The use of "shifts in industrialization strategies," therefore, appears to hold promise as an organizing rubric for the study of industrial relations in developing countries.

Secondly, the type of industrial relations policies associated with different development strategies appear to differ. Where the development strategy is based on low-cost exports dominated by foreign investment, the IR policy appears repressive and geared toward cost containment. Where the strategy is one of import substitution with protection for domestic industries, the IR policy of governments appears more pluralistic. Where the strategy is one of EOI based on high technology based on foreign investment (e.g., Malaysia) the emphasis of IR policy is on skill development and training and education.

Third, for students of comparative industrial relations in developing countries, it would seem important to distinguish between the ISI sector and the EOI sector, where the industrial relations rules and regulations and the practices of firms appear to differ. Although different subsectors exist in any economy (e.g., agriculture, industry, and services), the ISI and EOI classification spans all these different sectors and, hence, may be a useful classification device for students of industrial relations.

Finally, comparative industrial relations researchers have always implicitly assumed that the strategic choices of the traditional three actors (government, employers, and labor) shape the IR system. The experience of Malaysia and the Philippines suggests the importance of external actors (the World Bank and foreign investors) who have a considerable impact on industrialization strategy and, in turn, on the institutional arrangements governing industrial relations. Given the debt problems of many third world countries and similarities between World Bank structural adjustment prescriptions across countries, the importance of such external actors on IR systems in developing countries also needs to be taken into account in future research.

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Repressive Labor Relations and New Unionism in East Asia

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In the 1980s genuine unionism developed in Korea and Taiwan, where labor organizations had formerly been repressed. In both countries workers formed new unions, and former state-dominated unions distanced themselves from the government and began to represent their members. A similar pattern of new unionism and transformed official unions is also found in the ex-Communist countries of East Europe (Freeman 1993). The burst of unionism in countries that had repressed labor organizations raises the question as to whether repression creates pressures that ultimately lead to genuine unions. In this paper I summarize the labor policies of Korea, Taiwan, and other East Asian countries and then develop a model linking those policies to ensuing unionization.

Repressive Labor Regimes[1]

For years, most East Asian governments suppressed free unions. Some countries outlawed independent unions or enacted laws that made normal union activity difficult. They arrested union leaders and employed the police or army to break up strikes. They gave employers a free hand and state support to defeat organizing efforts. Among market economies, Korea provides the best example of forceful repression of free unions. But Indonesia also restrains unions, and Thailand and Malaysia, while less repressive, are hardly neutral. Malaysia helped firms in its free trade zones remain union-free or develop company unions and favors company unions in general. Burma outlawed unions. Only Japan, Hong Kong, and the Philippines had unfettered union movements, none of which did well in the 1980s. I will call a union-prevention strategy that relies on state restrictions on unionism backed by force a *crush* strategy.

Other countries sought to prevent independent unionism by establishing "official" unions—state-dominated organizations designed to channel worker desires for unionism into a controllable channel. Among non-Communist countries, Singapore is the exemplar of a state-controlled union movement,

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though Taiwan also had government-dominated unions. Communist regimes have their party-run unions with near 100% "membership." While in some East European cases these unions represented worker interests within enterprises and in national deliberations, albeit weakly, in Communist Asian countries, official unions were weak even by these standards. I call the process of sponsoring official unions a *subordination* strategy.

Repressive states combine elements of crush and subordination to control labor. In East Asia this produced labor relations systems with the following characteristics:

1. Requiring unions to register with the state. Registration gives the state control over which unions are legal entities and knowledge of the size, finances, and leadership of unions. Malaysia and Singapore used registration and deregistration of unions to break Communist-led or influenced unions inimical to the government.

2. Sponsoring official unions. In 1961 the Korean military dissolved all independent unions, and the Korean CIA organized the major federation of Korean unions, the FKTU, into 16 industry-level groups. In Taiwan the Chinese Federation of Labor was the only permissible union, with its officers paid by the state. In Singapore the dominant political party of Lee Yuan Kew set up the National Trade Unions Congress in 1961. Government/party leaders selected the union leadership and at one stage made the head of the trades union congress a cabinet member. Mainland China has the All-Chinese Federation of Trade Unions as its official Communist union.

3. Allowing only a single registered union at a given workplace. This creates a potential monopoly for official government-dominated unions. Taiwanese law mandated that all workers in workplaces of 30 or more unionize and that workers join the single government-dominated union once it was legally established.

4. Localizing union activity at a given workplace. This prevents the development of (a) a national union movement that could challenge the state or (b) large sectoral unions that might shut down important industries. In addition, it makes it difficult for unions to develop professional leadership. Malaysia, where unions are independent, and Singapore, where they are state dominated, have encouraged plant-level "house" unions.

5. The devolution of some authority or rights to official unions. If official unions are to substitute for free trade unions, they must do something for workers. Taiwan gave its official unions financial support and a role in enterprise-level, government-mandated welfare spending. In Singapore the official unions are an important route into government decision making. Communist regimes have typically given unions control of various social benefits ranging from subsidized vacations to pensions.

The combination of these factors can make formation of an independent union near impossible. Say a group of workers seek to organize a plant. The company fires the leaders of the group. Since these workers are no longer employed at the plant, they cannot legally engage in union activity there. If they continue their efforts to organize, the state arrests them as nonemployee outsider "agitators." Korea made extensive use of this "catch-22" situation to crush independent unions. In Taiwan a company facing potential unionization might send "loyal employees" to the government agency to register as the sole official union, obligating all workers to join that company-dominated organization.

Until the 1980s the mixture of crush and subordination in East Asian countries made the area a backwater for trade unionism. Union density in the region was modestly lower than in other parts of the developing world; strikes were rare (save in Korea during periods of political uncertainty), and unions undertook few normal trade union activities.[2]

Burst of Genuine Unionism

Things changed in the 1980s as Korea and Taiwan became more democratic. Union density in Korea rose in the mid-1980s from 16% of the nonagricultural work force to nearly 25%. Density in Taiwan jumped from 22% of the nonagricultural work force in 1985 to 35% in 1989.[3] More important, union behavior and labor relations practices changed qualitatively. New unions developed representing workers rather than the state. Previously quiescent government-controlled unions began to act independently.

The burst of unionism in Korea and Taiwan is mindful of spurts in unionization in the U.S. and other advanced countries in earlier decades. It also has parallels with the growth of genuine unionism in Eastern Europe as countries moved toward market democracies. The logic of unionization is that it occurs in sudden spurts of growth rather than through gradual processes.

The 1980s advance of independent unions in formerly repressive countries contrasts with union developments in the decade in much of the rest of the world. In East Asia union density stagnated in Hong Kong, dropped in Singapore, and stabilized at a low level in Malaysia. Unions did poorly in Indonesia (where state authority remained powerful), the Philippines, and Thailand. In most OECD countries, union representation and influence fell. Unions also weakened in Africa and in many Latin American countries.

What underlies the burst of unionism in Korea and Taiwan? At a broad level, two factors transformed unions in Korea and Taiwan. The move toward democracy in both countries limited the scope for governments to "crush" unions. You don't call out the troops to shoot strikers as readily when the strikers vote in the next election than when they do not. But democratization cannot be the sole factor at work. Unions do not flourish in every democratic country. Weakening of dictatorial rule may be a prerequisite for the growth of free unions, but it is not sufficient. A second factor that arguably contributed to the burst of unionism in Korea and Taiwan is past repression of labor, which raised workers' discontent to levels that would not have existed under a more benign labor relations system. Korea had a highly repressive regime and an extraordinarily high level of discontent among workers despite rapid growth of industrial jobs and real wages (Lindauer et al 1991). Korea also had a particularly violent spurt of new unionism. Taiwan made greater use of the subordinate strategy and had a more measured growth of unionism. Hong Kong did not repress unions and had no spurt in membership in the 1980s, while Singapore maintained a successful subordination strategy.

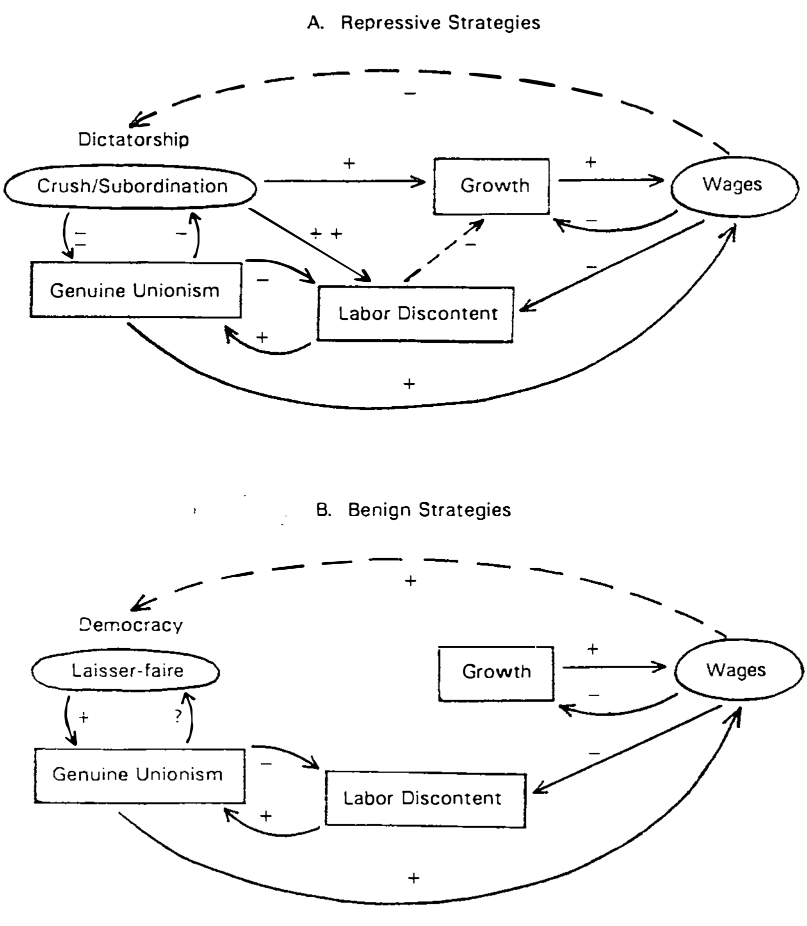
A Model and Implications

Why do some governments repress independent unionism using crush or subordinate strategies while others take a "laissez-faire" attitude? Why might genuine unionism burst out in formerly repressive states but not in historically democratic developing countries? I sketch out next a model for answering these questions. The model focuses on the choice and consequences of state policies toward labor, taking the behavior of workers/incipient unions as part of nature. I assume that governments seek to maximize the present value of resources under their control, either by increasing GNP (at a given tax share) or by increasing the tax share of output (at a cost of growth), and I concentrate on states that choose growth-increasing activity.

The flow diagrams in Figure 1 show the consequences of the state choosing either a repressive labor strategy (as described earlier) or a benign "laissez-faire" strategy that might best be reflected in adherence to ILO Conventions. The arrows show the direction of effects from one variable to the other, while the plus (+) and minus (-) signs give the derivative of the effect, with ++ or -- representing particularly strong effects. The boxes are endogenous variables; the oblong shapes are for state policy variables (repression and wages). The broken lines show slow or long-term effects. Assuming the state chooses rationally, it selects a repressive or benign strategy depending how that choice affects the present value of state-controlled resources.

According to the model in Diagram A, a repressive strategy generates discontent but raises growth (for example, through forced savings or policies that enhance investment at the expense of consumption). A successful growth strategy, in turn, increases the *level* of wages and living standards, which ultimately reduces tolerance for repression. At the same time wage *increases* lower discontent, which allows the dictatorial regime to maintain itself, but with negative effects on growth that kick in over the long run. Note also that unions raise wages, which directly reduces the size of the pie available to the state, as well as having deleterious effects on the rate of growth. (This occurs for "excessively" large wage increases, as some increases are necessary for growth.) Simple though it is, the model has linkages that create complicated parameter-dependent dynamics. The model directs attention to the following:

FIGURE 1
State Policy-Unionization Flow Diagrams



1. The need for a repressive regime to achieve growth and raise wages rapidly to maintain itself; if the growth link is weak or does not raise wages, the regime is likely to falter as discontent rises. Thus I would expect growth-oriented repressive regimes to be stable, whereas repressive regimes that raise resources largely by taxing the population would be unstable.

2. The demise of repression as higher living standards lead citizens to demand democratic practices. An economy that grows by shifting to high-technology, human-capital intensive activity is likely to find that the growth payoff of repression falls and ultimately reverses sign, removing the sole justification for this system of labor relations.

3. High labor discontent in a repressive regime. During a growth spurt, rising wages (including wage gains due to the movement from agriculture to manufacturing) could offset the adverse impact of repression on discontent. But as economic growth slackens, the offset factor will weaken, since it depends on the rate of real wage increases, not the level of wages. Thus discontent rises and eventually produces a burst of unionization.

In this model, discontent is comparable to water in a dam. Wage increases reduce the water level and repression raises it. Tolerance for repression determines the level of the dam. The repression-discontent link is such that anything that changes the water level or height of the dam can produce a union spurt.

Why might one developing country choose repression while another does not? The model directs attention to initial conditions that produce different tolerances for repression (an outside threat to the country or guerilla violence, for instance) or different costs of repression (a large army makes repression easier) or differences in the linkages that determine the benefits and costs of repression, particularly the effect of repression on growth. Absent the Communist threat, Korea and Taiwan would probably have relaxed repressive strategies earlier than they did. Once these regimes chose repressive labor policies, they had to deliver growth of GDP and wages or face popular threats to their existence. Differences in the underlying level of labor discontent due, say, to whether employees are drawn from rural or urban areas or on their education can also produce different outcomes. The lower the base level of discontent, the less demand for unionism, implying less state need for repression to prevent independent unions.

The diagram does not distinguish between the crush and subordination strategies, although these differ in important ways. Subordinate unions may reduce discontent and the demand for unions by providing some union services and by building union-like structures within firms. The surprising persistence of successor unions to the old official unions in Eastern

Europe reflects their potential as substitutes for new unions. Most important, I expect a subordinate strategy to last longer than a crush strategy, since it should be more tolerable to citizens.

Diagram B shows the (non) relation of state policy and unionism in a benign regime. The policy-unionism link is depicted with a question mark, since democracies can be more/less favorable to unionism. There is no direct impact of policy on growth or discontent (policy instead operates through budgets and regulations that I have not depicted). This diagram has one implication that seems relevant to the East Asian experience. It suggests that a state is more likely to choose a benign strategy if the economy generates rapid growth without state interventions and if the innate level of labor discontent is small. The result is a pattern of rapid growth, increased wages, and little demand for unionism of the sort that represents Hong Kong, albeit under colonial rather than democratic rule.

Conclusion

The models in Figure 1 suggest that the burst of unionism in countries with a history of repression of labor, such as Korea or Taiwan, contrasted to weak unionism in nonrepressive regimes, such as Hong Kong, is more than an historical accident. They relate this pattern to the factors that lead rational states to choose labor policies and the logic that those choices create for the ensuing development of labor relations. At a broad level, the framework fits some historic experiences (as it was designed to do). It also has implications which go beyond the scope of this paper about possible future labor relations in East Asian countries that still repress independent unions, including China and Singapore (whose subordination strategy seems highly stable).

Endnotes

[1]My summary of labor relations is based on information contained in the various books and articles in the references.

[2]Union membership figures for developing countries are difficult to come by. The ILO's *World Labour Report* shows that East Asian countries are not exceptionally low in density. But unionization data from the Longman Group's *Trade Unions of the World* show a disproportionate number of East Asian countries in the 10%-20% union density area and Indonesia and Thailand at the bottom of unionization tables for lower-middle income countries. Strike data from the ILO's *Yearbook of Labour Statistics* (various editions) show very low levels of strikes per worker in Singapore, Hong Kong, Malaysia, Indonesia, and Thailand and higher but still low levels in the Philippines and Japan. Only Korea has had substantial strikes.

[3]Because of the problems of measuring union membership, these are rough estimates.

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IX. ETHNICITY IN THE WORKPLACE

Do Racially Mixed Work Forces Undermine Worker Solidarity and Resistance?

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The image of white workers acting to help create a split labor market for minority workers in order to defend their own jobs resonates with much that we find believable in human nature and in our own first-hand observations. White workers sometimes feel that minority workers are a "threat" to their jobs (Blauner 1989:247). White workers may also feel that minority workers are lazy or otherwise undeserving of jobs (Essed 1991:28; Fernandez 1991:155). Such attitudes may have increased in recent years because of affirmative action policies that make white workers feel they are the objects of discrimination (Asante and Davis 1985; Essed 1991:28; Feagin 1991; Halle 1984:249).

The image of workers from different races and ethnic groups engaged in the politics of exclusion and thus impeded from pursuing their collective interests has formed the basis of the split labor market theory of discrimination (Bonacich 1972, 1976; Wilson 1987). Defense of this theory rests on three types of evidence: evidence about racially unequal outcomes, evidence about racial attitudes, and specific historical case studies of labor market competition. Each of these forms of evidence, however, has limitations.

Evidence about work-related outcomes reveals profound racial differences in economic rewards but does little to adjudicate between different

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theories of how these differences arise. Evidence about outcomes thus provides only indirect evidence for any specific theory of discrimination; theories that rely on such evidence run the logical risk of "affirming the consequent."

Evidence about attitudes shows that a significant reservoir of negative feelings exists among white workers that *might* undermine solidarity among workers and thus undercut their enthusiasm for shared resistance to management. But, in itself, such evidence does not demonstrate that a diffusion of collective action actually takes place.

The third form of evidence for racial competition among workers is based on historic and ethnographic analyses of specific cases. These case studies provide the most direct evidence about the operation of working-class racial competition as predicted by split labor market theory (Boswell 1986). The limitation of these case studies materials is the same as that of all case studies—they may not be representative of the phenomena being studied. Case studies may have been selected because they showed a particular outcome or process rather than because they tested for that outcome or process.

Modeling Split Labor Market Mechanisms at the Workplace

The conceptual model presented by the split labor market literature posits that a racially mixed labor force erodes working-class solidarity. In turn, this reduces the likelihood of resistance to management. The following propositions systematize this model:

Proposition 1: Increasing minority representation in the work force erodes solidarity among workers.

Proposition 2: Increasing minority representation in the work force erodes informal resistance against management. The indirect effects of minority representation operating through decreased solidarity may further erode informal resistance against management.

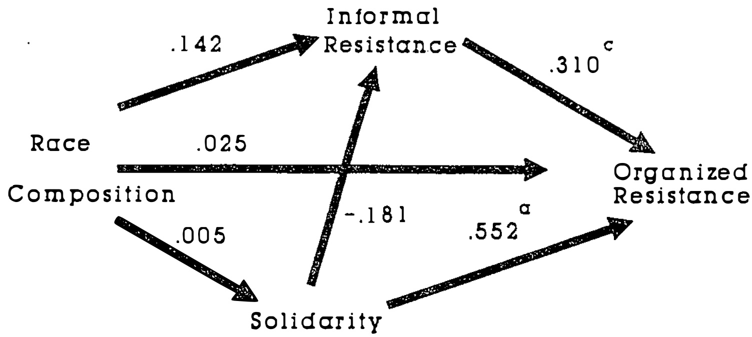
Proposition 3: Organized resistance against management is eroded both directly by minority representation and indirectly through reduced levels of solidarity and informal resistance.

These propositions are evaluated in Figures 1 and 2 below.

Methods: Assembling the Ethnographies

The concepts of worker solidarity and resistance to management are difficult to measure using survey data. Many of the behaviors are too

FIGURE 1
Path Model of Race Composition, Solidarity, and Resistance



Note: Significance demoted by a = .001, b = .01, c = .05
(2-tailed t-test).

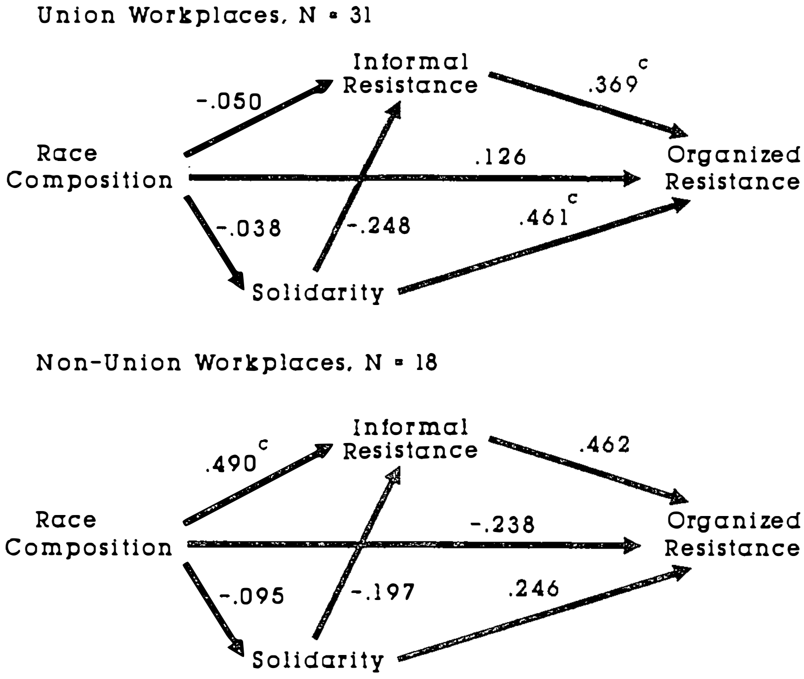
situationally specific or too open to interpretation to be readily measurable through standardized questions. In addition, certain behaviors of solidarity and resistance may be transient in nature, occurring only at specific junctures or in combination with specific events. For these reasons I rely on information coded from book-length workplace ethnographies to evaluate the role of racial composition in determining levels of worker solidarity and resistance to management (see Hodson et al. 1993).

The data for the current analysis were derived from reading and coding information from the existing published set of workplace ethnographies. The criteria of inclusion employed were (1) the book had to be based on direct ethnographic methods of observation over a period of at least six months, (2) the locus of the observations had to be a single organization, and (3) the book had to include a focus on a clearly identifiable group of workers.

Application of these criteria generated 50 cases with relatively complete data on the variables of interest in the current study. The books were read and coded by the members of a graduate research practicum. Each coder was debriefed by a member of the research staff or by the principal investigator after completing a book, and their codings were reviewed in detail. The systematic coding and analysis of data from this population of ethnographies allow the depth of observation embodied in ethnographic accounts to be utilized in understanding the complex phenomena of worker solidarity and resistance.

FIGURE 2

Path Model of Race Composition, Solidarity, and Resistance in Union vs. Nonunion Workplaces



Note: Significance denoted by a = .001, b = .01, c = .05 (2-tailed t-test).

Variable Definitions

Race composition. The racial composition of the main occupational group under study in each organization was coded as a simple percentage minority. A variety of categorical options utilizing various cutoff points were also utilized and all resulted in similar results.

Solidarity. Four distinct aspects of solidarity are identifiable in the workplace ethnographies (Fantasia 1988; Vaught and Smith 1980). *Cohesion* is the extent to which workers seek each other out at work for social contact. *Mutual defense* indicates solidarity against other groups, customers, or management. *Leadership* is the extent to which identifiable leaders emerge within the group. *Group discipline* refers to workers enforcing group standards for work on group members. The group may discipline either slackers or overachievers. These four aspects of worker solidarity are standardized and averaged to form a solidarity scale (alpha = .83).

Informal resistance. Eight aspects of informal resistance are identifiable in the workplace ethnographies (Hodson 1993). *Playing dumb* is a strategy based on avoiding work by pretending to not know how to do certain tasks. *Withholding enthusiasm* includes foot-dragging and all forms of proceeding with work in an intentionally slow or less than enthusiastic fashion. *Work avoidance* includes such activities as hiding, doing other tasks, claiming to be busy with other things, or highlighting difficulties standing in the way of the work. *Machine sabotage* means intentionally breaking machinery or equipment or using it in such a way as to intentionally accelerate its breakdown. *Procedure sabotage* occurs when, for whatever reason, workers choose to violate the official operating procedures. It is a common response to rules that are contradictory, rapidly changing, or impossible to meet. *Social sabotage* entails malicious gossip and sowing discontent against a particular supervisor or against the organization as a whole. *Cooperation* indicates the level of voluntary consent by workers to managerial authority. *Effort bargaining* measures the level of effort workers are willing to give. (The latter two items were reverse coded.) These eight aspects of informal resistance are standardized and averaged to form a scale (alpha = .86).

Organized resistance. Four distinct aspects of organized resistance are identifiable in the workplace ethnographies. *Organized group conflict with management and supervisors* is a summary measure entailing five levels based on frequency and intensity of conflict. *Type of strike* has four levels based on the criteria of formality and violence. *Strike length* and *history of strikes* are also included. These four indicators of the level of organized resistance are standardized and averaged to form a scale (alpha = .82).

Controls. Unionization, job security, and bureaucratization are also included in parts of the analysis. Coefficients are noted as statistically significant at the .05, .01, or .001 levels of significance (two-tailed t-test). It should be kept in mind, however, that the cases analyzed represent the available *population* of ethnographic case studies of the workplace, not a sample of that population. In addition, the population of ethnographic case studies of the workplace does not constitute a representative sample of all workplaces. For these reasons, levels of statistical significance should be interpreted as suggestive only.

Results

The average level of minority representation in the workplaces studied by organizational ethnographies is 30.84%. The majority (63%) of the workplaces are unionized and 70% operate according to codified rules. There is no consistent pattern of differences in mean levels of solidarity, informal resistance, or organized resistance across levels of minority representation. Workplaces with low *or* high proportions of minority workers provide evidence of worker solidarity, informal, and formal resistance with nearly equal frequency. In brief, there appears to be no relationship in these data between proportion minority and worker solidarity or resistance. These results are presented as Figure 1.

The effect of worker solidarity on the level of informal resistance is negative but insignificant. However, the standardized beta for this effect is somewhat larger than those for race composition. Taken at face value, this result contradicts the assumption that worker solidarity provides a foundation for informal resistance to management. Reduced levels of informal resistance in high solidarity settings suggest that various forms of informal resistance, which are often individualistic in nature, are less often utilized to achieve workers' goals in high-solidarity settings (Hodson 1993).

In contrast to the negative insignificant effect of worker solidarity on informal resistance, solidarity significantly increases organized resistance to management. Solidarity is essential if organized acts of resistance are to be viable. At an open pit mine described in an ethnography, for example, the entire work force went on strike for a week over a driver being suspended for refusing to drive a truck whose tires the driver considered unsafe (Williams 1981:52-9). High levels of informal resistance also appear to be important for underpinning organized resistance. For example, an ethnography of a sugar cane plantation described how small-scale confrontations between workers and foremen over reduced wages and deteriorating conditions occurred over several days, eventually escalating into a series of work stoppages and refusals to plant. These actions were the precursors for larger-scale actions in which workers organized en masse and directly confronted the owner of the plantation (Rutten 1982:151-55).

Figure 2 evaluates the model separately for union and nonunion workplaces. In nonunion workplaces higher minority representation results in greater informal resistance. This relationship is opposite that predicted by split labor market theory: that is, a racially split labor force appears to generate *greater*, rather than lesser, informal resistance to management. In unionized environments where more formal mechanisms for redress are available, increased minority composition has no such effect.

The Effects of Unionization, Job Security, and Bureaucracy

The introduction of unionization, job security, and bureaucracy into the model of race composition, solidarity, and resistance does not significantly alter the results for race composition. Unionization, job security, and bureaucracy do, however, have powerful effects on solidarity and resistance. Unionization supports all three aspects of solidarity and resistance. Bureaucracy restricts solidarity. Job security has mixed effects, increasing solidarity but limiting both informal and organized resistance. Overall, solidarity and resistance appear to be more closely determined by the character of the labor process than by the racial mix of the work force.

Discussion and Conclusions

If competition among workers is not a key factor in continuing racial inequality at the workplace, then the onus of responsibility for racial inequalities falls back on employers for discriminatory practices and on various indirect and institutional forms of discrimination (Braddock and McPartland 1987).

It may be that competition between racially or ethnically differentiated groups over jobs has served as a barrier to unified working-class action at certain historical junctures. Or it may be that such conflicts are realized primarily in the political and electoral arenas. None of the results presented here, however, support the image of racially motivated competition between workers operating on a day-to-day basis to undermine solidarity and resistance at the workplace. Even in subpopulations defined by the presence or absence of a union, there was no evidence of minority presence reducing workers' solidarity or ability to engage in collective action.

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Segregating Workers: Occupational Differences by Race, Ethnicity, and Sex

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The earliest research on segregation concerned race; indeed, until the 1970s the term "segregation" brought to mind the physical separation of races into different neighborhoods and their enforced segregation into different schools. Few early scholars wrote about workplace segregation based on race and ethnicity. (Exceptions include Myrdal [1944; 1962:106-7, 313] and Gibbs [1965].) One of the first sociologists to describe group concentration in different occupations as "segregation" was Gross (1968) in a classic article about sex segregation. Following research on the spatial segregation of races (Duncan and Duncan 1955), Gross used the index of dissimilarity to measure occupational sex segregation. However, most studies of occupational segregation have examined either race or sex segregation. Thus most research implicitly assumes that the separate effects of sex and race are additive. In reality, of course, as Carlson (1992:271) reminded us, "Sex and race simultaneously structure individuals' labor market experiences." Yet over the last twenty years, only a few studies have simultaneously examined race and sex segregation (Beller 1984; Albelda 1986; Smith and Tienda 1988; King 1992; Tomaskovic-Devey 1993).

The object of this paper is to demonstrate that we must simultaneously consider sex, race, and ethnicity in order to understand how ascribed characteristics segment work. I do this first by comparing segregation indexes for 501 detailed occupations in the 1990 census across different sex-race-ethnic groups and then by comparing the pattern of over- and underrepresentation of groups across occupations. The data classify workers of all races as Hispanic and non-Hispanic white, black, and Asian (U.S. Bureau of the Census 1992: Tables 1 and 2). For convenience I refer to the last three groups as blacks, Asians, and whites, and I use the term "ethnic" segregation as a shorthand for "race/ethnic" segregation. With Naomi Cassirer

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I am replicating these analyses with more detailed breakdowns of Asians and Hispanics.

Indexes of Segregation

The index of sex segregation for detailed occupations in 1990 is .530. This value indicates that at least 53% of all men or all women would have had to switch to occupations in which they were underrepresented for the sexes to be similarly distributed across detailed occupations in 1990. Of course this value is misleading because it ignores race and ethnicity. As we can see in the upper right-hand quadrant of Table 1, which presents the 16 segregation indexes for all possible cross-sex pairs of the four race-ethnic groups, sex segregation varies considerably from a low of .436 for Asian women and men to a high of .605 for black women and white men.

TABLE 1

Segregation Indexes for Occupational Distributions of Hispanic, White, Black, and Asian Men and Women for 1990 Census Detailed Occupations

	WM	BM	AM	HW	WW	BW	AW
HM	.290	.180	.370	.527	.593	.566	.576
WM		.304	.292	.586	.542	.605	.565
BM			.371	.500	.513	.513	.553
AM				.502	.483	.522	.436
HW					.241	.181	.226
WW						.263	.210
BW							.276

Comparing all 28 segregation indexes computed for all possible pairs among the eight groups reveals even greater variation in the extent of segregation among sex-ethnic groups: from .18 for same-sex Hispanics and blacks to .605 for black women and white men. The dominant pattern this matrix reveals is that sex segregation consistently exceeds ethnic segregation. The indexes for every cross-sex pair exceed those for every same-sex pair. Within same-sex groups, the indexes range from .18 to .37; whereas the smallest index for any cross-sex group is .436. The table also shows more ethnic segregation among men than women.

The upper right-hand quadrant reveals a third interesting pattern: women and men of the same ethnicity (see the diagonal in the quadrant) are not necessarily more integrated than women and men of different ethnicities.

For example, Hispanic women are more segregated from Hispanic men (.527) than from black or Asian men (ca. .50), and white women are more segregated from white men (.542) than from black or Asian men (.513, .483). Finally, the occupational distribution of Asian men is more similar to those of every group of women from whom those of white and Hispanic men differ most.

To discover the general dimensions underlying these segregation indexes, I conducted multidimensional scaling (MDS), treating each segregation index as a data point. The MDS revealed that two dimensions capture the patterns among those groups very well. The first, which accounts for most of the variation among the 28 indexes, differentiated the four female groups from the four male groups, confirming that sex segregation is more pervasive than ethnic segregation. A second dimension distinguished between Asians and whites, on the one hand, and blacks and Hispanics, on the other. Locating the eight groups in multidimensional space revealed three closely clustered pairs: Asian and white women, black and Hispanic women, and black and Hispanic men. Asian men were located closest to the female groups of the four male groups, again reflecting their slightly lower occupational dissimilarity to women compared to other men.

In sum, the segregation indexes reveal the interplay of sex, race, and ethnicity in group distributions across occupations. However, these indexes tell us nothing about the occupations in which each group's members are over- or underrepresented. To identify those occupations and elucidate how occupational sex, race, and ethnic segregation operate jointly, I calculated the extent to which each of the eight sex-ethnic groups was over- or underrepresented in each of the 501 detailed occupations and then compared patterns of disproportional representation.

Representational Distributions

I constructed eight "representational distributions," each with 501 cells by dividing the observed number of workers of a sex-ethnic group in each occupation by the number one would expect if group members had been assigned to occupations in proportion to the occupational incumbents' share of the total labor force without regard to race or sex. If a group's representation in an occupation is proportional to the occupation's share in the labor force, its proportionality score for that occupation would be 1.0. Values below 1 indicate that a group is less likely to hold an occupation than we would expect if sex and ethnicity did not affect occupational assignment; a score above 1 means that members of a group are more likely to hold the occupation than we would expect if sex and ethnicity were irrelevant. (In revising this paper, I log this ratio to eliminate its lower bound.)

To summarize the results, I aggregated the representational distributions into 23 categories and noted those categories in which each sex-ethnic group was substantially over- or underrepresented. While confirming the substantial sex segregation among the eight groups, the results indicated four ways in which race/ethnicity alter the pattern of sex segregation: (1) Both Hispanic men and women were underrepresented among managers, social professionals, and creative professionals. (2) Hispanic and black men resembled women in their underrepresentation among scientists and engineers. (3) Black women and men and Hispanic men shared an underrepresentation in sales occupations. (4) Asian men resembled women in their underrepresentation in jobs in protective service, construction, and extraction occupations.

A more informative way to discern occupational segregation across pairs of groups is by cross-classifying occupational representation for all 501 detailed occupations across all 28 possible sex-by-ethnic group pairs. The 28 resulting scattergrams show the representation of sex-by-ethnic group pairs across detailed occupations and illustrate the variety of ways in which the occupational structure is segregated.

Each data point on these scatterplots represents an occupation. The Y axis plots group A's under- or overrepresentation in an occupation, and the X axis plots how well or poorly the Bs are represented in that occupation. Before looking at the actual scatterplots, let's consider how full segregation and integration would look.

Total Segregation of Two Groups

If the As and Bs were totally segregated—in other words, if there were no commonality in the occupations the As and Bs held relative to those from which they were excluded—then the data points for all occupations would fall along a diagonal descending from the upper left to the lower right, signifying the As' overrepresentation in occupations in which the Bs are underrepresented and vice versa.

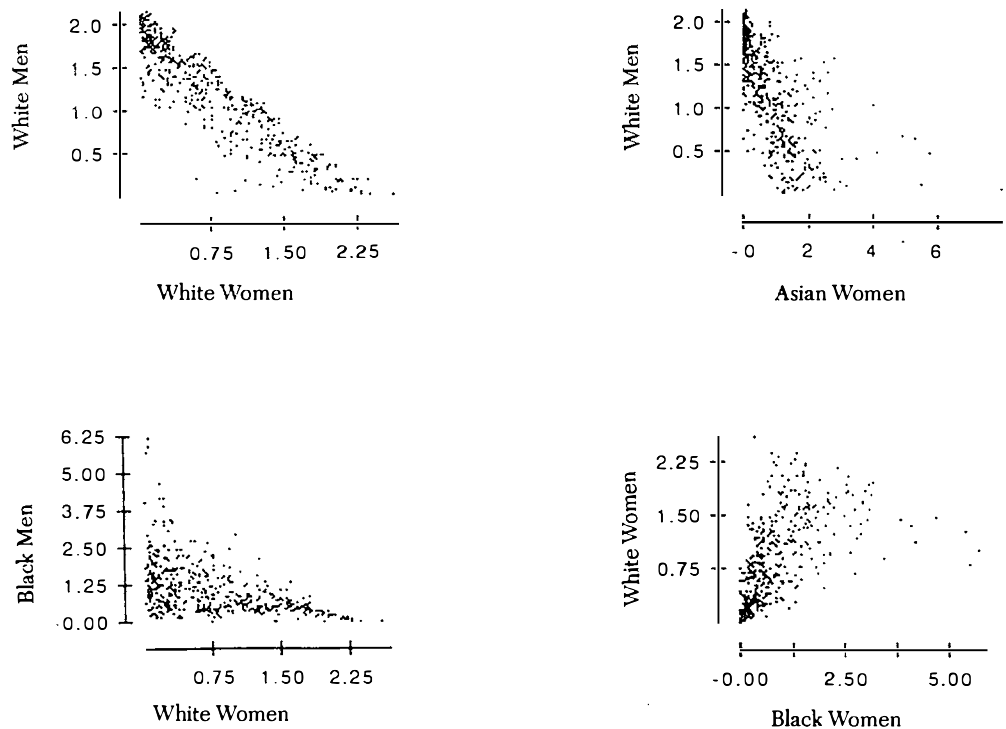
Although none of the 28 scatterdiagrams shows complete segregation, they reveal the different forms that segregation takes. The scatterplot for white women and men (see Figure 1) most closely resembles the model of complete segregation, with the data points clustered near a descending diagonal.[1] Indeed, in all the cross-sex scatterplots we can spot a descending diagonal reflecting women's and men's concentration in different occupations. (See Figure 1 for white men and Asian women, for example.)

Total Integration of Two Groups

If the As and Bs were concentrated in the same occupations and underrepresented in all other occupations, most of the data points would fall

FIGURE 1

Selected Scatterplots for Disproportional Representation Scores, 1990 Census Detailed Occupations.



along an ascending diagonal. The plots for Hispanic men with black men and Hispanic women with black women approach this ideal (consistent with their very low indexes). It seems likely, however, that these groups' apparent integration may result from their regional segregation in which African-American and Hispanic workers may perform the same occupations, but do so in different parts of the country.

The scatterplots for white women with the other three groups of women also suggest the ascending diagonal consistent with integration. Comparing the scatterplot for white and black women, for example, with the corresponding plot for men in Figure 1, illustrates the pattern in which the women's plots more closely resemble the model of complete integration than those for men, consistent with the lower levels of ethnic segregation among women than men that we saw in the segregation indexes.

Empirically, the most common pattern is one in which two groups differ in the occupations in which they are *over*represented but share a common set of occupations in which they are *under*represented. This situation is seen in a concentration of data points in the lower left-hand quadrant, a pattern characteristic of same-sex minorities who share the occupations in which both are underrepresented.

When white men are along the Y axis and a male ethnic minority is along the X axis, the resulting scattergrams resemble an isosceles triangle whose base is along the Y axis. The dots in the upper left-hand quadrant reflect occupations in which white men are overrepresented and minority men are underrepresented, and dots in the lower right-hand quadrant represent occupations in which ethnic men are overrepresented and white men are underrepresented. From this pattern three conclusions emerge: (1) These groups of men share an underrepresentation in many occupations. (2) Minorities are highly concentrated in occupations in which white men are neither over- or underrepresented. (3) A few occupations exist in which ethnic minorities are overrepresented and white men are underrepresented.

Given that men predominate in the majority of occupations, a larger proportion of all the dots are in the lower left-hand quadrant in the scattergrams for female-female pairs than male-male pairs, reflecting the large number of occupations from which both minority and white women are excluded. For this reason, the female-female scattergrams appear to be compressed versions of those for corresponding male-male groups. With white women along the Y axis, most of the remaining data points fall in the upper left-hand quadrant, reflecting white women's overrepresentation in occupations in which minority women are not overrepresented. The occupations in which ethnic women are overrepresented and white women are underrepresented are seen in the sprinkling of data points in the lower right-hand portion.

A pattern of mutual underrepresentation can spuriously reduce the index of segregation for two groups. The scattergrams for groups that differ in both ethnicity and sex have a large number of data points near the origin (representing occupations in which both ethnic men and all groups of women) are underrepresented. These are occupations held almost exclusively by white men (e.g., auctioneer); all other groups are underrepresented. This pattern of pseudo integration through mutual underrepresentation in white men's occupations also occurs in the scatterplots for pairs of ethnic men. For example, the plots cross-classifying Asian, black, and Hispanic men (not shown in Figure 1) indicate underrepresentation for all three groups as forestry and conservation scientists and vocational education teachers. The three also differ from white men in some of the occupations in which they are overrepresented (e.g., waiter's/waitress's assistant).

Specific occupations illustrate spurious integration achieved through mutual underrepresentation in white men's occupations. For example, all groups of women and Asian men rarely work as locomotive operators; all groups of women and black men are underrepresented as mining and sales engineers and pilots; all groups of women and Asian and Hispanic men differ from white and black men in their underrepresentation in logging occupations; black women and Hispanic men differ from the other six groups in their substantial underrepresentation as systems analysts.

However, the plots cross-classifying Asian men with Hispanic and black men (not shown here) reveal the overrepresentation of Asian men in several occupations that tend to exclude black and Hispanic men. These include postsecondary science and engineering teachers, for example. In contrast, these scatterplots also show black and Hispanic men's overrepresentation in occupations that employ relatively few Asian men. These include police officials and some skilled manual labor jobs in mining, such as oil-well driller and explosive worker. Same-sex blacks and Hispanics share an overrepresentation in several socially devalued service occupations. For men, these are in the public sector, such as janitor and elevator operator, while for women, they are within private households, such as launderer, cook, and childcare worker. This sex segregation of black men into public-sector service occupations and black women in private-sector service occupations has its roots in a turn-of-the-century pattern (Jones 1985) and, more fundamentally, in the 19th-century segregation of women into the "private sphere." Asian women are also overrepresented in domestic service, but to a smaller degree than black and Hispanic women. Asian men are unique among men in their disproportionate representation among cooks in private households, another commonality with women. Hispanic men are unique in their overrepresentation in agricultural occupations (e.g., nonfarm animal care).

In still other occupations it is whites and blacks that share an overrepresentation. Among funeral directors, for example, white and African-American men are overrepresented, while among special-education teachers, white and African-American women are overrepresented.

Just as some male ethnic groups share with all groups of women an underrepresentation in occupations that white men monopolize, so too do men share with some ethnic women the tendency to be excluded from—or for white men, probably, to eschew—predominantly white female occupations. For example, Hispanic and black women and all four groups of men are underrepresented as physical therapists.

Conclusions

This analysis of occupational segregation in 1990 revealed the persistence of both sex and race/ethnic segregation. Sex is the most important attribute in workers' occupational access, but in some lines of work, race is as important as sex. For example, black men and black women are both overrepresented among bus drivers; black men more so than black women, but black women more so than white men. Often sex and ethnicity jointly reserve an occupation for a group. This happens most for white men, but other groups own or seem stuck with particular occupations (for example, black men are one-third of all garbage collectors).

The primary message in these analyses are that despite the overwhelming role that workers' sex continues to play in their allocation to occupations, sex operates in conjunction with race and ethnicity. Labor queues are not simply gender queues; workers' sex and ethnicity operate in tandem and sometimes in complex ways to influence their access to occupations. Moreover, what may appear to be integration among two groups can result from their mutual underrepresentation in an occupation that another group dominates. Space limits prevent addressing the reasons for these patterns of common under- and overrepresentation. Needless to say, historical and cultural factors contribute to some patterns of mutual over- or underrepresentation, such as Asian males' overrepresentation among cooks.

In conclusion, workers' race, ethnicity, and sex affect their access to occupations and thus shape various workplace rewards. However, the effects of these characteristics on occupational access are complex. These results demonstrate that analyses which consider only workers' sex or compare only blacks and whites yield distorted images of the ways that workers' personal characteristics concentrate them in certain kinds of work and exclude them from others.

Endnote

[1]All 28 scatterplots are available from the author.

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Initial Labor Market Experiences of Minority and Nonminority Men

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An implicit assumption pervading the literature on youth employment is that early labor market activity is a desirable goal because it signals youth's awareness of adult consequences of premature school withdrawal. Although experts disagree about the value of early work experience (Greenberger and Steinberg 1981; Steinberg et al. 1993; Meyer and Wise 1988), it is quite surprising that very few studies have examined empirically the *timing* of initial labor market encounters with respect to school enrollment or military enlistment. In fact, most studies of the school-to-work transition eschew considering work experiences that occur during periods of enrollment because these work episodes are highly complex and irregular (Gritz and MaCurdy 1992). We submit that this oversight results in highly distorted portraits of the school-to-work transition and can yield equally great distortions about the long-term returns to early labor market experience.

Accordingly, in this paper we examine the racial and ethnic variation in the timing, nature, and determinants of initial labor market encounters for a nationally representative cohort of young men who were between the ages of 13 and 16 in 1978. We address two questions that have not been confronted by prior research. First, how pervasive is labor market activity among enrolled youth, and does the measurement of first employment influence conclusions about the timing, pervasiveness, and nature of early labor market experience? Second, do minority and nonminority youth follow similar pathways from school to work?

Following a brief discussion of data and operational definitions used to identify first jobs, we present descriptive statistics that address both empirical questions. We demonstrate that ignoring early labor market experiences, particularly episodes that occur during periods of school enrollment, misses key differences in the labor market stratification processes of minority

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youth and raises questions about the potentially pivotal role of early labor market encounters in producing profiles of disadvantaged adults.

Data and Definitions

We analyze the National Longitudinal Survey of Youth (NLSY), a national probability sample of 12,686 individuals aged 14 to 21 as of January 1, 1979, who were reinterviewed annually for over a decade. Of these, 1,280 respondents were part of a special oversample of youth enrolled in the military. The original cohort also included oversamples of black youth, Hispanic youth, and economically disadvantaged white youth. We restrict our focus to men in the civilian sample (many of whom eventually acquired military experience) and also exclude the oversamples of disadvantaged white youth. However, we include the oversamples of the two minority youth to permit tabular comparisons among white, black, and Hispanic men.

To minimize problems stemming from left censoring of labor market participation, we restricted our analyses to individuals who were aged 13 to 16 as of 1978. Except for individuals who participate in informal but remunerated work prior to the legal age for work (i.e., 14), we should, in principle, be able to observe the entire process of school departure and labor market entry. Our final sample of 2,573 young men includes 1,265 whites, 797 blacks, and 511 Hispanics. Descriptive statistics are appropriately weighted to approximate population parameters, thus the decision to include the minority oversamples does not distort statistical inferences (see Kilburn 1992).

A crucial operational decision for our analysis is the definition of first job. There is no common agreement about how to define first employment, but various studies have employed the following: first paid job, first job after school completion, and first full-time job. Existing studies also differ in their treatment of the military as a job, and this decision is significant because of racial and ethnic differences in eligibility for military service and in enlistment rates contingent on eligibility (Kilburn 1992). In our view, first job for pay most accurately demarcates *initial* labor market entry, whereas first job after leaving school *completes* the transition from school to work. As illustrated below, conclusions about the nature and timing of initial labor market experiences differ markedly depending on which definition is ultimately used.

We use four definitions of first job in order to illustrate the substantive implications of alternative criteria for defining labor force entry. Our baseline definition of first employment (Definition A) is initial paid job, irrespective of school enrollment status, weekly hours, or duration; exclusive of military activity; or *first employment, excluding military*. From this definition we construct three variants depicting the military and school enrollment statuses of young men. These are *first employment, including military* (Definition B); *first employment after school departure, excluding military* (Definition C); and *first employment after school departure, including military* (Definition D).

Definitions B and C are constrained by enrollment status, while definitions B and D count military activity as a job. For each definition we determined the exact age at which respondents attained their first job and the occupation of employment, job beginning and ending dates, and weekly hours and wages. Owing to space limitations, we report selectively from our results but provide a more detailed treatment of job characteristics elsewhere (Ahituv et al. 1993).

Results

Life table estimates of the *timing* of first employment (reported in Table 1) reveal considerable diversity along race and ethnic lines and great sensitivity to the criteria used to define first employment experience of young men. There is no difference in the median age at which white and Hispanic youth enter the labor force for the two employment measures that ignore enrollment status, but black youth enter the labor force three to four months after their Hispanic and white counterparts. This reflects the faster rate of school withdrawal of Hispanic compared to black and white youth (Cameron and Heckman 1991). Our unconstrained definitions (Panels A and B) show that white youth arrive in the labor market before minority youth, as 7.6% have held a job by age 14, compared to just over .5% of minority youth. However, by age 16 the labor force careers of youth become more differentiated along ethnic lines. Nearly half of white and Hispanic youth had worked for pay by this age, compared to 40% of black youth.

Somewhat different conclusions about the timing of labor force entry are obtained by restricting first employment to that which occurs after school departure, as shown by the last two sets of life table estimates (Panels C and D). Because Hispanics withdraw from school earlier than whites or blacks, in principle they are available to enter the labor force at younger ages. In fact, by conditioning first employment after leaving school, we find that Hispanics arrive in the labor force at younger ages than either white or black youth. Specifically, by age 16, 7% of Hispanics reported having worked for pay after school withdrawal, compared to 4% of white and just over 3% of black youth. By age 18 nearly 40% of Hispanic youth reported labor force experience after having left school compared to approximately 30% of white and black youth (Panel C).

TABLE 1
Cumulative Percent With Work Experience
Using Four Sample Criteria to Define First Employment:
Young Men Aged 13-16 in 1978

	(A) First Employment Excluding Military			(B) First Employment Including Military			(C) First Employment After School Departure, Excluding Military			(D) First Employment After School Departure, Including Military		
Age	Whites	Blacks	Hispanics	Whites	Blacks	Hispanics	Whites	Blacks	Hispanics	Whites	Blacks	Hispanics
≤ 13	2.3	1.4	1.1	2.6	1.4	1.1	—	—	—	—	—	—
14	7.6	5.5	5.1	7.8	5.5	5.1	0.2	0.1	0.5	0.2	0.1	0.5
15	21.5	16.9	18.7	21.8	16.9	18.6	1.0	0.7	1.7	1.0	0.7	1.7
16	49.6	39.7	46.3	50.0	39.6	46.1	4.0	3.3	7.0	4.0	3.3	7.0
17	75.4	63.5	72.6	76.5	63.8	72.2	12.1	11.1	19.8	12.5	11.9	20.0
18	89.3	79.6	86.6	90.8	81.2	87.2	31.3	28.6	38.7	33.4	32.6	40.5
19	95.6	88.4	93.3	97.0	90.8	94.4	50.5	49.9	56.4	54.4	57.1	60.0
20	97.7	92.7	95.8	98.8	95.0	96.8	61.4	66.1	69.4	65.5	73.7	73.5
21	98.6	95.5	96.5	99.3	97.3	97.4	68.7	76.6	78.4	72.2	83.0	82.1
22	99.2	97.4	97.2	99.6	98.6	97.8	77.5	83.8	85.6	79.8	88.4	88.0
23	99.4	98.6	97.9	99.7	99.2	98.2	86.9	89.8	91.3	88.2	92.7	92.2
24	99.6	99.3	98.3	99.8	99.5	98.4	92.9	94.4	94.5	93.6	95.9	94.8
25+	99.7	99.6	—	99.8	99.7	—	95.7	97.0	95.5	96.2	97.7	95.5
Median	16.5	16.9	16.6	16.5	16.9	16.6	19.3	19.3	18.8	19.1	19.1	18.7
N	1265	797	511	1265	797	511	1265	797	511	1265	797	511

Source: NLSY Civilian Sample

Similar race and ethnic differences are obtained if military service is considered in the definition of first employment, but only through age 17. The effects of armed service activity do not manifest themselves until after age 18 because high school completion (or its equivalent) is a requirement for enlistment (Kilburn 1992). The basic finding from Panel D of the life table estimates is that considering military experience as a form of employment among those who have left school reduces race and ethnic differences after age 18 and reverses them by age 19. That is, 57% to 60% of young black and Hispanic men report employment experience after school departure by age 19, compared to only 54% of white youth.

Three general lessons follow from Table 1. First, the life table estimates reveal extensive labor force activity among adolescent men who are enrolled in school. Second, conclusions about the *timing* of labor market entry are sensitive to the definition used and, in particular, to whether labor market entry is conditioned on school withdrawal. In particular, race and ethnic differences in the timing of first employment depend on the criteria used to define employment and, as we show below, so do the occupational and industrial profiles of adolescent workers. Third, considering military experience as employment alters the labor force profile of black more than Hispanic or white youth, but only for employment experiences subsequent to school departure. Military experience serves to compensate for the labor market difficulties experienced by black youth, particularly those who have completed secondary school.

Occupational Profiles

Popular images of teen employment conjure up low-paying service jobs that are amenable to flexible schedules and are subject to high rates of turnover. Table 2 presents the distributions of occupations for young men corresponding to the four criteria we used to define first employment. The image of the youth labor market as one rooted in service employment and other menial jobs finds support in the occupational distributions that are not conditioned on school enrollment status (Panels A and B). Approximately one-third of Hispanic and 38% of black youth find their first jobs in service occupations, predominantly in food and cleaning occupations, compared to about 30% of white youth. This supports prevalent images of fast-food establishments as ports of entry to the world of work for teenagers. An additional 30% to 35% of young men's first jobs are in laborer occupations. Blacks are more likely than whites to hold service occupations, but whites are more likely than blacks to hold laborer occupations, and Hispanic youth are about evenly represented among these two broad occupational categories. About 10% to 11% of young men find their first jobs in operative occupations with no appreciable racial or ethnic differences.

Racial and ethnic differences in the heterogeneity of young men's first occupations are also noteworthy. The index of dissimilarity values indicate that the occupational distributions of white relative to Hispanic youth (ID = 10.2) are more similar than are the white relative to black distributions (ID = 22.2). However, the occupational distributions of black youth is more similar to that of Hispanic youth than to white youth (ID = 18.0). Occupational profiles describing first employment are similar whether or not military service is considered (Panels A and B) because relatively few youth enter military service before holding a civilian entry-level job. In fact, less than 4% of black youth, as compared to 2% of Hispanic youth and 1.2% of white youth, entered the military before holding a civilian job of any type.

We also note that military service appears to have a "homogenizing" influence for minority relative to nonminority youth in the transition from school to work. Once military service is recognized as a form of employment, no more than 15% of workers of any ethnicity would have to change occupations

TABLE 2
Young Men's Occupational Distribution Using Four Sample Criteria to Define First Employment

	(A) First Employment Excluding Military			(B) First Employment Including Military			(C) First Employment After School Departure, Excluding Military			(D) First Employment After School Departure, Including Military		
	Whites	Blacks	Hispanics	Whites	Blacks	Hispanics	Whites	Blacks	Hispanics	Whites	Blacks	Hispanics
Professional/Tech.	1.4	3.0	3.3	1.4	3.0	3.2	8.9	4.7	5.8	8.7	4.3	5.7
Managerial	0.4	0.3	0.6	0.3	0.1	0.4	5.8	2.5	4.9	5.5	2.0	4.0
Sales	7.3	2.1	4.7	7.2	1.8	4.6	5.3	3.7	4.1	5.0	3.0	4.0
Clerical	6.1	8.5	6.7	6.0	8.0	6.7	10.5	11.4	13.5	9.8	9.5	12.8
Crafts Mech, Rep.	3.1	1.8	2.8	3.1	1.7	2.6	4.8	2.6	5.4	4.2	2.4	4.8
Craft Const.	3.5	5.2	3.3	3.3	5.0	3.2	6.2	6.3	4.1	5.7	5.9	3.8
Craft Precision	1.4	3.0	1.8	1.4	2.8	1.6	4.4	2.3	2.6	4.1	2.1	2.3
Operatives Machine	1.1	0.8	1.6	1.0	0.6	1.6	2.0	1.1	2.1	1.8	1.0	2.1
Operatives Transp.	3.0	3.4	1.6	2.9	3.1	1.4	4.6	5.2	3.9	4.2	4.0	3.4
Operatives Other	7.2	6.1	6.1	7.1	5.8	6.1	10.9	9.1	9.2	10.5	7.9	9.1
Labor Freight, Stockholders	11.8	7.5	11.4	11.8	7.5	11.3	5.7	6.3	7.3	5.3	5.5	7.0
Labor Gardeners	4.6	6.3	5.9	4.6	6.3	5.9	1.9	2.8	2.8	1.9	2.7	2.7
Labor Other	10.2	10.1	7.1	10.0	9.4	6.9	9.8	10.6	8.1	9.2	9.4	7.4
Farm Laborers, Foreman	8.5	4.1	8.9	8.5	4.1	8.9	3.6	3.0	6.9	3.5	2.8	6.7
Service Cleaning	7.8	16.7	11.2	7.8	16.5	11.1	3.6	10.0	6.2	3.5	9.6	5.9
Service Food	17.9	12.6	16.8	17.8	12.1	16.5	8.7	12.8	9.0	8.4	11.5	8.6
Service Other	4.8	8.7	6.3	4.7	8.6	6.1	3.4	5.5	4.3	2.9	4.2	3.8
Military	—[a]	—	—	1.2	3.7	2.0	—[a]	—	—	5.9	12.3	5.9
Total	100.1	100.2	100.1	100.1	100.1	100.1	100.1	99.9	100.2	100.1	100.1	100.0
N	1243	773	493	1246	778	496	1163	727	467	1180	747	475

Source: NLSY Civilian Sample
[a] not applicable

for the distributions to be identical. This indicates that the subset of youth who enter the labor market subsequent to completing school are more similar than all youth who enter, whether or not they are enrolled in school.

The pronounced race and ethnic differences in school departure rates and rates of military enlistment suggest that the pathways to full-time employment will differ among black, white, and Hispanic youth. That is, the early school withdrawal of young Hispanic men combined with their early labor market entry suggest that these youth may work full time at earlier ages than their black and white counterparts. Furthermore, higher rates of military participation by young black men should delay their entry to full-time civilian employment. We examine these possibilities in the following section.

Pathways from School to Work

Table 3 portrays the patterns of the transition from school to work and the nature of early labor market experiences along race and ethnic lines. As the table indicates, age 15 represents the first significant step in the transition to the work force, but it occurs mainly in the context of school enrollment. For example, among whites, the share of youth who have held jobs while enrolled in school increases from about 20% at age 15 to a high of 74% among 17 year olds. Similar patterns are obtained for Hispanic and black youth, except that the shares who accumulate work experience while enrolled in school is lower at each age, and these shares peak 10 to 12 points below the white level. However, the sources of the racial and ethnic disparities in the acquisition of work experience while enrolled are different: for black men, nearly one-third devote full time to school activities through age 17, while Hispanic youth gradually withdraw from school before age 18 and devote time exclusively to work, including full-time work.

A second step in the transition from school to work appears to begin after age 18, when most youth have completed high school. This step represents another important stratifying period in both age and ethnic dimensions. Not only do white youth persist in school at higher rates than either blacks or Hispanics, but they acquire work experience while doing so. This difference between minority and nonminority youth may have important implications for their future labor activity. If there are positive returns to work experience during adolescence, then the early human capital accumulation of white relative to minority men, which occurs *both* in school and on the job, may partly account for racial and ethnic differentials in men's labor market success at later ages.

Table 3 suggests that third major step in the transition from school to work occurs after age 21 for whites but a year or two earlier for Hispanics and blacks. By age 20, work (including military service) in the context of nonenrollment is the modal activity for Hispanic youth (46.8%), while the majority of black and white youth remain enrolled in school. For black and white youth, age 20 is the threshold when the majority are not enrolled in school. By age 20, over 11% of black youth have acquired military experience, compared to 6% and 8% of Hispanic and white youth.

The final step of the transition from school to work occurs after age 22, when full-time employment occupies over half of all young. The noteworthy exception are young black men, among whom only 45% are working full time by age 23. However, this share rises to 52% if military service is considered full-time employment. By age 24, about 10% of white men are enrolled in school, of which 9% are also working; 8% of black men are enrolled, of which 7% also work; but only 6% of Hispanic men remain in school, and 5% also work.

TABLE 3
Transition From School to Work
Distribution of Male Youth Among Work and Military Activities by Age
(in percent)

Ethnicity and States	13	14	15	16	17	18	19	20	21	22	23	24	25*
White													
School-only	96.8	93.1	79.3	53.7	17.3	7.7	4.0	2.1	2.6	2.5	1.7	1.1	0.4
Work-School	2.9	6.4	19.5	42.9	74.4	70.5	49.6	36.4	30.4	25.2	15.3	9.0	6.0
Work-only	0.0	0.0	0.0	0.2	2.6	7.0	18.0	23.7	20.6	17.5	17.6	17.4	14.8
Military	0.0	0.0	0.0	0.0	0.7	3.8	7.6	8.4	8.3	7.2	5.9	5.2	4.6
Full Work	0.2	0.4	1.0	2.3	3.7	8.3	16.7	25.6	32.9	41.8	54.0	61.3	68.5
Other	0.1	0.1	0.2	1.0	1.4	2.7	4.2	3.8	5.3	5.8	5.5	6.0	5.7
[N]	[1265]	[1265]	[1263]	[1262]	[1258]	[1253]	[1248]	[1245]	[1239]	[1223]	[1214]	[1199]	[932]
Black													
School-only	98.8	93.4	83.9	63.2	32.0	19.8	10.5	6.6	5.0	4.4	3.8	1.6	1.0
Work-School	1.3	6.4	14.7	35.8	61.8	57.9	42.8	27.5	17.3	13.3	8.4	6.6	3.9
Work-only	0.0	0.0	0.0	0.1	1.8	7.3	18.1	25.5	30.8	26.6	23.1	23.4	23.9
Military	0.0	0.0	0.0	0.0	0.6	5.7	10.6	11.4	11.5	10.0	7.9	7.4	6.2
Full Work	0.0	0.3	0.8	0.5	2.0	5.4	10.6	16.4	25.2	33.7	45.3	48.8	53.9
Other	0.0	0.0	0.6	0.4	1.8	3.9	7.5	12.6	10.2	12.0	11.5	12.4	11.1
[N]	[797]	[797]	[796]	[796]	[796]	[793]	[792]	[787]	[785]	[781]	[772]	[761]	[611]
Hispanic													
School-only	98.4	93.5	78.6	55.7	21.6	12.0	7.3	4.0	5.4	2.4	0.8	1.0	0.3
Work-School	1.2	5.9	19.2	38.8	63.9	57.4	39.6	27.7	16.7	14.2	11.2	5.4	5.9
Work-only	0.0	0.0	0.2	0.8	5.3	13.2	22.8	26.3	24.3	24.5	22.4	20.5	18.5
Military	0.0	0.0	0.0	0.0	0.6	3.6	6.3	6.8	6.8	4.0	4.1	4.4	3.8
Full Work	0.2	0.4	1.0	2.9	5.5	9.5	18.0	27.5	38.1	44.9	52.2	59.5	63.0
Other	0.2	0.2	1.0	1.8	3.1	4.3	5.9	7.8	8.8	10.0	9.4	9.1	8.6
[N]	[511]	[511]	[510]	[510]	[509]	[507]	[505]	[502]	[502]	[499]	[492]	[482]	[373]

Source: NLSY Civilian Sample.

* The large drop in sample counts results because the youngest cohort (age 13 in 1978) had not reached age 25 by 1989, the last observation year in our sample.

In summary, the results in Table 3 indicate rather distinct pathways from school to work across race and ethnic lines. Equally striking in this regard is the selection of young men into the category of idleness, that is, neither working, in the military, or enrolled in school. At age 23, 10% of Hispanic men, 12% of black men and 6% of white men are neither working nor enrolled in school. The idle, while only a minority of each group, are presumably the least employable among each demographic group. The relative size of this group is striking, especially in light of what persistence in this state portends over the lives of young men. We hasten to note that the age-specific estimates do not imply persistence in any state, yet it is troubling to note that the share idle during young adulthood increases rather than declines, and this is particularly so for minority men.

Conclusions and Implications for Further Research

Our results show that Hispanic young men have a higher rate of early school withdrawal and a higher rate of early labor force entry than do blacks. In fact, black youth appear to confront greater difficulties securing jobs whether or not they are enrolled in school. If employment during school is considered, whites arrive in the labor market earliest and blacks latest. Considering military experience as employment does not alter these conclusions. However, restricting the definition of labor market entry to that which occurs after school departures, Hispanic youth enter the market at a faster rate than either white or black youth, and they maintain their experience advantage through age 23.

The slower rates at which black youth enter the labor market before leaving school signal accumulating disadvantages which are not as discernible when focus is restricted to post-school labor force entry. Thus the greater persistence of blacks in school, coupled with their relatively higher rates of military enlistment, are the main sources of the labor market disparities observed among the unconstrained estimates of labor market entry. Our results underscore the sensitivity of conclusions about labor market entry and school departure to the criteria used to define first job. For blacks, military experience provides a gateway to full-time employment more so than for whites and Hispanics. This fact has potentially ominous consequences for minority men's future employment opportunities given the recent downsizing of the military. Although the employment effects of the tapered military-industrial complex are likely to be regionally uneven, they will toll heaviest on minority youth, particularly blacks, who traditionally have had higher enlistment rates than their white or Hispanic counterparts. If we are correct, race and ethnic differences in early labor market experiences could widen during the 1990s and beyond.

Acknowledgments

This research was supported by grants from the Russell Sage and the Rockefeller Foundations to the Harris Graduate School for Public Policy Studies. The usual disclaimers apply.

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DISCUSSION

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In response to the ghetto riots of the late 1960s, the U.S. Riot Commission, also known as the Kerner Commission, posed two strategies for reducing racial inequalities in economic livelihoods in the U.S. First, the integration strategy consisted of mainstreaming ethnic-racial minorities into the corporate economy. Second, the self-help strategy entailed the development of a black enclave economy driven by black entrepreneurialism largely within predominantly black communities. The Commission favored the integration strategy partly because of its assessment that the socioeconomic segregation and ghettoization of blacks had engendered the glaring racial inequalities which had prompted the riots. Also, from its own moral standpoint, the Commission envisioned a racially unified society rather than one based in dualism.

Integrationist and separatist tendencies are represented in the papers presented in the session on "Ethnicity in the Workplace." Taken together then, the papers allow us to explore the sociological conditions under which the two strategies are likely to be most effective in reducing racial economic inequalities. My synthesis of these papers leads me to conclude that a multi-prong approach better confronts the complex realities of racial inequalities than does either strategy alone.

The papers suggest that the effectiveness of the two strategies is mediated by the social class of the focal workers. Although sociologists almost universally acknowledge the profound class effects on life chances, few sociologists agree on the definition of class. I draw upon two leading concepts of class—that is, the neo-Marxian and conflict-sociology concepts—to conceive of class in terms of both ownership status and formal authority and bargaining power. Concretely, this view of class is a relational one that is defined in terms of various types of employment relationships. Using this concept of class, three social classes are implied by the papers of this session: (1) the self-employed, (2) unionized workers, and (3) nonunion workers.

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The papers suggest that the effectiveness of each strategy varies by class. The Butler paper suggests that the effectiveness of the self-help strategy may be greatest for the self-employed or entrepreneurial class in a black enclave economy. It is this class which has developed salaried professionals in subsequent generations.

By showing that race effects on worker solidarity and mobilization hold only for nonunion workers, the Hodson paper suggests that unions effectively remove race as a determinant of mobilization. This union effect on race as a determinant is consistent with the tradition of U.S. industrial unionism whose racial ideology has tended to be more universalistic than that of U.S. craft unions. Indeed, most of the unions in Hodson's sample are industrial unions. This implies that the integration strategy is most effective among workers who are organized into industrial unions.

The Reskin and Ahituv et al. papers suggest that unregulated labor markets which engender occupational race and ethnic segregation also engender deep racial-ethnic inequalities. Black youth, according to Ahituv et al., enter the labor force later than whites and are segregated into lower status jobs. The Reskin paper suggests that occupational race-ethnic and gender segregation tends to reproduce socioeconomic inequalities. This implies that segregation is most harmful to nonunion, minority, and women workers.

These class variations in the effectiveness of the two strategies imply that a strategy will most benefit a racial-class group of workers when the strategy helps that group to attain oligopolistic status in the product market. Black entrepreneurs in an ethnic enclave economy may benefit from oligopolistic status. Similarly, industrial-unionized workers often are employed in oligopolistic industries. Nonunion minority workers are more likely than others to be employed in the small-business sector. Lacking union voice, these workers may be most vulnerable to separatist strategies.

The papers, then, suggest that a multi-prong strategy may be the most effective approach to reducing racial economic inequalities. Coupled with inclusive universalistic unionization, this approach can address the class variations in economic circumstances that complicate the effort to achieve racial equality.

X. REFEREED PAPERS: BEHAVIORAL SCIENCES

Investigating Career Flexibility Among Union-Represented Employees

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The literature on career mobility is expansive (e.g., Feldman and Arnold 1986; Galor and Sicherman 1988; Gattiker and Larwood 1990; Gould and Penley 1984; Kelly and Guy 1991; Larwood and Gattiker 1986; Lazear 1979; Poole, Langan-Fox, and Omodei 1991; Sicherman and Galor 1990). At the same time, researchers have investigated the correlates of occupational mobility (e.g., Bamberger 1986; Byrne 1975; Carey 1990; Dauffenbach and Grimes 1989; Doeringer and Piore 1971; Fosu 1992; Johnes 1988; Pfeffer and Ross 1982; Rosenfeld 1979; Weiss 1971). However, with the exception of Waddoups and Assane's (1992) work, there is little research that investigates the propensity of individuals, once employed, to tool themselves aggressively for alternate employment, especially among nonmanagerial occupations. Given that opportunities for upward advancement in today's large businesses are declining while at the same time the structure of jobs is changing, it becomes important to know how businesses and workers prepare themselves for these changes. From such an understanding, educational institutions can better train individuals to become more flexible in their career orientations; firms can gear recruitment strategies to acquiring employees who better match their needs for frequent occupational and geographical shifts.

The Framework

The term "career mobility" generally has been used to define those job movements that result in a promotion for the individual (Sicherman and

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Galor 1990). "Occupational mobility" is defined as "workers who change from one occupation to another" (Carey 1990:55). Career orientation, "the amount of expressed interest in a job or career," has also been studied (Poole, Langan-Fox, and Omodei 1991:985). Our term, "career flexibility," is broader and more inclusive than career or occupational mobility or career orientation. Career flexibility, as we describe it, has three characteristics—occupational flexibility, locational or geographical flexibility, and career mobility. So, we seek to study those individuals who are more flexible in their careers—either exhibited by their willingness to relocate for lateral opportunities, to seek promotional opportunities, or to acquire job-related or non-job-related education—in short, to do "what it takes" to maintain their employment status.

In previous research on mobility of workers (career, occupational, geographical, or otherwise), one must necessarily address the question "mobility over what domain?" To put it differently, are workers mobile within the firm, thereby confining one's focus to the operation of internal labor markets (ILM), or across firms, an external labor market (ELM) focus? Researchers have already enlightened us on the differences between ILMs and ELMs (Doeringer and Piore 1971; Dunlop 1958, 1988; Flanagan 1984; Freeman and Medoff 1984; Kerr 1954, 1988; Okun 1981; Parsons 1986; Rosen 1985; Wachter and Wright 1990; Williamson, Wachter, and Harris 1975, to name a few).

However, two phenomena in the workplace tend to make less definite the boundaries of ILMs and ELMs. First, we note that there have been structural shifts in the U.S. economy, technological advances within firms that have changed ways of operating, an intensification of global competition, and internal restructuring of firms that have flattened managerial hierarchies. These combine to make opportunities more scarce within the ILM. At the same time, firms are allocating more resources to tuition assistance programs, job retraining efforts, incentive separation programs, early retirement "buyouts," and outplacement counseling services. These tend to "push" workers out of the firm, employees who may still have many years of productive worklife ahead of them. Thus firms are no longer merely trying to keep employees within their own ILMs. They view jobs outside the firm as "fair game" for their surplus employees and will expend resources to make these employees competitive for such jobs. Indeed, even unions (see, for example, the collective bargaining agreements between the United Auto Workers and the major automobile manufacturers or the agreements of the Communications Workers of America and AT&T) have bargained tuition assistance programs, job retraining, and outside-the-firm placement services. These are all aimed at making those they represent able to find work, even if these members, as a result of their new job opportunities, sever their connections with the unions. So while Wachter and Wright (1990:242) are concerned that there is no "integrated model of the ILM that might be useful to labor relations specialists and practitioners," an even larger concern is "what factors combine to explain the likelihood of individuals to move both within ILMs and outside of them?"

Wachter and Wright (1990) put forth four characteristics that explain the likelihood to move within an ILM. These are match-specific investments, risk aversion, asymmetric information, and transaction costs. Even though the focus of Wachter and Wright's work was on ILMs, Sicherman and Galor (1990) developed a theoretical model to explain career mobility within *and* across firms and occupations. Their empirical model included a number of demographic and socioeconomic variables that could be used to quantify the effects of the four aforementioned characteristics of ILMs. Interestingly, though, Sicherman and Galor's work was an attempt to explain both ILM movement *as well as ELM movement*. However, their work did not take into account noneconomic factors, such as the attitude towards work, in explaining occupational and career mobility. Long ago these factors were recognized by Dunlop (1958) and Kerr (1954, 1988) as important explanatory variables in accounting for ILM behavior. And if one hopes to link the movement behavior of workers both within ILMs and ELMs, as Sicherman and Galor hoped to and as we will do subsequently, this is a significant omission.

In this paper we empirically test, in a preliminary fashion, Wachter and Wright's integrated model as it applies to career flexibility. Behavioral, socioeconomic, and demographic variables are used as measures of match-specific investments, risk aversion, asymmetric information, and transaction costs. The proxy variables and their hypothesized signs are given in Table 1. The supporting research that guides the formation of these hypotheses is also provided. As can be seen, the hypothesis on education is indeterminate *a priori*. Formal education is predicted to increase information, thereby making workers more career-flexible; alternatively, education can also lead to greater specialization, reducing occupational choices and, thus, making one less career-flexible.

The Data Set and Estimation

In order to determine the variables that can explain career flexibility, we relied on a unique data set. In October 1991, the first author administered a survey to a random sample of occupational (nonmanagement) employees

TABLE 1
Determinants of Career Flexibility

Characteristic	How It Is Operationalized	Supporting Conceptual or Empirical Literature
Match-specific investment	Tenure in one's job (-) and company (-)	S&G (1990); C (1990); D&G (1989); W&D (1992); G&L (1980)
	Union representation (-)	S&G (1990); W&D (1992)
	Company loyalty (-)	Authors' hypothesis
	Formal education (-)	B (1986); S&G (1990); D&G (1989); W&D (1992)
	On-the-job performance (+)	Authors' hypothesis
Risk aversion	Current income (-)	Authors' hypothesis
	Age (-)	C (1990); D&G (1989); G&L (1990); W&D (1992)
	Satisfaction with current job (-)	G&L (1989); P,L,&O (1991)
	Satisfaction with current pay (-)	Authors' hypothesis
	Whether one has experienced a layoff (+)	Authors' hypothesis
	Sex (females more risk averse)	K&G (1991); S&G (1990); L&G (1986)
Information asymmetry	Minority status (-)	S&G (1990); W&D (1992)
	Control over one's job (-)	G&L (1989)
	Desire to exit the firm (+)	Authors' hypothesis
	Confidence in management (-)	Authors' hypothesis
	Assessments about other employment (-)	Authors' hypothesis
	Assessments on investment in job (-)	Authors' hypothesis
	Formal education (+)	B (1986); S&G (1990); D&G (1989); W&D (1992)
Transaction costs	Marital status (-)	S&G (1990); D&G (1989); G&L (1990); P&R (1982); F&R (1987); W&D (1992)
	More dependents at home (-)	G&L (1989), F&R (1986), W&D (1992)
	Age (-)	C (1990); D&G (1989); G&L (1990); W&D (1992)

of a multinational firm (Boroff and Keefe 1991). These employees worked either in the firm's manufacturing or service divisions and either were non-represented or represented by one of two unions. The survey was managed according to the Dillman (1978) design. In all, of the 8100 surveys mailed, 3160 were returned, representing a response rate of 39%.

This firm bargained with its unions in 1989, among other things, an employment security package with three major elements. The first element was a training and retraining program for all employees. Individuals interested in enhancing existing skills and acquiring new ones could seek training under this program. Second, the firm and its unions bargained an internal transfer and promotion plan. This plan gave employees information about company job openings nationwide and their associated skill requirements. Furthermore, employees could submit themselves for consideration for these jobs. In the event that employees faced imminent layoff, they could receive priority placement under the plan, as well as relocation reimbursements should they be required to relocate. Third, the parties negotiated a tuition assistance program enabling employees to increase their formal education even for occupations not within the firm. These three programs were subsequently extended to the firm's nonrepresented employees.

These three programs form the basis of the dependent variable, career flexibility, in this study. Career flexibility (CAREER FLEX) is an index, ranging from zero to three, that measures whether individuals used none, one, two, or three of these career-enhancing programs. The higher the score, the greater the career flexibility of the individual. The independent variables are defined below in Table 2. Ordinary least squares multiple regression is used to estimate the equation.

Results and Discussion

When the empirical equation was first estimated, we ran collinearity diagnostics on it. While managing collinearity problems in multiple regression is ambiguous, Belsley et al. (1980) recommend that if condition numbers on eigenvalues are greater than 20, those variables whose variance proportion is .5 or greater be deleted from the estimation. As a result, WAGES, AGE, JOBINVEST, RATING, and CONTROL were omitted in the final regression equation. As we studied the data, we did find that EDUCATION and WAGES were correlated but concluded that EDUCATION was the underlying construct behind WAGES. So we opted to include EDUCATION and not WAGES.

Looking first at the match-specific investment factors, we observe that loyalty to the firm (LOYALTY) and whether one is represented by the union (UNREP) is positively associated with career flexibility. This latter finding is unexpected. Perhaps union-represented employees are urged to "use" that which has been bargained for them; one could also argue that union negotiators, sensitive to the needs of their members, would bargain that for

TABLE 2

Identification and Definition of Independent Variables

Independent Variable	Definition
JOBTENURE	Measures the length of time in one's current job.
COTENURE	Measures the length of time in the firm.
UNREP	Measures whether the respondent is represented by a union.
LOYALTY	An index measuring the degree of loyalty one has to the firm, measured by attitudinal statements from the survey, as follows: "I generally say good things about the company even when other people criticize it," and "I sometimes wear clothing (hat, jacket, pen, etc.) that bears the company's logo or symbol." Respondents were asked to specify their degree of agreement (1 =strongly disagree; 5=strongly agree) with the statement. The Cronbach alpha is .6.
EDUCATION	Measures the number of years of formal education.
RATING	Measures respondents' performance rating on their current jobs.
WAGES	Measures respondents' current income from their jobs.
AGE	The respondent's age.
JOBSATIS	An index measuring the degree to which respondents are satisfied with their current jobs, as specified in four disagree/agree statements: "I am satisfied with my current job," "My work provides me with a sense of personal fulfillment," "My work is interesting and challenging," and "I am satisfied with the type of work I do." The Cronbach alpha is .9
PAYSATIS	An index measuring the degree to which respondents are satisfied with the pay of their current jobs, as specified in the disagree/agree statements: "I am satisfied with my pay at the company" and "I am satisfied with my benefits at the company." The Cronbach alpha is .5.
LAIDOFF	Measures whether the respondents ever were laid off by the firm (0=not laid off, 1=laid off).
SEX	Measures the percent of the respondents that are female.
MINORITY	Measures the percent of the respondents that are minorities, all nonwhites, reported by themselves.
CONTROL	An index measuring the degree to which respondents feel that they have control over their jobs, as specified in the disagree/agree statements: "I have a good degree of freedom in the performance of my daily tasks," "I have the opportunity to exercise my own judgment on the job," and "I make most work decisions without first consulting my superior." The Cronbach alpha is .8.
EXIT	An index measuring whether one plans to exit the firm, as specified in the disagree/agree statements: "I am seriously considering quitting the firm for an alternative employer," "I have recently spent some time looking for another job outside the firm," and "During the next year I will probably look for a new job outside the firm." The Cronbach alpha is .9.
CONFIDENCE	An index measuring the degree to which respondents feel that they have confidence in management, as specified in the disagree/agree statement: "The people in charge generally know what they're doing."
OTHER JOB	An index measuring the degree to which respondents feel other jobs outside the firm are available, as specified in the disagree/agree statements: "Acceptable jobs with other employers can always be found" and "It is possible for me to find a better job with another employer than the one I have now with the company." The Cronbach alpha is .7.

TABLE 2 (*Continued*)
Identification and Definition of Independent Variables

Independent Variable	Definition
JOBINVEST	An index measuring the degree to which respondents feel that they have invested in their jobs, as specified in the disagree/agree statements: "I have put a lot into this job with the firm" and "My life would be disrupted if I left my work at this company." The Cronbach alpha is .3.
MARRY	Measures the percent of respondents that are married.
SUPPORT	Measures the percent of respondents that have dependents at home for whom they must care.

TABLE 3
The Determinants of Career Flexibility
(Standardized Beta Coefficients Are Reported)

Independent Variable	Standardized Beta Coefficient	T-Statistic
JOBTENURE	-.17	-7.84***
COTENURE	.01	.38
UNREP	.08	3.96***
LOYALTY	.04	1.91*
EDUCATION	.19	9.03***
JOBSATIS	-.10	-4.66***
PAYSATIS	.05	2.51***
LAIDOFF	.04	1.83*
SEX	.16	7.15***
MINORITY	.06	2.90***
EXIT	-.11	4.66***
CONFIDENCE	-.03	-1.38
OTHER JOB	-.01	-.54
MARRY	-.01	-.58
SUPPORT	-.03	1.25

Adjusted R^2: 16
F-Statistic: 20.34***
Sample Size: 2172 (includes only full-time employees)
*significant at the .10 level; **significant at the .05 level; ***significant at the .01 level

which their constituents were most desirous. Either would help to explain the positive relationship. Since we subsequently control for layoff status, one cannot conclude that the reason union-represented employees are more apt to be flexible is because their jobs are threatened. From the next two variables in this category we learn that if one is satisfied with one's job (JOBSATIS) or has accumulated tenure with it (JOBTENURE), there is a reluctance to be flexible—expected results.

Continuing our focus on the match-specific investment, the coefficient on EDUCATION is positive and significant. In fact, career flexibility is most sensitive to this variable. Recalling that there were two competing hypotheses on this variable, we now have observed that the positive information asymmetry effect of education on career flexibility outweighs the negative match-specific investment effect.

The risk-aversion factors also inform us of the propensity to be flexible. A positive relationship is observed for assessments about one's pay (PAYSATIS), contrary to the hypothesized expectation. Females (SEX) are more apt to be flexible, perhaps accounted for by their need to accommodate spousal and child-rearing responsibilities. It may also represent their desire to upgrade themselves, to enhance earning power. In any case, the finding on SEX does seem to run counter to stereotypes that may exist about the flexibility of female workers. As might be expected, those who have experienced a layoff (LAIDOFF) are more apt to be flexible.

Turning to the information factors, other trends emerge. We see that the intent to exit the firm (EXIT) is accompanied by an aggressive career flexibility stance. Minorities (MINORITY) are more likely to be career-flexible for perhaps the same reason that women are—to improve earning power. This also challenges previous research on the career mobility of minorities (Sicherman and Galor 1990; Waddoups and Assane 1992).

Neither of the two variables measuring transaction costs, MARRY or SUPPORT, were statistically insightful, although the latter variable did approach significance. The greater one's child-rearing responsibilities, the more apt one is to be flexible. This probably reflects a need to maintain income for the family, thereby urging individuals to find ways to maintain their employment status.

In all, we see that employing the Wachter and Wright model provides useful information in understanding the career flexibility of workers.

Conclusions

Previous scholars have used either behavioral attributes of workers or their socioeconomic characteristics to explain their nonemployment mobility or career flexibility within ILM or ELMs. This paper is an improvement over existing studies because of its integrated approach toward both markets and worker attributes and their characteristics. It is observed that three socioeconomic characteristics of workers (i.e., their sex, minority status, and formal education) help explain the variation in career flexibility. Furthermore, three worker attributes (i.e., length of time at current job, job satisfaction, and workers considering leaving the firm) also contribute to explaining the variation in career flexibility.

From the outset our objective was to inform practitioners on how best to make their work force career-flexible. Confirming the arguments of Reich (1991), now Secretary of Labor, the importance of formal education is a foundation requirement for a flexible work force, even taking into account a worker's assessment of job satisfaction. If workers stay in the same jobs for too long, however, this dampens their career flexibility. So firms may want to consider rotational assignments for employees. Given existing rigidities of personnel movement in collective bargaining agreements, this recommendation poses a challenge to unionists and managers alike. Furthermore, this challenge is made even greater when coupled with the finding on job satisfaction. Those satisfied with their jobs tend to be less career-flexible. This raises the possibility that the employees here may tend to be more centered on their jobs and less on developing career orientations.

One may take issue with the construction of the dependent variable. We feel otherwise. It does measure actual behavior. Perhaps one form of behavior is more indicative of career flexibility over the next, but that can be adjusted by weighing the dimensions appropriately.

This study could be extended in a number of directions. One, the empirical findings are based on cross-section data from only one corporation. The validity of explanatory variables could be tested by using time-series data from a number of firms. Second, this study omits several socio-economic variables such as home ownership and its location, occupation and work status of a worker's spouse—factors that may significantly impact career flexibility. Third, the findings of this study are based on only worker responses. If employer attitudes and behaviors are taken into account, then a different picture may emerge.

Having said this though, we still feel that this study has made an important contribution to the concept of and the determinants of career flexibility.

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Determinants of Effectiveness in Gainsharing Programs: Findings and Implications

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Gainsharing is expected to be one of the fastest growing human resource strategies during the 1990s (Graham-Moore and Ross 1990). Although the positive effect of gainsharing is well known (e.g., Bullock and Lawler 1984; Graham-Moore 1983; Schuster 1983; U.S. GAO 1981; Voos 1987, 1989), few studies have addressed why the gainsharing programs succeed or fail and what factors contribute to such success or failure. This theoretical vacuum has been recognized by many scholars in the field (e.g., Bullock and Lawler 1984; Gowen and Jennings 1991; Mitchell et al. 1990; White 1979).

To identify the determinants of performance in gainsharing programs, a theoretical model explaining and predicting the success of gainsharing programs was proposed and tested using survey data from 269 firms with gainsharing experience in the U.S. and Canada.[1]

A Theoretical Model

The research questions addressed in this study were (1) What factors cause a gainsharing program to succeed or fail, and (2) How do these factors influence the effectiveness of gainsharing programs? Since the gainsharing program is a group-level intervention, simply applying individual-level motivation theory (e.g., expectancy theory and learning theory) to the gainsharing program could be misleading (Hammer 1988). In the present study I formulated and tested a theoretical model designed to address both individual workers' motivation and group-level issues in one integrated model. As seen in Figure 1, the model is built on the framework of the expectancy model, incorporating needs theory and group issues represented by labor relations factors. The expectancy theory provides a comprehensive model of gainsharing which not only addresses most previously mentioned determinants of gainsharing performance but also generates a

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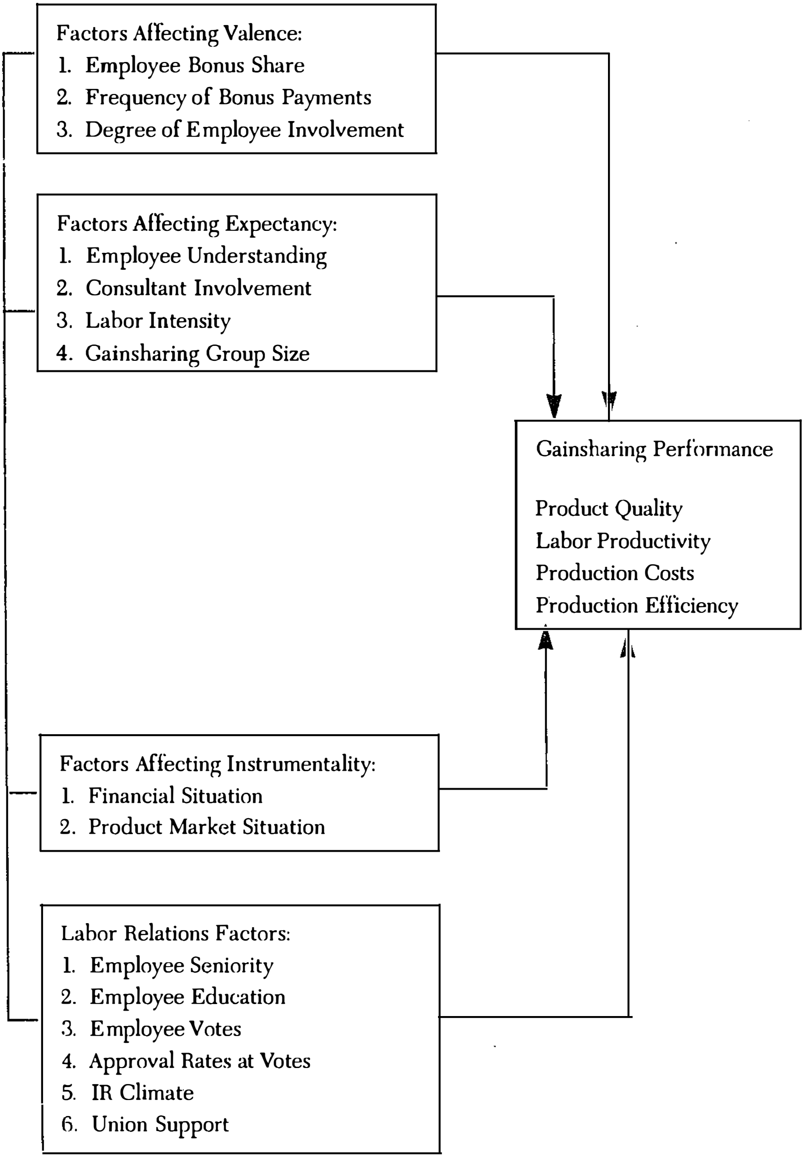
FIGURE 1

A Theoretical Model:
An Application of the Expectancy Model to Gainsharing



number of new testable hypotheses.[2] A description of the proposed model will follow, addressing expectancy, instrumentality, valence, and labor relations factors in the context of the gainsharing program.

First, workers' expectancy in gainsharing is defined as the beliefs that workers hold regarding the extent to which their efforts will influence gainsharing group performance. Since higher expectancy is expected to lead to better performance in expectancy theory, it can be hypothesized that factors affecting workers' expectancy in gainsharing programs will have positive effects on gainsharing effectiveness. These factors include employee understanding of the program, labor intensity of the production system, small gainsharing group size, and the degree of consultant involvement in operating the program.

Second, workers' instrumentality in gainsharing is defined as the beliefs that workers hold regarding the likelihood of being rewarded in accordance with group performance. Factors affecting workers' instrumentality in gainsharing programs include a good financial condition of the firm and a growing or expandable product market.

Third, workers' valence in gainsharing is defined as the value workers place on the rewards they expect to receive in gainsharing programs. In the present study, workers' valence will be addressed in the framework of needs theory. That is, the valence of the gainsharing programs will be determined by the strength of gainsharing rewards in satisfying workers' needs. Factors affecting workers' valence include the degree of employee involvement systems, the proportion of employee share to the total bonus pool, and the frequency of bonus payments.

Finally, since individual employees' motivation can be modified by the peculiar group settings to which they belong, it should be recognized that gainsharing effectiveness can be influenced by group-level phenomena (e.g., free-rider problems, industrial relations climate, collective voice mechanisms of workers, and union participation or opposition). In order to treat the group-level issues, labor relations factors in gainsharing were addressed in the framework of expectancy theory. Labor relations factors were represented by six variables: level of employees' formal education, degree of employee seniority, employees' majority approval in votes and their approval rates, industrial relations climate, and level of union support.

Research Methods

The population of this study was all firms in the U.S. and Canada that either had experience with a gainsharing program in the near past or were implementing programs at the time of the study. To identify firms with gainsharing programs, I contacted (by mail and telephone) (1) consulting firms dealing with gainsharing programs, (2) researchers who have done surveys on gainsharing, (3) international and local unions, (4) union officials and managers who attended a labor education program on gainsharing at the School for Workers of the University of Wisconsin-Extension, and (5) publications of the U.S. Department of Labor dealing with work innovation.

After identifying plants with gainsharing experience, the data needed for this study were collected through a survey administered by mail. The survey was sent to the human resources or industrial relations manager who might know the details of the gainsharing program at each establishment. Of 622 surveys initially sent in June 1992, 334 surveys had been completed or partially completed and returned. Among the 334 surveys returned and completed, 65 could not be included in the statistical analysis because the responses were lacking substantial information. Thus the number of usable samples in the present study was reduced to 269.

The dependent and independent variables were measured by the questions in the mail survey. Four types of dependent variables were used to measure the effectiveness of the gainsharing program: improvement in product quality, improvement in labor productivity, reduction in production costs, and improvement in the production process.[3]

The independent variables in this study were composed of four sets of factors influencing the effectiveness of gainsharing programs: (1) factors influencing employee expectancy (e.g., labor intensity of the production system, gainsharing group size, employee understanding of the program, and the degree of consultant involvement), (2) factors influencing employee instrumentality (e.g., financial condition of the firm and product market situation), (3) factors influencing employee valence (e.g., degree of employee involvement systems, the proportion of employee share to the total bonus pool, and the frequency of bonus payments), and (4) labor relations factors (e.g., level of employees' formal education, degree of employee seniority, employees' majority approval in votes and their approval rates, industrial relations climate, and level of union support).[4]

To test the various hypotheses in this study, multiple regression analysis was performed. In addition, to test the effect of the industrial relations climate and union support or opposition, additional regression analyses were performed for union and nonunion subsamples.[5]

Major Findings

On average, the gainsharing programs were reported to improve labor productivity by 4.61% and reduce production costs by 2.81%. The results of multiple regression analysis are reported in Table 1, and major findings will be discussed.

The employee participation component of gainsharing programs appears to have stronger positive effects in motivating employees than the employee bonus share and bonus frequency. There is support for the hypothesis that small gainsharing group size will result in better group performance than large group size, while large plants will achieve better performance than small plants. The results suggest that the best results from gainsharing programs may be expected from small gainsharing groups at large establishments. In addition, employee understanding of the gainsharing program, the degree of consultant involvement, good financial condition of the firm, an expandable product market, level of employee seniority and education, degree of labor intensity, and employees' approval and high approval rate in a vote appear to have generally positive relationships with gainsharing performance. While union participation in (or opposition to) gainsharing positively (negatively) affects gainsharing performance, unionization has a generally negative relationship with gainsharing performance. The industrial relations climate has a stronger effect on gainsharing performance in union firms than in nonunion firms.

Implications and Conclusion

This study tested a comprehensive model of gainsharing which not only addresses previously mentioned determinants of gainsharing performance but also generates a number of new testable hypotheses. The findings confirmed the effects of variables that previous researchers argued to have close relationships with gainsharing performance—for example, labor intensity (Graham-Moore and Ross 1990; McGregor 1960; Schuster 1983), product market situation (Graham-Moore and Ross 1990), organizational and industrial relations climate (Graham-Moore and Ross 1990), communication and employee understanding (Graham-Moore and Ross 1990), and union support (Davenport 1950). Determinants of gainsharing performance newly proposed and tested in this study were degree of employee involvement, employee bonus share, bonus frequency, degree of consultant involvement, degree of employee formal education and seniority, and employee majority approval at the vote and approval rate.

The study provided some evidence to resolve a controversial issue in gainsharing research: the appropriate size of gainsharing groups and plants. Although it was found that the median size of Scanlon companies was 250 employees (Graham-Moore 1983:30), the appropriate size of the company has been one of the most controversial issues in recent decades (Gowen

TABLE 1

Determinants of Organizational Performance in Gainsharing Programs: Multiple Regression Results

Independent Variables	Expected Signs	Dependent Variables: Improvement in Product Quality	Improvement in Labor Productivity	Reduction in Production Costs	Improvement in Production Process
Whole Sample (N = 269)					
Employee involvement	+	.14°°°	-.05	.34°°	.17°°°
		(3.66)	(-.17)	(2.34)	(3.40)
Employee bonus share	+	-.003	-.01	-.002	-.01°°
		(-1.18)	(-.60)	(-.20)	(-2.24)
Gainsharing group size	-	-.0001°°	-.0007°	-.0004°	.00004
		(-2.10)	(-1.87)	(-1.94)	(.58)
Firm's financial situation	+	.11°°	.81°°	.25	.17°°°
		(2.18)	(2.34)	(1.37)	(2.64)
Employee understanding	+	.12°°°	.52°°	.29°°	.09°
		(3.24)	(2.00)	(2.05)	(1.88)
Bonus frequency	+	-.01	.91°°°	-.002	-.02
		(-.11)	(2.73)	(-.01)	(-.27)
Consultant involvement	+	.07°	.54°	.09	.07
		(1.66)	(1.81)	(.55)	(1.19)
Employee education	+	.04	-.84	.41	.40°°
		(.24)	(-.81)	(.73)	(2.08)
Employee seniority	+	.02	.21°°°	.17°°°	.03
		(1.12)	(2.29)	(3.48)	(1.63)
Employee vote	+	.27°°	.50	.97°°	.29°°
		(2.42)	(.66)	(2.35)	(2.05)
Approval rate at vote	+	.15	1.49°	.74°	.24°
		(1.38)	(1.91)	(1.77)	(1.68)
Unionization	NA	-.16	-1.15	-.30	-.31°°
		(-1.39)	(-1.45)	(-.70)	(2.10)
Plant size	+	.0001°°	.001°°°	.0002°°	-.00001
		(2.22)	(3.36)	(2.28)	(-.30)
Labor intensity	+	.02	-.02	.49°°	.14°
		(.32)	(-.05)	(2.10)	(1.80)
Product market situation	+	.003	.82°°	53°°	.10
		(.05)	(2.05)	(2.45)	(1.35)
Adjusted R^2		.18	.13	.16	.22
Union Subsample (N = 141)[a]					
Union support	+	.17°°	1.04°	.35	.13
		(2.12)	(1.79)	(1.11)	(1.29)
Ind. rel. climate	+	.03°	.18	.01	.01
		(1.66)	(1.52)	(.83)	(.68)
Adjusted R^2		.23	.18	.18	.31
Nonunion Subsample (N = 127)[a]					
Ind. rel. climate	+	-.01	.16	-.01	.05
		(-.48)	(1.02)	(-.08)	(1.32)
Adjusted R^2		.18	.17	.17	.13

°p < .10, °°p < .05, °°°p < .01

T-values in parentheses

[a]Other control variables were included in the analyses

1991:88). Some suggested that the effectiveness of gainsharing programs is limited to small companies (e.g., Helfgott 1962; Katz and Kahn 1966; Kaufman 1992; McGregor 1960). However, White (1979) found that company size was positively correlated with gainsharing success. I believe that one reason for the mixed evidence on the appropriate size for gainsharing stems from the fact that previous studies did not explicitly distinguish gainsharing group size from the size of the whole plant. In the present study it was found that gainsharing group size has a negative relationship with gainsharing performance, while plant size is positively related to such performance. In addition, in contrast to the widespread belief that Scanlon Plans work better in failing companies than in financially healthy companies (Davenport 1950; Schuster 1983), financially healthy companies appear to have a better chance of gainsharing success than failing companies.

Findings of this study provide important implications. First, although unionization appears to have a generally negative relationship with gainsharing performance, union participation in and support for gainsharing positively affects gainsharing effectiveness by influencing employee efforts. This finding confirmed that of a previous study by Cooke (1992) that unionized firms with jointly administered employee-participation programs achieved greater performance improvements than those with programs administered solely by management. This finding suggested that union participation and support provide an important mechanism to utilize the full potential of employees' collective input into the gainsharing program, and union opposition to the program reduces employees' efforts and commitments to the program.

It provides practical implications for both union leaders and management. For management it would be wiser to solicit union support and induce union participation than to isolate unions in operating the program. It would be a poor decision for management to use the program as a device to weaken the unions, since such situations may result in the union's strong opposition to the program, and eventually the program itself can end up as a failure, resulting in a great waste of financial and human resource investment. For union leaders this finding indicates the need for change in their general attitudes toward the employee-participation programs. As Kochan, Katz, and Mower (1984) indicated, the majority of American national unions have been passive in supporting or participating in participative programs. If a gainsharing program can be more effective with union involvement, it would be wise for unions to be involved in administering the program and dividing the gains and obtaining the credit for its achievements. Also, active participation is the most effective way to represent their members' immediate concerns about gainsharing and provides an important opportunity to obtain a real and equal partnership at the workplace.

Second, the employee involvement component of the gainsharing program appears to have stronger positive effects in motivating employees than the employee bonus share and bonus frequency. This finding confirms the original belief of Joseph Scanlon, who first developed the Scanlon Plan in the 1930s. Scanlon and his followers emphasized the employee involvement component more than the employee bonus system in defining the Scanlon Plan. This finding indicates that gainsharing is not just an incentive program. In order to be successful, the program needs an extensive system of employee participation through fundamental changes in the traditional, adversarial bargaining relationships between management and labor.

Third, a gainsharing program which was implemented by employees' majority approval in a vote showed better performance than one which was implemented without employee voting, and the approval rate in the vote had a positive relationship with gainsharing performance. This finding strongly suggests the need for employee participation in decisions to implement gainsharing programs. Although an employee vote is not used in Improshare and is considered optional in the Rucker Plan (U.S. GAO 1981:9-10), it seems a wise choice to provide employees with opportunities to decide program implementation in any type of gainsharing program.

Finally, this study identified environmental factors affecting program success. Degree of labor intensity, an expandable product market, and level of employee seniority and formal education appear to have generally positive relationships with gainsharing performance. This finding not only provides an explanation of why gainsharing cases have been rarely reported in certain industries (e.g., heavily capital intensive, continuous flow industries [Schuster 1983]), but also suggests a useful guideline to help management and labor decide to implement gainsharing programs at their plants.

Acknowledgments

The author thanks Paula B. Voos, Kenneth S. Mericle, Denis Collins, Craig Olson, and Richard U. Miller for their helpful comments. This research was funded by the School for Workers of the University of Wisconsin and the Industrial Relations Research Institute of the University of Wisconsin-Madison.

Endnotes

[1] In this study, a gainsharing plan is defined as an organizational system of employee involvement with a financial formula for distributing organizationwide (or departmentwide) gains to share the responsibility and rewards for organizational improvement.

Some standard gainsharing programs are available (e.g., Scanlon plan, Rucker plan, and Improshare), although custom-designed programs have also been implemented.

[2] Although expectancy theory has been presented in many different forms, its most general form recognizes that motivation is the product of a person's beliefs about expectancy (effort will lead to performance), instrumentality (performance will result in reward), and valence (the perceived value of the rewards). Expectancy theory claims that motivation is a positive function of all three components.

[3] For example, to measure changes in labor productivity due to the gainsharing program, the following question was included: "The gainsharing program at your plant results(ed) in an average ___ % annual increase (or decrease) in labor productivity since the beginning of gainsharing." Respondents were asked to choose an appropriate answer among seven choices: more than 10% annual increase, between 7% and 10% annual increase, between 4% and 6% annual increase, between 1% and 3% annual increase, neither increase nor decrease, between 1% and 5% annual decrease, and more than 5% annual decrease.

[4] For example, to measure the degree of employee understanding of a gainsharing program, respondents were asked to answer the following question. "Some employees may not understand the gainsharing formula even after they receive employee training about gainsharing programs. That is, some employees do not really know what the numerator and/or denominator in the gainsharing formula means. About what percent of employees who are (were) covered by gainsharing *understand (understood)* the gainsharing formula at your plant? Please indicate your best estimate." Response categories included (1) more than 80% of employees, (2) between 60% and 80% of employees, (3) between 40% and 59% of employees, (4) between 20% and 39% of employees, and (5) less than 20% of employees.

[5] Since the survey was sent to industrial relations or human resource managers, the responses may have been biased in a specific direction. There is a possibility that the survey respondents may have overestimated or overreported the performance of the programs, since they are likely to be the managers responsible for the programs. However, as long as such perceptual or reporting errors in measuring dependent variables are not correlated with the independent variables, the effects of independent variables on gainsharing performance can still be properly measured. That is, although the constant may be biased upward because of response error in the dependent variables, the estimates of regression coefficients will be unbiased (Greene 1990:295); thus despite the probable errors in measuring gainsharing performance, the effects of the various factors on gainsharing performance can be correctly estimated.

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Taking Responsibility for Being Absent From Work: Employees' Beliefs About the Causes of Absence

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Employee absenteeism has received substantial attention by human resource management and industrial relations scholars and practitioners (see Rhodes and Steers 1990). Management's interests center on minimizing the potential workplace disruptions absence may cause (Goodman and Atkin 1984) and the significant financial cost of absence (Martocchio 1992). Labor's interests center on promoting progressive disciplinary procedures in order to provide those who are absent with an opportunity to mitigate the effects of the factors that result in their absence (Ballagh, Maxwell, and Perea 1987), and to prevent a breach of an employee's duty to attend work regularly (Rosenthal 1979).

Although concerned with absence for different reasons, both labor and management have focused on what they can do to lower voluntary absence levels, or absence that is within an employee's control. This is probably due to the fact that voluntary absence is thought to be more amenable to change than involuntary absence. Unfortunately, efforts to reduce voluntary absence may be ineffective. Absence scholars have argued that it is difficult to distinguish between voluntary and involuntary absence for a number of reasons (Hammer and Landau 1981; Smulders 1980). These issues pose problems for absence-control policies because their effectiveness rests on the belief that employees can take the responsibility to attend work regularly (see Rhodes and Steers [1990] for a review).

To better understand voluntary absence, researchers have recently begun to model the employee's decision to be absent (Hackett, Bycio, and Guion 1989; Martocchio and Judge 1994). These efforts have rested on the

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assumption that employees make decisions to be absent, and such decisions predict absence occurrences (e.g., Hackett et al. 1989). Still, little is known about whether employees attribute many of the reasons that constitute absence decisions to factors within or outside their control. Knowing this will better enable management and labor to effectively reduce absence levels. Therefore, the purpose of this study is to investigate the attributions employees make for the factors that contribute to a decision to be absent from work.

The Present Study

Some researchers (namely, Nicholson 1977) maintain that absence is a differentiated phenomenon based on causes attributed to absence occurrences by the absentee. Specifically, Nicholson proposed that potential absence-inducing events should be classified by the employees' perceptions of the freedom or control over the events that purportedly result in absence from work. On the basis of factors identified to influence absence decisions in past research (Martocchio and Judge 1994), four antecedents of absence decisions were included to examine the attributions employees make about each one. These include personal illness, kinship responsibilities, pressing work demands, and day of the week. The rationale for the influence of these factors follows.

Personal Illness

Nicholson and Payne (1987) reported results of home interviews of a variety of employees who were asked to make attributions of their prior absences as well as potential future absences. They found that the vast majority of individuals attributed prior and potential future absence to factors beyond personal control (specifically, illness) rather than to events within their own control such as leisure activities. Their main conclusion was that attributing absence to medical illness is consistent with evolving social beliefs about what constitutes acceptable reasons for absence in a particular context. This conclusion fits well with research which showed that medical absence was systematically related to work and nonwork motives (Rushmore and Youngblood 1979).

Smulders (1980) suggested that absence is one element of a "sick role" (Parsons 1952), a temporal process in which an individual moves from a "well" state to a state of illness, to a coping process, and finally, a return to a "well" state. In particular, Smulders (1980) argued that an absentee makes many, sometimes unconscious, decisions to enact the "sick role" that are under the influence of external circumstances (e.g., the attitudes and opinions of relatives and medical professionals as well as sickness benefits offered by the employer and the job situation). An employee is more willing to return to his or her job when working conditions improve or upon the advice of his or her medical adviser (Smulders 1980). This suggests that illness will be a very salient attribution regarding the cause of absence.

Hypothesis 1. The presence of personal illness will lead to external attributions regarding the cause of absence.

Kinship Responsibilities

When an employee's kinship responsibilities are pressing (e.g., a dependent child or elderly relative is very ill), this person will choose either to stay away from work to deal with the demands or attend work, leaving the responsibility with a spouse or other family member to deal with the demands. If an employee cannot rely on others to manage a particular episode associated with kinship responsibilities, then he or she logically would attribute absence to factors outside personal control. On the other hand, if an employee can rely on others yet chooses to be absent from work, then it is in his or her best interest to attribute the absence episode to factors outside personal control, particularly if this employee faces discipline due to absence. Often kinship responsibilities are deemed as a mitigating or extenuating circumstance by employers and arbiters in absence disciplinary procedures, and such circumstances usually cause the employer to lessen the penalty (Ballagh et al. 1987; Rosenthal 1979). Therefore, an employee is likely to attribute an absence episode that is due to kinship responsibilities to factors beyond personal control.

Hypothesis 2. The presence of kinship responsibilities will lead to external attributions regarding the cause of absence.

Pressing Work Demands

Consistent with Morgan and Herman's (1976) analysis based on expectancy theory, an employee is less likely to be absent from work when there are major demands that consist of a heavy workload and pressing deadlines as compared to light demands. When absent during high-demand work periods, an employee is more likely to fall behind in his or her responsibilities. Falling behind may result in negative outcomes such as a reprimand or poor performance evaluation, because as indicated earlier, absence can be thought of as a breach of an employee's duty to attend work regularly. Obviously the consequences of breaching one's duty to work are likely to be more significant when work demands are substantial.

Thus when work demands are high and an absence occurs, an employee is going to be more likely to attribute the episode to factors beyond personal control than when work demands are not heavy.

Hypothesis 3. The presence of pressing work demands will lead to external attributions regarding the cause of absence.

Day of the Week

Another factor that is expected to influence absence is the day of the week, or specifically, when absence occurs in relation to scheduled time off such as the "weekend" (Chadwick-Jones, Brown, Nicholson, and Sheppard 1971). Martocchio and Judge (1994) found that employees were more likely to be absent from work on days adjacent to scheduled time off than during the course of contiguous work days, and we expect that the attributions employees make will depend upon the timing of absence. Our rationale comes from the view that absence occasionally facilitates stress reduction for employees (Goodman and Atkin 1984). It is possible that employees would attribute absence that occurs during the course of adjacent work days to factors within their personal control, recognizing the need to take time off to regain perspective. Along these lines, employees would be likely to attribute absence that occurs next to scheduled time off to factors outside personal control because it may be more difficult to justify staying away from work either just before or after scheduled time off.

Hypothesis 4. Absences that occur next to scheduled days off will lead to external attributions regarding the cause of absence.

Control Variables

Additional factors were expected to predict attributions about the cause of absence, and these factors were included as control variables because our focus was on isolating the attributions employees make about the factors contributing to their decisions to be absent. Organizational tenure, age, gender, kinship responsibilities, and occupational status represent demographic factors that many researchers have used as proxies for the possible attributional processes engaged by employees to explain their absences (Nicholson 1977; Nicholson and Payne 1987). In addition, three psychological factors were included as controls because of their anticipated effects on attributions. Specifically, two dispositional factors, life controlled by chance and internality, reflect two aspects of locus of control that were expected to influence attributions (Levenson 1981). Life controlled by chance refers to the degree to which a person believes chance affects his or her experiences and outcomes. Internality refers to the degree to which people believe they have control over their own lives. The third factor, absence norms, refers to an employee's perception of others' (e.g., boss, coworker, etc.) beliefs about the acceptability of absence. We felt that employees who perceived that others accepted absence as legitimate would be more likely to make internal attributions for absence compared to employees who perceived that others deemed absence as illegitimate.

Method: Setting, Subjects, and Procedure

Surveys were administered to a stratified random sample of employees of a large university located in the Midwest. Subjects occupied a wide range of service jobs in the university, ranging from clericals to construction workers to managers. Average age of respondents was 46.7 years (SD = 10.7 years). Sixty-eight percent of respondents were female, and 84% were married. Thirty-five percent of respondents had one or more children under 18 years of age. Whites constituted 95% of the respondents. Average salary of respondents was $23,095 (SD = $13,271). Thirty-six percent of respondents had a high school diploma, 43% had an associate's degree or completed some college work, and 21% had at least an undergraduate degree.

Surveys were mailed to employees through campus mail. Participants were told in a cover letter that individual responses were completely confidential and were promised a $15 honorarium in return for completing the survey. Subjects also were asked to sign an informed consent form. Subjects were sampled from all departments within the university. From a potential pool of 460 respondents, 165 useable surveys were returned, representing a response rate of 36%.

In an effort to minimize self-report bias, the focal employee's locus of control was evaluated from the perspective of a "significant other" (i.e., a spouse or family member). The relationship of the significant others to the respondents was as follows: spouse (74%); close friend (19%); sibling (3%); parent (4%). Archival data were obtained from university personnel sources in order to further reduce reliance on self-report data. These multiple sources of data should yield a more accurate, complete, and unbiased estimate of the core constructs.

In order to compare the degree to which the sample of respondents was representative of the population, respondents and nonrespondents were compared with respect to their age, organizational tenure, race, gender, salary, and job type. No significant differences were found, suggesting that respondents were representative of the larger population of employees.

Research Design

A mixed experimental design was used, incorporating both within-subjects and between-subjects components (Keppel 1982). When the research question is focused on decision making, this design is known as policy capturing and has been widely used in the study of decision-making processes within the organizational context. The factors we manipulated were illness, kinship responsibilities, pressing work demands, and day of the week. Each factor, with the exception of the illness factor, contained two levels (i.e., the factor was present or not). The illness factor contained three levels (i.e., illness was not a factor, minor illness, and major illness). The four within-subjects independent variables were completely crossed, which permits assessment of the independent effects of each factor on attributions regarding the cause of absences. Crossing the factors resulted in 24 ($2 \times 2 \times 2 \times 3$) scenarios which contained all possible combinations of the independent variables. As a means of assessing reliability of the dependent variable, six scenarios were replicated. In order to minimize order effects, the scenarios were presented in the survey in random order, and the factors were presented in random order within each scenario. Each participant was asked to read each description as a set of factors that he or she might encounter on a scheduled work day. An example of a scenario is provided.

Assume that on a day that you are scheduled to work you have the following event(s) occurring:

- You are in the middle of your scheduled work week. It's been two days since you have had time off from work, and it will be two days before you have some scheduled time off.
- You need to take care of your children or have other family responsibilities.
- You have a heavy workload or an important deadline at work you must meet.
- You do not feel well today and are physically unable to take on your normal duties.

Measures

External Attribution About the Cause of Absence

Belief about whether the absence occurrence depicted in each scenario was due to factors external to employees (e.g., beyond the employees' control) was operationalized in the following manner: "If you were absent given the above circumstances, would this absence be within or beyond your control?" A seven-point Likert-type scale was used, and it was anchored by "totally within my control" to "totally beyond my control." Reliability of the dependent variable was calculated by computing reliability coefficients for each of the six replicated scenarios and then averaging the six reliability coefficients. The resulting reliability estimate of this measure was .87.

Life Controlled by Chance and Internality

Levenson's (1981) internality, powerful others, chance (IPC) scale was chosen to measure these factors. The IPC reflects three dimensions of locus of control, internality and chance (both of which were defined earlier), and powerful others (the degree to which people believe other persons control events in their lives). Because it did not seem relevant for the purposes of this study, the powerful others subscale was not included in the analysis. The significant others of the respondents rated the degree to which they felt the focal employees would endorse a number of statements reflecting internality ("he believes that to a great extent his life is controlled by accidental happenings") and chance ("he believes that when he makes plans, he is almost certain to make them work"). The reliability of the internality subscale was .72 and the reliability of the chance subscale was .77.

Absence Norms

Six items assessed the extent to which an employee agrees with the notion that others view absence as legitimate. Participants responded to a seven-point Likert-type scale anchored by "strongly disagree" to "strongly agree." A sample item includes "My supervisor would probably be upset if I missed work" (not counting absences due to illness, civic duties, scheduled holidays, or scheduled vacations). The reliability estimate for this scale was .65.

Demographic Variables

Organization tenure, age, gender, and occupation were taken from data contained in the university's archival records. Information on kinship responsibilities (number of dependents) was collected from a specific question on the focal employee survey.

Analyses

The data set used for the analysis was constructed by duplicating individual difference variables (e.g., age, internality) and then appending these to the four within-subject manipulations and attributions (30 for each individual). Conceptually, duplicating between-subject factors is appropriate because a between-subject factor can affect the respondent's reaction to each scenario. For example, internality may influence an absence attribution each time an individual is presented with a hypothetical choice, much like internality could influence absence attributions over time (e.g., each time an individual is confronted with an actual choice and subsequent attribution). Statistically this is appropriate because each reaction to a scenario is an independent event, and each event becomes a dependent variable (Hays 1981). Since each of the 165 respondents reacted to 30 scenarios, the sample size used for the analysis was 4,950 (30 x 165, less cases deleted due to missing values).

Results

The regression results are presented in Table 1. Except for age and gender, the control variables were statistically significant and influenced attributions as suggested in the absence literature. Hypotheses 1 and 2 received support; that is, the presence of illness and kinship responsibilities lead to external attributions. Hypotheses 3 and 4 were not supported. The beta coefficient was significant for pressing work demands (Hypothesis 3), but in the opposite direction indicating that a heavy workload leads to internal attributions. For day of the week (Hypothesis 4), the beta coefficient was not significant, indicating that the occurrence of an absence episode in relationship to scheduled time off did not influence attributions.

Discussion

We examined the attributions employees make for their absence from work. Specifically, our focus was on the extent to which employees take responsibility or attribute absence to factors beyond their personal control. Our study was prompted by the recognition that both labor and management seek to minimize absence levels within the workplace with absence control policies and disciplinary procedures that are founded on the presumption that employees make choices to attend or miss work.

We found support for some of our hypotheses. Not surprisingly, an examination of the standardized regression coefficients showed that illness exerted the greatest influence on absence attributions such that illness was attributed to factors beyond personal control. This finding fits well with theoretical research on the assumption that some employees may assume the "sick role" (Parsons 1952). Also, attributing absence to factors beyond one's personal control often mitigates the effects of disciplinary actions taken by the employer against the alleged transgressor because it is difficult for an employer to prove whether an "ill" employee was sufficiently ill to perform his or her work duties safely (Ballagh et al. 1987).

TABLE 1

Regression Predicting External Attributions Regarding the Cause of Absence

Variable	Beta	Standard Error	T
Control Variables (Demographic)			
Organizational tenure	.053	.013	4.063°°
Age	-.027	.015	-1.786
Male	-.003	.014	-0.444
Kinship responsibilities	.053	.014	3.687°°
White collar	-.034	.014	-2.345
Control Variables (Psychological)			
Life controlled by chance	.036	.014	2.689°
Internality	-.088	.013	-6.626°°
Absence Norms	.078	.013	6.055°°
Main Effects			
Illness	.465	.012	38.025°°
Pressing work	-.161	.012	-13.225°°
Kinship responsibilities	.229	.012	18.723°°
Day of the week	-.001	.012	-0.057

Adjusted $R^2 = .279$°°

°$p < .05$, °°$p < .01$

The next largest effect was for the presence of kinship responsibilities. Historically, attributing absence to kinship demands, whether of dependent elders or children, was common (Rhodes and Steers 1990). As argued earlier, it was not clear whether kinship was within or outside the control of employees. However, labor force projections suggest that both spouses in a relationship will increasingly assume full-time work outside the home (Wetzel 1990). Therefore, increasingly external attributions may be made for kinship responsibilities as employees may not as readily rely on their spouses to deal with these demands.

Contrary to our hypothesis, we found that pressing work demands lead to internal attributions rather than external attributions. Our rationale, advanced previously, was based on expectancy theory. With this in mind, attributing absence to factors within one's personal control, particularly when work demands are high, would be tantamount to an admission of shirking.

An alternative rationale for the pressing work demand factor relates to the beliefs employees may have about the salutary effects of absence during high-demand periods (Goodman and Atkin 1984). In particular, employees may take responsibility for a particular absence when work demands are heavy, reasoning that absence is a necessary respite from work in the short term that may help "charge their batteries" for sustained productivity over the long run. Along these lines, it may be harder to justify taking an absence when work demands are relatively light. Clearly, additional research is needed to rigorously compare the expectancy theory explanation advanced a priori with this alternative explanation.

Finally, our hypothesis for day of the week did not receive support. In fact, the standardized regression coefficient was essentially zero, which suggests that likelihood of attributing absence either to internal or external factors based on when absence occurs is not significantly different. Earlier we presented rationale for an employee making external attributions for absences that occur next to scheduled time off. An alternate rationale is that an employee would make internal attributions for such absences because there would be relatively less disruptions due to absence when absence occurs just before or after scheduled time off compared to a period of contiguous work days when he or she is in the "middle" of a work project.

Strengths and Limitations

A strength of our study lies in the use of control variables and reliance on employees in a work context. Also, collecting data from three sources should yield a more accurate, complete, and unbiased estimate of the core constructs. Another strength is based on our duplication of some of the scenarios in order to assess the reliability of participants' ratings. Finally, our advance promise of confidentiality and explicit informed consent should have reduced the chance that participants provided socially desirable responses to questions.

In spite of these strengths, we recognize that this study is not without limitations. One limitation is external validity. Potential problems with external validity were minimized by having an independent sample of employees from the sponsor who were similar to the group of subjects in this study generate the list of factors that contribute to absence decisions.

In conclusion, we identified at least some of the circumstances that lead employees to take responsibility (and shed responsibility) for being absent. Such information may help inform labor and management about ways to effectively reduce absence in the workplace.

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DISCUSSION

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The Boroff and Ketwar papers' emphasis on flexibility is laudable, but some methodological issues need attention. For one, the dependent variable is the sum of three participation elements, but we aren't told their intercorrelation. The elements may reflect different attitudes, intentions, and subsequent behaviors, and combining them should be done cautiously; this is more than just a question of appropriate weighting. The low response rate is also a concern, especially since the paper doesn't consider whether respondents differ from nonrespondents. And some alphas are unacceptably low, calling for scale purification.

Also, I'm not convinced that the construct being assessed is really best labelled career flexibility. I'd like the paper to begin with an explicit definition of flexibility. The definition implicitly provided—doing what it takes to maintain one's employment status—seems homeostatic, with flexibility seen as maintenance oriented rather than as, for instance, oriented toward improving one's condition. Career flexibility is conceptualized in the paper as having three components—occupational flexibility, locational flexibility, and career mobility. That is, mobility is subsumed in flexibility. I'd prefer to keep flexibility, which is a state or condition, distinct from mobility, which is a response and may be due to many things beyond flexibility.

Further, career flexibility is operationalized as participation in elements of an employment security package. Such participation may reflect many things besides flexibility *per se*, such as perceived lack of job security, need for security, or trust in the union. While some of these sorts of variables are considered in the paper as possible *determinants* of flexibility, my question is whether the construct taps something more fundamental than these things and, in particular, something that is best labelled career flexibility. Some of the apparently surprising findings become less so if we interpret "flexibility" in terms of these other variables. Also, flexibility has ability and motivation components, each with distinct determinants and consequences,

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but the hypotheses are based on arguments relating primarily to the motivation component. Since the components aren't necessarily congruent, it would be useful to develop hypotheses about ability to be flexible and to consider their degree of consistency with the motivation-related hypotheses.

Future research should employ longitudinal designs and expand the nomological net of career flexibility, including consideration of how the construct relates to antecedents such as need for security and perceived lack of job security, to self-perceived and other-perceived career flexibility, and to consequences such as subsequent within-firm and between-firm mobility. Research must try to *clearly* demonstrate that what is being assessed is really flexibility.

The Judge and Martocchio paper examines attribution of externality of causes of one's own absence. A related issue is how we make attributions of the externality of others' absence; comparison of these results to those of research employing an identical design but asking subjects to make attributions of externality of causes of others' absence could be interesting.

Methodological points deserve consideration. First, it seems odd that the measure of norms regarding absence excludes norms relating to absence due to illness even though illness is one of the absence causes considered. Also, use of a single organization—a university—raises concerns about generalizability. Further, locus of control is assessed by a significant other; this may be confounded by impression management, degree of familiarity, and other factors.

The study develops a single policy for all subjects. It may be useful in future research to do policy capturing by individual, to cluster individuals based on similarity of policies, and to consider correlates of differences across clusters. Also, the authors accept the view that locus of control is multidimensional but treat externality attributions as unidimensional; perhaps externality attributions are themselves multidimensional. Further, a nonconfirmed hypothesis relates to pressing work demands. Externality of work demands attributions may depend on whether such demands are seen as acute or chronic; the scenario as presented could be interpreted either way. More attention to individual differences may be useful. For instance, Type As may blame themselves (perhaps appropriately) for heavy workloads, as may procrastinators, those with low self-esteem or those with high levels of guilt. The findings may be telling us that there are a lot of guilty procrastinators at the university studied.

Also, the paper assumes externality of attributions to be a function of cause of absence, but there may be other causal directions. For instance, suppose I've (perhaps subconsciously) decided not to go to work one day; perhaps I've just developed an aversion to the workplace. I know I can't call in bored, and I want to think of myself as a good person. Dissonance theory would predict that if I've decided to be absent, I may convince myself that I'm sick or may focus on my kinship responsibilities or may perceive my workload to be the sort that lets me take the day off. Further, the particular dissonance-reducing mechanism employed may depend on the need for an external attribution, perhaps as a function of organizational norms or individual personality characteristics. Longitudinal designs are needed to properly examine this issue.

Finally, I'd like more discussion of *how* the findings—primarily that people tend to see illness and kinship responsibilities as externally caused—can help labor and management find ways to effectively reduce absenteeism (and of whether such reduction is necessarily desirable).

DISCUSSION

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Confronted by increasing competitive pressures, organizations are initiating a variety of strategies to enhance their absolute and relative competitiveness. Frequently adopted strategies include expanded capital investment, new product introductions, downsizing, outsourcing, and mergers and acquisitions. In the area of human resource management, new initiatives are also in evidence including programs in the areas of employee involvement, diversity training, culture change, leadership development, and career management. Interestingly, renewed attention is also being paid to decades-old programs in the area of employee incentive programs including gainsharing programs.

As Mr. Kim correctly notes, most previous gainsharing research has focused on the relationship between gainsharing programs and a narrow range of independent variables. The present study expands considerably the number of variables examined and their effects on gainsharing programs. Mr. Kim's model of the determinants of gainsharing programs' effectiveness includes 15 independent variables. Furthermore, unlike many previous gainsharing studies which utilized a single measure to assess the effectiveness of gainsharing programs, Mr. Kim's study includes four measures to assess the performance of gainsharing programs.

While Mr. Kim is to be complimented for the breadth of his study, this breadth is achieved at the cost of considerable methodological rigor. Thus the study's findings must be viewed with considerable caution. First, gainsharing programs vary widely across a number of dimensions. For example, the size of the organizational unit covered, the size of the bonus administered, and the frequency with which the bonus is awarded all vary considerably among different gainsharing programs. This study makes no attempt to distinguish between gainsharing programs based on these differences. Rather, the study simply collapses across these differences. As a result, the degree to which these three differences or others might significantly affect

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gainsharing programs is unknown. In addition, in the present study, companies that are in the process of implementing gainsharing programs are included in the sample as well as companies which have had such programs for some time. Whether companies that are implementing gainsharing programs can accurately assess their effects on organizational outcomes is questionable.

In the early portions of his paper Mr. Kim spends considerable time discussing expectancy theory as an appropriate theoretical framework through which to view gainsharing programs. Expectancy theory is, however, an intra-individual theory of human behavior. As such, a test of expectancy theory relative to gainsharing programs requires that the expectancies, instrumentalities, and valences of workers participating in a gainsharing program be assessed. Unfortunately, these data are not included in this study. Instead, the data are obtained from personnel managers at the sample firms who may or may not be covered by the firm's gainsharing program. Furthermore, because personnel managers often are heavily involved in the implementation of gainsharing programs their objectivity in assessing such programs is suspect.

Related to the concerns expressed above, all data presented in this study are self-report data. Given the time and resources which firms have devoted over the past decade to measuring numerous organizational outcomes, it is unfortunate that this study relied exclusively on self-report measures of firm performance. This reader also would have found it helpful if the author had provided more information concerning how the independent and dependent variables were assessed. Finally, given the reliance on self report data and the absence of an experimental design, it is impossible to know whether or not firm productivity actually improved.

As noted previously, one of the commendable aspects of this study is the inclusion of numerous independent variables. In several cases, however, this reviewer did not understand the rationale behind a number of the relationships predicted between independent and dependent variables. For example, the author predicts a positive relationship between large plant size and the success of gainsharing programs. This prediction appears at variance with a growing body of management research which shows an inverse relationship between organization size and many important organization phenomena, including employee job satisfaction, innovativeness, and responsiveness to customer needs.

In closing, as organizations seek to enhance their competitiveness and, in turn, their profitability, who shares in such enhanced profits is an important practical and moral question. This paper is helpful in identifying the diversity of factors which may contribute to the success or failure of gainsharing programs. At a time when executive compensation has become an issue of considerable scholarly research and public debate and the real income of the average American worker has remained stagnant for 20 years, gainsharing research appears clearly warranted.

XI. REFEREED PAPERS: INDUSTRIAL RELATIONS

How Strikes Influence Work-Injury Duration: Evidence from the State of New York

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Understanding of the determinants of the duration of post-injury absences from work continues to evolve. Several recent empirical papers—including Butler and Worrall (1985), Johnson and Ondrich (1990), and Krueger (1990)—have documented the importance of workers' compensation benefits. These papers have focused on the response on the part of the injured worker to existing benefit levels and to exogenously occurring changes in those benefits, but few have examined how work-injury duration and severity might be affected by industrial upheavals such as those caused by work stoppages (strikes). This paper argues that because employers typically hire temporary replacement workers when their regular workers go on strike, firms are more likely to experience more severe work injuries during strikes, owing essentially to the replacement workers' unfamiliarity with the jobs (and the concurrent danger surrounding them) that they are called upon to perform. This, of course, implies longer absences from work due to injuries.

The following section presents a brief conceptual sketch of how the hiring of replacement workers may lead to more injuries. In the model, the typical firm is cast as a producer of two commodities—output and injuries—and injury production picks up after a strike. Results of empirical tests of the

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hypotheses and conclusions are presented below using data on individual injury cases from New York State.

Conceptual Model: The Joint Production of Output and Injuries

As Oi (1973) has written, work injuries are "undesirable by-products of production processes that are intended to produce economic goods for consumption" (p. 43). Certain firms jointly produce output and injuries in much the same way that certain other firms jointly produce output and noise or output and environmental pollution. Once we accept this fact, it becomes possible to understand conceptually the relationship between strike activity and work injuries.

In a joint-production setting, a firm may produce the commodity injuries (X_1) as a function of output (X_2), physical capital (K), and human capital (H). In a short-run analysis, we may regard the levels of output and physical capital as fixed and human capital as variable. If human capital manifests in such characteristics as experience working a particular job or skill level in general, then it is clear that greater levels of H will translate to lesser values for X_1: workers with more experience know better how to avoid injury on the job, and likewise for workers trained to do certain jobs, experience aside.

Literally overnight, a strike removes experienced and skilled laborers from the production process. But firms experiencing strikes do not simply cease operation; production must continue, regardless of which workers might be available. As a result, firms commonly use replacement workers.

Replacements may be recruited either from within, as office and clerical personnel (often nonunionized, accounting for their availability) are assigned to production work, or from without, where temporary employees are hired from the ranks of moonlighters or the unemployed. However recruited, replacement workers unquestionably have lesser human capital skills specific to the job they are filling than the incumbents. Workers recruited from within are by no means unskilled; their skills are merely specialized toward other jobs. Workers recruited from without may very well have experience at production work, but not necessarily at working the new job. Since injuries occur as an inverse function of human capital skills, injury severity as well as the length of time away from work because of injuries are likely to increase during strikes.

With this as conceptual background, the empirical analysis that follows attempts principally to test the hypothesis that greater strike activity leads to (1) longer spells away from work following an injury and (2) greater seriousness of injuries. This hypothesis implies two corollaries: when strike activity decreases, injury duration declines, and when strike activity does not change, injury duration does not change. The following section contains a description of the methodology used to test these hypotheses.

Empirical Model

During the 1970s, the state of New York saw a great amount of variation in strike activity: the number of strikes varied widely in almost every significant industry from year to year. But at the same time, many industries' strike activity stayed fairly stable during this period. Because of this variation between industries, it is possible to identify pairs of consecutive years in which strike activity either increased dramatically, fell off dramatically, or stayed essentially the same from one year to the next. Consider three cases in point:[1] (1) The construction industry in New York experienced 36 new strikes in 1975 and 52 new strikes in 1976, a 44.4% increase. (2) In 1971 New York's transportation industry experienced 52 new strikes but in 1972 experienced only 29, a 44.2% decrease. (3) In 1975 the transportation industry experienced 26 strikes, and 27 new strikes the following year, resulting in no substantial change.[2] Given this history, it becomes possible—using data on individuals who were injured while working in these industries in the years cited—to examine the relationship between the incidence of strikes and the duration of work loss subsequent to injuries suffered during those time periods.

The methodology utilized for this investigation is simple log-linear regression analysis. The natural log of a worker's total number of weeks absent from work[3] (ln WEEKS LOST) is regressed on a series of independent variables, both continuous and dichotomous, for those individuals who sustained scheduled[4] permanent partial injuries—those injuries not so serious as to render a worker completely unable to work but serious enough to leave a permanent residual impairment nonetheless. These variables are specified as follows:

1. Natural log of workers' compensation benefits (ln BENEFITS). A worker injured on the job in the state of New York is entitled to weekly compensatory benefits equal to two-thirds his or her weekly wage, subject to an institutionally set maximum. Specifically, benefits for a given worker i are

(1a) $$B_i = \tfrac{2}{3}W_i \text{ if } \tfrac{2}{3}W_i < \delta$$
(1b) $$B_i = \delta \text{ if } \tfrac{2}{3}W_i \geq \delta,$$

where δ represents the maximum weekly benefit amount. For the 1971-72 sample, the maximum equalled \$80; for the 1975-76 samples, the maximum equalled \$95.[5] The sign of the coefficient ln BENEFITS is expected to be positive, the hypothesis being that higher benefits available away from work strengthen the income effect on labor supply.

2. Natural log of severity (ln TBI). This paper, following Johnson and Ondrich (1990) and Curington (1993), uses as a measure of injury severity the total bodily impairment (TBI) index. This index, created by the American Medical Association (1984), is a percentage representing the degree of total bodily impairment caused by a particular injury and allows the comparison of seemingly disparate injury types. Because the TBI measures the degree of impairment the entire body sustains, a foot injury can be compared to a hand injury, for example. Previous research suggests that this variable should show a positive relationship with injury duration.

3. Natural log of the worker's age (ln AGE) and natural log of the worker's weekly wage (ln WAGE).

4. Numerous dummy variables capturing injury type[6] (see Table 1 for a listing), gender (FEMALE), the presence of a lawyer in the workers' compensation claim process (LAWYER), and whether the injury occurred in the second year of the sample period (AFTER). It is this AFTER dummy variable that captures the state of the workplace in the latter year—either more, fewer, or the same number of strikes as compared to the first year of the sample period. To capture whether being injured in the second year makes a difference in and of itself, AFTER enters the regression equations alone as an intercept shifter. More importantly, AFTER is interacted with each of the dummy variables for injury type as a means of testing how suffering those injury types affected duration in the second year of the sample period.[7] It is expected that for Case 1—44.4% more injuries in construction in 1976 than in 1975—the AFTER-injury-type interactions will yield positive coefficients, indicative of greater seriousness among those most common of injury types in the second year. The interactions should yield negative results in Case 2 and statistically insignificant results in Case 3.

Regression Results

Complete regression results appear in Table 2. The most important results to observe pertaining to this paper's primary inquiry are those capturing the interaction of the injury nature dummy variables with AFTER. For Case 1 (construction, 1975-76), each injury nature dummy variable, uninteracted, exhibited a negative coefficient, clearly suggesting that in 1975 workers who sustained those injury types missed less work than those with other injury types. These negative signs conform to previous research. In the latter year, 1976, each of these effects changes sign, with only the AMPUTATION dummy variable consistently unconvincing in terms of statistical significance.

TABLE 1
Summary Statistics of Variables Used in Regression Analysis
Mean
(Standard Deviation)

	Construction 1975-76	Transportation 1971-72	Transportation 1975-76
lnWEEKS LOST	1.85	1.53	1.61
	(9.33)	(.893)	(.954)
AFTER	.449	.512	.428
	(.498)	(.500)	(.495)
FEMALE	.001	.004	.006
	(.036)	(.061)	(.077)
lnBENEFITS	4.51	4.35	4.50
	(.132)	(.100)	(.157)
lnBENEFITS*AFTER	2.03	2.23	1.93
	(2.25)	(2.18)	(2.24)
lnTBI	1.23	1.06	1.15
	(.648)	(.732)	(.675)
lnTBI*AFTER	.549	.542	.507
	(.747)	(.752)	(.734)
lnWAGE	5.39	5.09	5.32
	(.410)	(.270)	(.380)
lnWAGE*AFTER	2.42	2.62	2.30
	(2.69)	(2.57)	(2.67)
FRACTURE	.494	.567	.495
	(.500)	(.496)	(.500)
FRACTURE*AFTER	.212	.302	.207
	(.409)	(.459)	(.406)
AMPUTATION	.021	.011	.011
	(.145)	(.105)	(.102)
AMPUTATION*AFTER	.015	.009	.005
	(.122)	(.093)	(.067)
CUT	.183	.126	.143
	(.387)	(.332)	(.350)
CUT*AFTER	.083	.062	.056
	(.277)	(.005)	(.229)
BURN	.018	.005	.009
	(.132)	(.070)	(.095)
BURN*AFTER	.011	.002	.003
	(.106)	(.050)	(.055)
BRUISES, STRAINS,	.199	.254	.269
DISLOCATION (BSD)	(.400)	(.436)	(.444)
BSD*AFTER	.088	.116	.123
	(.284)	(.320)	(.329)
lnAGE	3.52	3.58	3.57
	(.367)	(.340)	(.338)
lnAGE*AFTER	1.57	1.83	1.53
	(1.76)	(1.81)	(1.78)
LAWYER	.251	.244	.216
	(.434)	(.430)	(.412)
LAWYER*AFTER	.114	.123	.108
	(.318)	(.329)	(.311)
	792	811	666

TABLE 2

Results of Log-Linear Regression Analysis of Strikes and Permanent Injury Duration
Dependent Variable: ln(WEEKS LOST)

	Construction 1975-76	Transportation 1971-72	Transportation 1975-76
INTERCEPT	-2.55	1.38	.492
	(1.31)	(.76)	(.38)
AFTER	3.60	2.62	-1.14
	(1.55)	(1.01)	(.50)
FEMALE	.181	.240	.784
	(.22)	(.54)	(1.87)
lnBENEFITS	1.17	.060	.656
	(2.26)	(.11)	(1.56)
lnBENEFITS*AFTER	-1.04	-.506	.207
	(1.66)	(.65)	(.29)
lnTBI	.556	.638	.523
	(8.77)	(11.24)	(7.90)
lnTBI*AFTER	-.097	-.194	.123
	(1.02)	(2.44)	(1.20)
lnWAGE	-.232	-.182	-.365
	(1.59)	(.82)	(1.86)
lnWAGE*AFTER	.077	.102	.094
	(.37)	(.35)	(.32)
FRACTURE	-.481	.023	-.522
	(3.22)	(.10)	(2.93)
FRACTURE*AFTER	.584	-.431	.477
	(2.66)	(1.45)	(1.81)
AMPUTATION	-.574	-1.11	-.587
	(1.47)	(1.89)	(1.32)
AMPUTATION*AFTER	.626	.738	-.205
	(1.31)	(1.08)	(.30)
CUT	-1.03	-.365	-1.01
	(6.19)	(1.52)	(5.04)
CUT*AFTER	.560	-.595	.337
	(2.28)	(1.83)	(1.11)
BURN	-1.25	-.142	-1.33
	(3.25)	(.24)	(2.99)
BURN*AFTER	.925	-1.56	.686
	(1.87)°	(1 91)°	(.89)
BRUISES, STRAINS,	-.707	-.418	-.936
DISLOCATION (BSD)	(4.37)	(1.85)	(5.07)
BSD*AFTER	.440	-.502	.360
	(1.84)	(1.65)	(1.34)
lnAGE	.058	.080	.025
	(.46)	(.69)	(.18)
lnAGE*AFTER	.077	-.110	-.209
	(.42)	(.66)	(.98)
LAWYER	.398	.054	.182
	(4.32)	(.58)	(1.62)
LAWYER*AFTER	-.093	.295	.050
	(.67)	(2.21)	(.31)
Sample size	792	811	666
Adjusted R^2	.250	.264	.258

Absolute value of t-statistics in parentheses.
[a]Dummy variable equal to 1 if injury occurred in second year of sample period, 0 otherwise.
°Significant at 5.7 percent level of confidence.

Contrast these findings with those of Case 2 (transportation, 1971-72). As in Case 1, the uninteracted injury nature dummies exhibited a negative sign, but in Case 2 when interacted with AFTER, save for amputations, the injury types as expected retained their negative signs. Statistical significance is not as strong as in Case 2. The CUT*AFTER result of -.595 becomes significant only at a 6.8% level, the BURN*AFTER result of -1.56 at 5.7%, and the BRUISES, STRAINS, AND DISLOCATIONS (BSD)*AFTER result of -.502 at 9.9%.

That the results, despite the proper sign, display weaker significance than those of Case 2 may reflect the limitations of the strike data used for sample selection. From published data sources it is known that transportation in 1972 experienced 44.2% fewer new strikes than in 1971, making it possible to extract the type of strike/injury-duration relationship we expect from the interactions—inverse. But these data sources do not indicate what percentage of those strikes that began in 1971 *ended* in or before 1972. As a result, the full effect on work injury duration of a decrease in strike activity is slightly harder to capture. It is here where an analysis using data on firms or specific strikes would be very useful.

Finally, Case 3 (transportation, 1975-76) acts as a "control group" of sorts—there was virtually no change in the number of strikes in that industry over those years. The results here too are telling. For each of the uninteracted injury nature dummies except AMPUTATIONS, the effect on work-injury duration was consistent with the other models—negative and significant. But when interacted with AFTER, the effects become inconsistent in their sign (e.g., the effect of CUTS becomes positive, while the effect of AMPUTATIONS remains negative) and, more importantly, become convincingly statistically insignificant. These facts serve to verify the suspicion that in an industry that saw no real change in strike activity from 1975 to 1976, the effect on the seriousness of the injuries would be nonexistent.

Conclusion

The primary purpose of this paper has been to test hypotheses, heretofore unexplored in the literature, concerning the effect of strike activity on the duration of post-injury absences from work and the seriousness of those injuries. Empirical results were obtained via three least-squares regression models—one each for cases in New York industry in which from one year to the next the number of new strikes increased dramatically, decreased dramatically, or stayed the same—and indicate most strongly that strike activity does lead to greater seriousness of work injuries. Weaker support is found for the corollary argument that a decrease in strike activity leads to less serious injuries, as the more experienced striking workers return to work. Evidence from the third model suggests that when there is no change in strike activity from one period to the next, work-injury seriousness will remain unaffected.

There is a large and growing body of empirical research designed to explain the determinants of the duration of post-injury absences from work (e.g., Butler and Worrall 1985, Johnson and Ondrich 1990, and Krueger 1990). Some papers include as a regressor a dummy variable capturing whether an injured worker was a member of a labor union. This maneuver approaches the issue explored here but stops short of considering whether actual work stoppages—indeed often initiated by unions—may contribute to the incidence, severity, or duration of workplace injuries. The results reported here suggest that strikes may exert a latent influence on these variables that future analysis of work-injury matters might also consider.

The results appear relevant for policy as well. A growing controversy in labor relations in the U.S. concerns a practice common in American industry: the hiring of workers to *permanently* replace workers that strike. In general, organized labor opposed this practice for reasons of job security, but the results reported here indicate too that the use of replacement workers may—by virtue of more and severe workplace injuries—damage the replacements themselves as well as place an added burden onto the workers' compensation system. Likely, additional research into this issue will be needed before any public policy position can be made rigid, but it is not difficult to foresee the workers' compensation community concurring with organized labor on this point.

Acknowledgment

The data used in this study were generously provided by William P. Curington and were originally compiled under National Science Foundation Grant No. SES-8107426. Any errors are my own.

Endnotes

[1]The details cited in this section originate with various issues of *Work Stoppages in Manufacturing*, a periodical document published by the U.S. Bureau of Labor Statistics.

[2]Various other industries in New York experienced no strikes at all during the period over which individual data are available. However, these industries generally represent only a minimal proportion of the total employment in the state, meaning that injury cases from those industries are either sparse or nonexistent. An example is New York mining. For most of the 1970s, no more than one strike occurred in the entire industry statewide; in many years none at all. But the number of injury cases originating from mining in any year never totalled more than 100, thus leaving any analysis of those cases dubious at best.

[3]Natural log of duration is used to facilitate the interpretation of the regression coefficients as arc elasticities as well as to normalize the duration data, which in raw form tend to be skewed toward shorter durations.

[4]"Scheduled" injuries are those whose severity, in general, are easy to assess. New York pays compensation according to a schedule on which weekly benefits are prespecified for certain injury types. For example, a 10% loss of use of a foot would entitle a worker to 20.5 weeks of benefits.

[5]The maximum benefit amount for scheduled permanent partial injuries has been changed periodically by the New York Workers' Compensation Board (NYWCB). The samples analyzed in this paper (1971-72 and 1975-76) clearly reflect different legislated maximums across sample periods, but no such change happened *within* a sample period; thus there is no problem with regard to whether work-injury duration was affected by an exogenous maximum benefit increase from one year to the next. For a discussion of the incentive effect of changes in maximum benefits, see Berkowitz and Burton (1987) or Curington (forthcoming).

[6]The reference group is "other injury types," which includes inter alia electric shock, injury caused by foreign objects, asphyxiation, and hernia.

[7]AFTER is also interacted with LAWYER and the continuous variables. AFTER is not interacted with FEMALE because too few females are present in the samples to ensure a nonsingular regressor matrix when that interaction is included.

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"Last Chance" Discharges at Arbitration: Emergent Standards of Judicial Review

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Starting in the mid-1980s, U.S. Circuit Courts of Appeals began articulating standards for judicial review of arbitrators' decisions in "last chance" agreement discharge cases. Although some commentators have suggested that these court decisions raise new problems for employers (Reagan and Krampf 1992), the standards actually mirror arbitrators' customary treatment of last chance discharge issues.

Last chance agreements provide for the conditional reinstatement of an employee who otherwise faces discharge in exchange for an agreement that any future violation will result in termination. Often the agreement also waives the right to grieve a future discharge. Such agreements have been used to settle misconduct grievances for many years and, more recently, have become a standard feature of Employee Assistance Plans, which provide for treatment as an alternative to discharge in substance abuse cases.

Recently, federal appellate courts have been actively reviewing arbitrators' decisions in last chance discharge cases. The two most recent cases address (1) the scope of an arbitrator's authority to review a discharge penalty (*Coca-Cola Bottling Co. v. Teamsters*)[1] and (2) the arbitrability of grievance waivers (*United Steelworkers v. Lukens Steel*).[2] These courts have held that an arbitrator's authority is limited to determining whether the specified conditions "triggering" discharge in the last chance agreement were met. If so, an arbitrator should enforce the last chance agreement and should not review the discharge penalty using broad "just cause" principles.[3] Further, the threshold question of whether the triggering conditions were met is presumptively arbitrable, even when the last chance agreement appears to waive access to the grievance procedure, absent an express and specific exclusion of the matter from arbitration.[4]

In order to consider whether arbitrators need to modify their analyses of last chance discharge issues in light of these emergent judicial standards, we reviewed arbitration decisions published over a 25-year period from

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1967-1992, using the Bureau of National Affairs *Labor Arbitration Reports* and the Commerce Clearing House *Labor Arbitration Awards* as sources.[5] We identified 45 published BNA and CCH discharge cases in which there was a bona fide last chance agreement between the employer and the union. Of these, 25 cases (55.6%) involve substance abuse, and 20 cases (44.4%) involve various other forms of misconduct.

We did not include cases in which the employer acted unilaterally or cases involving discipline other than discharge. Not all last chance agreement cases are routinely indexed as such by the BNA and CCH editors, so some have undoubtedly eluded discovery. But we believe we have included all those that reasonably can be identified from a diligent search of the classification systems of both sources, citations in secondary literature, and other indexes. Our analysis reveals that the recently articulated judicial standards are consistent with the standards that arbitrators already have been applying to last chance discharges.

Scope of Arbitrator's Authority

The Sixth, Seventh, and Eighth Circuit Courts of Appeals have held that an arbitrator should not apply a broad just cause analysis when a valid last chance agreement is in place. In *Bakers Union v. ITT Continental Baking*,[6] the Sixth Circuit reviewed an arbitrator's award reinstating an employee who violated the conditions of a last chance agreement. Considering the employee's "long years of seniority," the arbitrator granted one more chance. When the employer refused to comply, the union sought enforcement.

The federal district court held that because the parties did not contemplate the last chance agreement as an amendment to their collective bargaining agreement, the arbitrator had authority to determine whether the penalty imposed was too harsh under the contract's just cause provision. The Sixth Circuit reversed. "Our tradition of deference to arbitral decisions is not based on a solicitude for arbitrators," the court observed. "That tradition is based on our desire to give effect to the parties' chosen means of dispute resolution. When a party claims that the chosen means of dispute resolution is private settlement, we have no reason to defer to the arbitrator's decision."[7] The court held that a valid settlement agreement is binding on an arbitrator:

> It is beyond dispute that a settlement agreement reached short of formal arbitration is entitled to enforcement in the federal courts if the agreement is final and binding on the parties. . . . If a party may enforce a settlement agreement in a federal court without

> first submitting the controversy to an arbitrator, it is reasonable to endorse a presumption that an arbitrator to whom the dispute is submitted is bound by the terms of that agreement no less than the court would be.[8]

In *Ohio Edison Company v. Local 457 Utility Workers Union*, the Sixth Circuit reviewed the U.S. Supreme Court's 1987 *United Paperworkers v. Misco* decision that reaffirmed judicial deference to arbitration and determined that *Misco* did not contradict *Bakers Union*.[9] [10] The appellate court then reversed a district court's enforcement of an arbitrator's award overturning a last chance discharge because the penalty was "unreasonably harsh," finding such rationale to be beyond the scope of the last chance agreement.

The Seventh Circuit took a similar position in *Tootsie Roll Industries v. Local Union No. 1, Bakery, Confectionery, and Tobacco Workers*.[11] There a discharged employee had signed a last chance agreement requiring termination if she were absent more than once per month "for any reason whatsoever." Subsequently the employee was absent more than once in a month, including absences which normally would be excusable under the company's personnel policy. Applying this personnel policy, the arbitrator reinstated and the company then appealed. The district court vacated the arbitrator's award and the Seventh Circuit affirmed, finding that the arbitrator "based his award on a policy outside the letter agreement," thereby nullifying the provision that the employee would be terminated if absent "for any reason whatsoever."[12]

In another recent decision which reviewed *Misco* as well as *Bakers Union* and *Tootsie Roll*, the Eighth Circuit held in *Coca-Cola* that an arbitrator could not apply a contractual just cause provision to determine the propriety of a last chance discharge. Under a last chance agreement, the employee was put on notice that any offense "of a similar and/or like nature in violations [sic.] of Category A Rules and Regulations will warrant your termination." An arbitrator found that the grievant had failed to clock out in violation of a Category A work rule. But since the employee reported the violation himself and had nothing to gain, the arbitrator awarded reinstatement, concluding that the violation was "de minimis" and therefore did not trigger the last chance agreement.

The district court granted summary judgment vacating the award and the Eighth Circuit affirmed. Noting that the arbitrator's opinion discusses "just cause" at some length, the appellate court explained that "'just cause' under the terms of the collective bargaining agreement was irrelevant . . . and should not have been considered." The court found that the last chance agreement "superseded the collective bargaining agreement," and that "the arbitrator went outside that agreement in constructing the award."[13]

These recently articulated judicial standards concerning the scope of arbitral authority are consistent with the views of most arbitrators in the published cases we examined. Arbitrators clearly are disposed to honor grievance settlements by the parties and enforce legitimate last chance agreements. In 30 of the 45 cases (66.7%), arbitrators found that the last chance agreement was violated and sustained the discharge on that basis. Arbitrators found that the last chance agreement was not violated and therefore reinstated in only three cases (6.7%). Thus the judicial standards mirror published arbitration decisions for nearly three-quarters (73.3%) of the cases. Arbitrators found that a last chance agreement was violated but nevertheless reinstated under a broad "just cause" review of the discharge in only seven published decisions (15.6%). These awards clearly would be liable to reversal. In another five cases (11.1%), arbitrators employed a broad just cause analysis but still upheld the discharge. Although these awards would not likely have been appealed, it is clear that prudent arbitrators should refrain from applying "just cause" concepts under such circumstances.

Arbitrability of Waivers

In addition to addressing the scope of an arbitrator's authority under a last chance agreement, the federal appeals courts have also addressed the prospective waiver of grievance rights. In *Lukens*, the Third Circuit held that the issue of whether the triggering conditions of a last chance agreement were met is presumptively arbitrable, notwithstanding a last chance agreement provision that neither the employee nor the union would have recourse to protest a future discharge through the grievance procedure. Three employees had signed last chance agreements to avoid discharge after testing positively for drugs. The agreements expressly provided that the employees could appeal discharge for any future alleged violations to the Disciplinary Committee (a management body), whose decision would be final and could not be challenged through the grievance procedure. The three employees subsequently became involved in alleged violations, and the Disciplinary Committee sustained their discharges on appeal. When the company refused to accept grievances, the union filed suit to compel arbitration.

Finding a valid written contract precluding grievances, the district court refused to order arbitration. "The Last Chance Agreement is clear and unambiguous," the district court found. "Anyone reading it would understand how it changed [the grievant's] rights and why."[14] But the Third Circuit reversed, holding that "when a settlement agreement bars arbitration of the penalty for violating it, yet fails to specify who is to determine whether a violation has occurred, we decline to infer that the parties intended to exclude this threshold question from arbitration."[15]

In reaching this decision, the Third Circuit favorably cited *Ohio Edison* and *Bakers Union* from the Sixth Circuit, *Coca-Cola* from the Eighth Circuit, and *Tootsie Roll* from the Seventh Circuit, but found more direct support from the federal circuit decision in *Stewart v. United States Postal Service.*[16] There a last chance agreement provided that the grievant would not exceed a total of 48 hours of unscheduled absences and that a violation "will result in the immediate reimposition of this Removal, without further Right of Appeal in any Form." The Postal Service claimed the employee incurred 49.93 hours of unscheduled absence and reimposed his removal. The employee appealed to the Merit Systems Protection Board (MSPB), arguing that the employer's calculation of his unscheduled absences included two related to emergency eye surgery that were excusable. The MSPB denied the appeal on the ground that the employee had waived appeal rights. But the federal circuit disagreed and vacated the MSPB decision:

> If Stewart in fact breached the last chance settlement agreement, we agree with the board that the waiver of appeal rights the agreement contains is enforceable because he freely entered into it. . . . Where, as here, an employee raises a non-frivolous factual issue of compliance with a last chance agreement, the board must resolve that issue *before* addressing the scope and applicability of the appeal rights waiver.[17]

Dicta in the Sixth and Eighth Circuit decisions support the Third Circuit's position. In *Coca-Cola*, where the court vacated the arbitrator's award because a just cause analysis was improperly utilized, the Eighth Circuit nevertheless comments: "Indisputably, there are arbitrable issues here: whether the alleged triggering event, as defined in the agreement, actually occurred and whether, according to the agreement, that event really was a triggering event."[18] In *Bakers Union*, the Sixth Circuit found arbitrable the question of whether a last chance agreement was intended to cover the circumstances leading to the discharge and states that "an arbitrator may determine whether the settlement agreement has, in fact, been breached."[19] Based on *Tootsie Roll*, the Seventh Circuit may not agree but did not directly address prospective waivers because the lower court had already determined that the arbitrator's award went outside the scope of the last chance agreement. The appellate court, in affirming a district court order vacating the award, observes that it has no grounds on appeal to disagree with that court's determination.

Our review of the published decisions reveals that the *Lukens* standard of presumptive arbitrability is consistent with arbitral decision making concerning prospective waiver of grievance rights. Arbitrability was directly challenged because of an apparent grievance waiver in only 4 of the 45 published cases, and in all four the arbitrator nevertheless found arbitrable the specific fact issue of whether the last chance agreement was violated.

Lukens does not raise novel problems for employers and unions. The *Lukens* court found that the last chance agreement did not expressly exclude from arbitration the threshold issue of whether its terms were violated. Any apparent waiver therefore was overcome by the strong, longstanding presumption of arbitrability policy of the federal courts. Some employer advocates have argued in light of *Lukens* that last chance agreements should be drafted expressly to provide that the employer's determination will be final. But even in that instance, it is not at all clear that discharge under a last chance agreement would reliably preclude arbitration.

For example, a union might present prima facie evidence through a grievance that an employer's determination was arbitrary, capricious, or patently wrong, contending that arbitrary or bad faith actions by the employer pursuant to a negotiated last chance agreement violate the broader contractual just cause requirement for discipline or the management rights clause or "the agreement as a whole." In *Story Chemical*,[20] a last chance agreement expressly stated that "the Company shall be the sole judge." But the arbitrator still assumed jurisdiction to review the threshold fact determination, ultimately enforcing the company's action under the last chance agreement as "neither arbitrary, capricious nor unconscionable."

The arbitration decision in *Monterey Coal Co.*[21] suggests an interesting twist regarding the authority of local parties on the *Lukens* standard. The union successfully secured a court order to arbitrate the factual dispute of whether the terms of a last chance agreement were violated, even though that agreement provided that a future positive drug or alcohol test result would result in discharge and that "no grievances, claims, arbitration, or lawsuit will be filed by the union or employee." The arbitrator reinstated the grievant with full back pay. Finding that the superior disciplinary provisions of the national contract were violated by the last chance agreement of local parties, the arbitrator also voided the waiver provision, finding it "grossly contrary" to the national agreement's requirement that all disputes be settled "through the machinery in this contract and by collective bargaining without recourse to the courts."

Unions may discover other ways successfully to implicate contractual provisions. We found a considerable number of last chance discharges in which the triggering incident was actually a second or third "last chance." That is, for at least some employees, an employer chose not to follow through with automatic discharge for one or more later offenses until the occurrence of a "last straw" event. In such circumstances a union might be able to grieve inconsistent enforcement of last chance agreements by the employer in violation of the contractual "just cause" requirement. In other circumstances, a union might be able to grieve discrimination on the basis of race or sex or union activity, thereby implicating yet another provision of the contract. As these hypothetical examples suggest, presumptive arbitrability under the *Lukens* reasoning would seem to require at least limited arbitral review of underlying facts, even with the employer named as sole judge, in many conceivable circumstances.

Published arbitration decisions reveal that the newly articulated judicial standards are consistent with the analytical framework already used routinely by most arbitrators in last chance cases. Nevertheless, employer advocates certainly will want to cite these recent court cases in arguing strict limitations on the arbitrator's authority. Union advocates, on the other hand, will need somehow to distinguish their particular circumstances from those underlying *Lukens* if they wish to argue that the arbitrator's authority also flows in part from some provision in the contract and is not entirely restricted to the scope of the last chance agreement. And arbitrators need keenly to be aware that careless application of just cause concepts to last chance discharges carries substantial risk of reversal. In addition, arbitrators need to be aware that recent federal appellate court decisions clearly hold that the threshold fact issue of whether the terms of a last chance agreement were violated is presumptively arbitrable. Such heightened arbitral awareness should result in greater precision in issue identification and opinion drafting as well as lesser susceptibility of awards to appeal and judicial review.

Endnotes

[1]959 F.2d 1438 (8th Cir., 1992).

[2]969 F.2d 1468 (3rd Cir., 1992).

[3]*Coca-Cola, supra.*

[4]*Lukens, supra.*

[5]Arbitration decisions examined are *Emge* 52 LA 195 (1968); *Feather-Lite* 71-1 ARB 8077 (1970); *Orton* 73-2 ARB 8587 (1974); *U.S. Steel* 63 LA 274 (1974); *Armstrong* 63 LA 618 (1974); *Story* 76-1 ARB 8141 (1976); *Sterling* 67 LA 1296 (1976); *General Telephone* 77-2 ARB 8481 (1977); *Warner and Swasey* 71 LA 158 (1978); *McDonnell-Douglas* 79 LA 43 (1982); *Goodyear* 82-2 ARB 8490 (1982); *Bruno's* 82-2 ARB 8608 (1982); *Dahlstrom* 78 LA 302 (1982); *General Dynamics* 79 LA 182 (1982); *Hayes* 81 LA 99 (1983); *Tecumseh* 82 LA 420 (1984); *Joy* 86 LA 517 (1986); *Maui Pineapple* 86 LA 907 (1986); *Champion* 86 LA 1077 (1986); *Allied Maintenance* 87 LA 121 (1986); *Alta Bates* 87 LA 719 (1986); *U.S. Steel* 87 LA 973 (1986); *Fruehauf* 88 LA 366 (1986); *Alcan* 88 LA 386 (1986); *National Steel* 88 LA 457 (1986); *Kaydon* 89 LA 377 (1987); *Occidental* 88-1 ARB 8268 (1987); *Associated Cemeteries* 90 LA 399 (1988); *Keystone* 88-1 ARB 8273 (1988); *Georgia-Pacific* 90 LA 573 (1988); *Inland* 91 LA 545 (1988); *Schafer* 89-1 ARB 8252 (1989); *Pontiac* 92 LA 781 (1989); *San Francisco Newspaper* 93 LA 322 (1989); *Butler* 93 LA 441 (1989); *Potlatch* 93 LA 1075 (1989); *Linde* 90-1 ARB 8219 (1989); *Alcatel* 90-2 ARB 8341 (1989); *Ohio* 96 LA 71 (1990); *Monterey Coal* 96 LA 457 (1990); *Trumark* 91-2 ARB 8314 (1990); *Mead* 96 LA 240 (1991); *Gaylord* 97 LA 382 (1991); *University of Michigan* 91-1 ARB 8280 (1991); *Pacific Rim* 91-2 ARB 8363 (1991).

[6]749 F.2d 350 (6th Cir., 1984).

[7]*Id.* at 354.

[8]*Id.* at 355.

[9]947 F.2d 787 (6th Cir. 1991).

[10]484 U.S.29 (1987).

[11]832 F.2d 81 (7th Cir., 1987).

[12]*Id.* at 84.

[13]*Coca-Cola, supra*, 959 F.2d at 1440-41.

[14]*United Steelworkers v. Lukens Steel Company*, 140 LRRM 2754 (E.D. PA, 1991) [not reported in F.Supp.].

[15]*Lukens, supra,* 969 F.2d at 1478.

[16]926 F.2d 1146 (Fed. Cir., 1991).

[17]*Id.* at 1148.

[18]*Coca Cola, supra* 959 F.2d at 1441.

[19]*Bakers Union, supra* 749 F.2d at 356.

[20]*Story Chemical Corp. v. Oil, Chemical, and Atomic Workers International Union, Local 7-390,* 76-1 ARB 8141 (1976).

[21]*Monterey Coal Co. v. United Mine Workers of America, District 12, Local 2295*, 96 A 457 (1990).

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Technological Change and Labor Law: A Modest Proposal

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Within the context of the changes to workplace organization and employment patterns brought on by the widespread application of microelectronics over the last two decades, it is appropriate to question whether the current status of U.S. labor law enhances or impedes the ability of unionized firms to maximize the productive potential of new technologies. In particular, does labor law impose constraints on unions that force them to adopt strategies which, while serving the interests of their members, also (and perhaps more significantly) impede the rate of technological progress? Would removal of these constraints allow for more effective implementation of new techniques?

Although widespread technological innovation clearly benefits society through increasing wealth and living standards, the individual worker affected by innovation may suffer a number of economic losses: possible redundancy leading to loss of employment and greater human capital depreciation are two examples.

The existence of each of these potential losses demonstrates what Blair (1977) refers to as the two-track nature of technological change: While technological change may be a windfall gain to society, it also represents a windfall loss in the rate of return to the human capital investment of the individual whose income, skills, and/or overall satisfaction level is reduced because of the change. In addition, some losses will accrue to society as well, since it has born a portion of the cost of human capital investment. Although it is likely that for all of society the gains from technological change are greater than the losses, the individuals affected by the change often do not have extensive portfolios of human capital and, therefore, have few or no alternatives available to them to maintain their well-being. For these individuals the losses clearly outweigh the gains.

This two-track nature of technological change clearly poses a dilemma for society: How can productivity-enhancing technological change be facilitated

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when those most immediately affected by the change have so much to lose? One modest proposal, explored below, would be to revise current labor law to allow for greater labor participation in the implementation of new techniques through collective bargaining. Not only would this facilitate labor's cooperation with the process of technical change, but it might also increase the pace of innovation.

We begin with a review of the current status of U.S. labor law with respect to collective bargaining over new technologies. We then discuss well-known defensive strategies unions adopt when encountering new technologies—strategies forced by legal constraints. A latter section explores two possible benefits from removing these legal constraints.

The Duty to Bargain Over New Technology

The current status of U.S. labor law enables an employer to implement technological change without having to bargain with a union over the decision to do so.[1] While neither the Supreme Court nor the NLRB has addressed the issue, implementation of new technology is similar to other decisions over which the Court has held that an employer is not required to bargain.

Under U.S. labor law, potential subjects for collective bargaining fall into three categories: mandatory (subjects which must be negotiated), permissive (subjects which may be addressed if both parties agree but that either party may refuse to discuss), and illegal (subjects which may not be discussed even if both parties wish to do so).[2] If technological change (automation) were held to be a mandatory subject, an employer would have to bargain with the union before implementing any technological change; if it were only a permissive subject, an employer would be free to implement a change without bargaining over its decision.

The categorization of a particular subject as mandatory or permissive is a matter for judicial and/or administrative determination (the Supreme Court and/or the NLRB). Prior to 1981, the range of mandatory subjects was considerable, based on the Supreme Court's decision in *Fiberboard Paper Products v. NLRB*[3] in which an employer was required to bargain over a decision to subcontract maintenance work formerly done by bargaining unit employees. Based on the Court's decision in *Fiberboard*, the Board required an employer to bargain over a decision to automate several times.[4]

The class of mandatory subjects was narrowed significantly by *First National Maintenance Corp. v. NLRB*,[5] in which the Court held that an employer was not obligated to bargain over an economically motivated decision to close part of its operation. In reaching its holding, the Court distinguished three kinds of management decisions: (1) those which "have only an indirect and attenuated impact on the employment relationship" and are clearly permissive (examples given by the Court were advertising and promotion, product type and design); (2) those which are "almost exclusively an aspect of the relationship between employer and employee" and must be bargained (examples given by the Court were the order of succession of layoffs and recalls, production quotas and work rules); (3) those which have "a direct impact on employment . . . but ha[ve] as [their] focus only . . . economic profitability." As to decisions in the third category, the Court established a balancing test to be used in determining whether bargaining is required:

> [I]n view of an employer's need for unencumbered decision making, bargaining over management decisions that have a substantial impact on the continued availability of employment should be required only if the benefit for labor-management relations and the collective bargaining process outweighs the burden placed on the conduct of the business.[6]

This balancing amounted to a presumption against requiring an employer to bargain over decisions in the third category—a presumption which could only be rebutted by a showing that bargaining would "benefit harmonious labor relations." The Court in *First National Maintenance* purported to: "intimate no view as to other types of management decisions, such as . . . automation,"[7] presumably leaving those questions for subsequent judicial or administrative decision. Neither the Court nor the Board has addressed the status of a decision to change technology since.

The range of bargaining subjects considered mandatory was narrowed still further by the NLRB in *Otis Elevator Co.*[8] *Otis* dealt with whether an employer was required to bargain over a decision to relocate work from one of its facilities to another—a decision resulting in the layoff of a number of employees. In holding that the employer's relocation was not a mandatory subject of bargaining, the Board set forth the following test:

> Despite the effect on the employees, the critical factor to determine whether the decision is subject to mandatory bargaining is the essence of the decision itself, i.e., whether it turns on a change in the nature or direction of the business, or turns upon labor costs; not its effect on employees nor a union's ability to offer alternatives. The decision at issue here turned upon a fundamental change in the nature and direction of the business, and thus was not amenable to bargaining . . . [W]e hold that excluded

> from Section 8(d) of the Act are decisions which affect the scope, direction, or nature of the business.[9]

In a footnote, the Board went on to state "such decisions include, inter alia, decisions . . . to invest in labor saving machinery."[10]

Cases decided subsequent to *Otis* illustrate the following NLRB view on an employer's obligation to bargain over decisions affecting the scope, nature, or direction of the business (i.e., technological change): if the decision does not rest *exclusively* on a desire to reduce labor costs, the employer is not required to bargain before implementing its decision (see Atkinson 1989:451-52). Since the justification for implementing a technological change is most often not going to be *solely* a desire to save labor costs, an employer will be free from having to bargain over its decision (Getman and Pogrebin 1988).

While "decision bargaining" (bargaining with a union over the *decision* to implement new technology) is not required, current labor law would require "effects bargaining" (bargaining over the effects of technological changes on employees). An important difference between the two is that decision bargaining requires an employer to bargain with a union *before* the decision to implement new technology is made (i.e., during the deliberation process). Effects bargaining merely requires an employer to bargain *after* the decision to implement the new technology has been made—and only over the effects of the new technology on employees (i.e., which employees will be retained, severance benefits, etc.).[11]

As stated above, technological change may lead to the layoff of some employees or a reduction in their human capital. Since unions have no opportunity to bargain over this decision until after it is made, they are forced to adopt certain inefficient strategies when negotiating collective bargaining agreements to minimize the effects of technological change on union members.

Union Strategies Designed to Minimize the Impact of Technological Change

One consequence of limiting unions to "effects" bargaining when they encounter new technologies is that many unions resort to overt strategies which are essentially defensive—seeking to protect current union members in contract negotiations by defining precisely the rights attached to particular jobs and protecting employment through traditional seniority rules.[12] The widespread practice of bargaining over work rules or job classifications in order to mitigate the impact of technological change on the work force is one such strategy. Work rules, as conceptualized here, represent a myriad of nonwage aspects to employment contracts that can be interpreted as a means unions employ to protect the work environment from both anticipated and unanticipated change. To the extent that the effects of a new technology are unknown and possible alterations to production processes are unanticipated, at the time of negotiations, unions strive to constrain the technology to minimize its effects on the status quo. Stated differently, work rules can be viewed as "the best offense is a good defense" strategy.

One well-known example of work rules are the collective bargaining provisions present for many years in the longshoring industry which specified minimum crew sizes and at times required that workers handle each piece of cargo regardless of the technology in use. Craft unions limit substitution of unskilled labor for skilled labor by winning rules concerning the required ratio of apprentice workers to journeyman workers. Clerical workers have been successful at limiting the continuous time individual workers spend operating video display terminals. Finally, the strict job classifications present in many industries can influence production methods by requiring more workers (or a work force with a different skill mix) than the employer would otherwise utilize.

Common to nearly all unionized environments, work rules are often targeted by economists as promoting economic inefficiency, primarily because the rules imply that factor prices may not equal the value of their marginal productivity (Simler 1965). However, confronted with labor-saving technological change, unions have few other options to protect their membership before the change is implemented. Regardless of their relative merits from a worker's perspective, work rules of this type clearly impede technical progress by limiting labor-capital substitution or limiting substitution between types of labor.[13]

In addition to work rules, unions employ a host of alternative strategies to minimize the adverse consequences of technological change on their members. For example, some unions have strived for income maintenance for their members by securing severance pay provisions or wage guarantees regardless of skill reductions. Alternatively, unions have attempted to protect the employment of current members through plant-closing provisions, minimizing outsourcing, establishing in-firm transfer rights, retraining of displaced workers, or reemployment aids.[14]

Although the importance of these strategies in reducing any individual welfare loss resulting from technological change should not be understated, they are a reactive approach to changes in technology. Moreover, these strategies clearly increase the cost to firms of new technologies which results in large reductions in staffing or skill requirements. They may, therefore, perversely influence the type of technology adopted or the rate at which it is brought on line.

Potential Gains from Technology Bargaining

Given that unions often are not given the opportunity to bargain over the decision to implement new technologies, the strategies they employ to protect their members from subsequent adverse consequences are necessarily defensive. These defensive strategies will invariably hinder the full realization of a technology's productivity enhancing potential. Is there an alternative?

Categorizing the decision to implement new technologies as a mandatory subject for bargaining may encourage technological innovation for at least two reasons. The first reason pertains to a predictable alteration in some of the defensive strategies utilized by unions discussed above. In particular, work rules designed to protect workers from any change could be modified if significant change were predictable and bargainable. In fact, secure in the knowledge that they would be given an opportunity to bargain before any decision to change technology is adopted, unions might be willing to forego insisting on certain work rules. Moreover, by assuring that alterations in the work environment receive a critical appraisal from labor, alternatives to undesirable changes in job content or employment reductions might be proposed.[15] Even on a modest scale, alternatives would protect the substantial human capital investment made by society, individual workers, and private employers. This may partially reduce the need for retraining or reemployment aids.

The second reason follows from the recognition that initially designing production processes to maximize human participation increases the likelihood of an individual worker initiating productivity-improving alterations. If granted bargaining rights, unions might argue for these production processes.[16] For example, Albin (1985) has argued that there exists "closed-gate" and "open-gate" options in job design, and that the option chosen may affect the quantity of incremental technological change over time. A closed gate is a job design where an operator has limited control over the production process and merely monitors machine performance. This option reduces the skill requirements of the operator and typically decreases the wage bill in the short run. In addition, because the operator lacks control of the production process, there is little room for his (her) altering or improving the process on site. The open-gate option, on the other hand, gives control and some managerial function to the operator. This option maintains or increases skill levels when the technology is introduced and is usually associated with higher initial labor costs than closed-gate systems. Open-gate designs, however, leave room for disembodied technological change in the form of learning by doing and alterations to the production process by the operator. In other words, the option taken in job design when the technology is implemented may have important effects on its evolution. Significantly, for these benefits to be realized, bargaining over job design must occur within the context of the decision to implement new technology.

Alternatively, a union might propose a restructuring of work organization to gain its support for implementing a new technology. For example, Carmichael and MacLeod (1993) argue that a successful strategy to elicit workers' cooperation with labor-saving technological change involves the multiskilling of workers through explicit patterns of job rotation within work groups on the shopfloor. In addition, they demonstrate that such firms will have a comparative advantage in "process" innovation. Importantly, several authors have noted that the aggregate impact of improving a process contributes more to technological progress than does its initial development.[17]

In other words, additional labor influence on production methods through collective bargaining may lead to production processes or work environments that increase the rate of incremental technological change and have important implications for technological development. While these bargaining initiatives may impose initial costs on firms, the costs of traditional union strategies may be higher. Regardless, the costs to individual firms should be taken into account at the bargaining table. If unions are not involved in the decision to implement new technology and can bargain only over its effects, the "bargain" is unlikely to take place.

Conclusion

Allowing employers to implement new technologies without bargaining over the decision is counterproductive in that it forces unions to negotiate inefficient contractual provisions in an effort to protect their members as much as possible. Moreover, unions' (and employees') input into the technological change process might actually increase both the speed and effectiveness of that change. For these reasons, requiring employers to bargain with unions prior to the implementation of new technology should be viewed as a means to realize the full potential of new techniques.

Endnotes

[1]Since collective bargaining is generally viewed as a constraint on an employer's freedom to run its business, if an employer is not required to bargain over the decision to automate, it is not likely to do so voluntarily.

[2]*NLRB v. Wooster Division of Borg Warner Corp.*, 356 U.S. 342 (1958).

[3]379 U.S. 203 (1964).

[4]See *Richland, Inc.*, 180 NLRB 91 (1969); *Northwestern Publishing Co.*, 144 NLRB 1069 (1963); *Renton News Record*, 136 NLRB 199, 1297 (1962).

[5]452 U.S. 666 (1981).

[6]*Id.* at 679.

[7]*Id.* at 686 n. 22.

[8]269 NLRB 2891 (1984).

[9]*Id.* at 893-894 (footnote omitted).

[10]*Id.* fn. 5.

[11]See, e.g., *Ozark Trailers*, 161 NLRB 561 (1966).

[12]Ironically, Kelly (1989) suggests that these job control mechanisms may undermine unions' ability to constrain management: "In order to avoid the constraints that existing work rules may impose . . . management may simply find it expedient to assign that task to an existing occupation . . . outside of the bargaining unit where those rules do not apply" (p. 181).

[13]Verma and Kochan (1985) discuss the greater flexibility in work practices in nonunion as opposed to union plants.

[14]A Bureau of Labor Statistics study (July 1981) contains examples of contract provisions and identifies labor contracts that include language concerning relocation allowances, interplant transfers, and plant movement. In addition, many of the papers in Kennedy et al. (1982) contain examples of model contract language within particular industries.

[15]Union influence in this regard can be substantial. See Ozaki et al. (1992) for numerous examples from Sweden, Germany, Italy, and Japan.

[16]In Germany unions demand that new technology create either integrated jobs in which planning and supervision of a task are integrated, or group work, in which highly skilled workers have discretion in rotating work. These demands are similar to the "open-gate" job designs and "multiskilling" discussed below (see Ozaki 1992:6).

[17]Rosenberg (1982) documents the importance of the aggregate impact of minor changes to a technology by considering case studies of a variety of industries including petroleum refining, shipbuilding, railroads, metalworking, construction, electric power generation, and computers.

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DISCUSSION

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I would like to begin my remarks by suggesting a theme that holds these three papers together. Unfortunately, I have not been able to think of one. I do want to say that the pool of papers from which these three were selected was by and large quite disappointing. The dominant feeling I had after reading them was that the industrial relations profession is fiddling while Rome is burning: Industrial relations is a field in crisis, and collective bargaining is an institution in crisis, but the papers submitted for this session tended to be focused on the minutiae of traditional labor relations.

This, in fact, is the main criticism I have of the "Last Chance" paper. While it is well written and well argued, its focus is extremely narrow. Reading the paper, I felt that I had learned a lot about a very small thing. I'm not even quite sure what stimulated the paper given that the circuits and most arbitrators seem to be in agreement on how to treat these issues. Nevertheless, I do have a couple of (unrelated) observations about the broader meaning of this paper.

On the one hand, I was surprised that even the Reagan-appointed federal judiciary recognizes that waivers of appeal don't really mean a waiver of some fundamental due process rights (like an appeal over the question of whether the alleged violation has actually taken place). This may be an indicator of the ever-increasing importance of due process and fairness in the workplace. On the other hand, it also seems a bit obvious that if management is granted the unilateral right to determine when the last chance agreement has been violated, such an agreement is not worth the paper it's written on. Nevertheless, the fact that the judiciary seems to be showing good sense on this issue suggests an interesting and important question: Has there been any systematic change in the standards of review of arbitration decisions generally with the Reaganization of the federal judiciary?

My second issue is quite different. I am curious about how many last chances were actually afforded in the substance abuse cases reviewed by the authors. I ask this because there is a school of thought that the appropriate

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model for understanding addiction is a medical, not a moral one. In this vein, I recently heard it suggested that substance abuse "backsliding" ought to be viewed as relapses of disease and not moral failures and, further, should be expected. Do last chance agreements actually work for substance abusers, or do they essentially punish "relapses"? Alternatively, are so many chances given that the employer becomes, in the language of the recovery programs, an enabler? Given our current national obsession with drug abuse, these also seem like important and interesting questions.

The paper on strikes and work injuries has the potential, the author argues, to contribute to the current policy discussion regarding the use of replacements during strikes. However, the methods used make me doubtful as to whether the paper has anything to say about replacement workers. First, the author uses the terms "injury severity" and "work-injury duration" interchangeably, while in fact the first is a determinant of the second and is treated as such in the equations. Further, the author is treating strike activity as essentially a proxy for use of replacement workers, but his data don't allow him to know whether replacements were actually used in the strikes in the industries and years studied. Here is where some institutional knowledge is essential. Take the industry that saw the increase in strikes (and work-injury duration): construction. It's actually quite difficult for me to imagine the broad use of replacement workers in building trades strikes in New York in the 1970s.

In short, there may well be a relationship between strikes and work-injury duration, suggesting a hitherto unrecognized cost of strikes, but until I'm presented with data on the actual use of replacements, I will be quite skeptical about their efficacy as an explanation for the relationship. Rather, I would recommend the author refine his analysis or broaden his search for possible explanations for this potentially interesting finding.

This brings me to the final paper, which deals directly with an issue that is at the heart of the effort to examine the current legal framework for labor relations in the U.S. I basically agree with the authors' conclusion that the decision to deploy new technologies should be a mandatory bargaining issue. Indeed, I have argued that the mandatory/permissive distinction in general needs to be dropped, and unions and their members ought to be given the legal right to participate in a broad array of managerial decisions. In fact, it is a shortcoming of this paper that the authors do not place their argument in the broader debate over whether labor law should be changed in order to encourage a more comanaging type of unionism rather than the reactive, job-control unionism currently dominant.

The greater shortcoming is the failure to discuss a number of recent empirical studies dealing with the issues they raise. Many of these studies were reviewed by my Rutgers colleague, Jeff Keefe, in his piece in the EPI book, *Unions and Economic Competitiveness*, and I strongly urge the authors to familiarize themselves with this work. In particular, if they had reviewed this literature, they might have been somewhat more cautious about assuming that the inability to bargain over the implementation of technological change leads to "inefficient" union strategies. Keefe concludes from a number of studies that unionization as such has nothing to do with whether firms adapt new technologies and that "in most cases, unions welcome technological modernization; sometimes encouraging it, most often accepting it, infrequently opposing it, but usually seeking to protect their members" (Keefe 1992:124). Indeed, I would argue that most of the work rules discussed by the authors were intended by unions to prevent arbitrary decisions by individual managers, like promoting favored workers, rather than to "constrain" technology.

This is not to say that there is no advantage to employers and society if unions were to bargain over technological change. Katz, Kochan, and Keefe's study (cited in Keefe 1992:127) of productivity in General Motors plants found that "worker and union participation in . . . introducing technology was associated with increased productivity and improved product quality." Some potential reasons for such a finding are aptly elaborated by Abraham and Finkel; in particular, their description of the potentials of the "open-gate" design of production.

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DISCUSSION

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My comments today have a decidedly management bent—something you may attribute to my having spent the last seven years in business schools. Each of the papers we have heard presented deals with a topic that is of interest to both unions and employers. As industrial relations scholars, we tend to focus on the implications of our research on unions and employees. I believe we should also address its implications for employers. For this reason I take on the role of an employer and attempt to view the papers presented here today from that perspective.

I begin with Allen's study on work-injury duration. This paper presents some very intriguing results. If, as Allen suggests, strikes influence the average length of time lost to injury, then the costs of strikes to my firm are greater than I may have realized. Of particular importance to me, however, is the process by which these costs are increased. If the primary cause is a reduction in the amount of human capital held by my employees, then any substantial increase in new hires would presumably have a similar effect. This would have some clear implications for my having to manage carefully increases in the size of my labor force.

Thus I would be particularly interested in seeing whether reductions in human capital or some other factor better explains the pattern of results in Allen's study. Basically, I need more information before I can determine that I need to change the way I make decisions in bargaining. For example, are the people injured those with relatively less human capital? Are they disproportionately replacement workers? Could speed-ups, either before or after strikes, also explain the pattern discovered? Finally, are the costs associated with work injury so large as to outweigh the benefits of using replacement workers? (You must forgive the last question—I may be taking this role a bit far.)

Turning to McPherson and Metzger's paper on last chance discharge agreements, it appears I must accept the fact that I cannot prevent certain questions from being brought to arbitration. I can be somewhat consoled by

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the fact that most arbitrators in the authors' sample did not apply just cause principles to overturn the discharge. I am, however, somewhat distressed by the implication that even last chance agreements may be ineffective, in some cases, in removing a problem employee.

This paper raises a number of questions for me. How do I need to construct a last chance agreement to minimize the probability that an arbitrator will reinstate the employee? Do I need to take into account last chance agreements when bargaining over other provisions in the contract an arbitrator might be asked to consider? Finally, if I am a local employer covered by a national contract (but not a local contract), is my use of last chance agreements constrained; and if so, how? One case cited by the authors—the *Monterey Coal* case—seems to suggest that by using last chance agreements, I am amending inappropriately a contract I have not negotiated. How would an arbitrator view last chance agreements under these circumstances?

The paper by Abraham and Finzel is to be commended for its attention to my efficiency interests. The authors argue that significant benefits could accrue to employers if the decision to implement new technology was deemed a mandatory topic. As an employer who currently has unilateral decision-making authority in this area (and who does not voluntarily negotiate over this topic), such a change would have several implications for my behavior. As I imagine most employers, I do not like the notion of sharing with another the responsibility for decisions I now make alone. Thus I must regard the imposition of a duty to bargain over new technology as an increase in the costs associated with having a union represent my employees. Certainly this increase in the costs would increase my desire to either become nonunion or to move to regions (as of January 2, to nations) where I do not face such costs.

A perhaps more novel reaction to this change would be to argue that by making these decisions themselves, my employees are now performing the functions of managers. This argument may allow me to assert that the employees, as managers, are no longer covered by the NLRA, and thus I no longer have the duty to bargain with their chosen representatives. If I prevailed with this argument, the unions would be decertified.

Why is this an option? The NLRB has already decided in at least two cases that faculty given managerial decision-making power through bargaining were managers under the law.[1] The means through which such power was conferred was irrelevant. In essence, unions could, through bargaining, remove employees from coverage under the act. Hence by making the decision to implement new technology mandatory, I, as an employer, could argue that my employees are managers, and that as such, I do not have to bargain with them over any mandatory topic.

This observation highlights, I believe, why it is particularly important for us to consider how our work not only influences unions and employees, but also how it influences employers. It is only through a consideration of all parties to the labor-management relationship that we can provide information relevant to them and also assess how that information will be used.

Endnote

[1] *NLRB v. College of Osteopathic Medicine*, 265 NLRB 295 (1982), and *NLRB v. Lewis University*, 765 F.2d 616 (1985).

XII. WAGE DETERMINATION IN THE UNITED STATES, JAPAN, AND GERMANY

Enterprise Bargaining and Social Contract in Japan

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The comparative performance of the Japanese economy, which has been closely related to the functioning of its major labor markets, has been distinctive in the following ways: (1) Real hourly earnings in the manufacturing sector have tended to grow quite rapidly in Japan relative to other major industrialized countries over the long period 1960-89, although this was not the case during the period of the two oil price shocks in the 1970s. (2) Relative to productivity, however, real wages in manufacturing grew less rapidly in Japan than in Europe and Canada. (Japan also led in productivity growth all along.) (3) While hourly wage levels (in terms of purchasing power parity) in Japanese manufacturing had caught up with or surpassed those in the major European economies by the late 1970s, the working year (including overtime) has remained much longer in Japan. (4) Wages in Japan, both nominal and real, have exhibited greater "flexibility" (or cyclical sensitivity) in Japan than in other industrialized economies. (5) Unemployment has been markedly lower in Japan than in the other major countries since the mid-1970s, and consumer price inflation has been lower since the end of the 1970s.

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The labor practices of Japan's major corporations, the enterprise-based unions with which they deal, and *Shuntō*, the countrywide system of determining annual wage changes, have all received a generous share of credit for this remarkable record. We shall seek to identify some relevant structural and behavioral characteristics of each of these in turn.

Large-Scale Employers: Monopsonistic Tendencies and Cooperative Practices

In many cases Japan's major firms have been characterized as oligopolistic competitors in their product markets; and they have exhibited some monopsonistic tendencies within their respective labor markets and vis-à-vis traditional suppliers as well. Having been confronted with labor turbulence in the 1940s and early 1950s (which was accompanied by demands for job security) and with shortages of labor (which were associated with extremely rapid rates of economic growth) in the 1960s and early 1970s, various managerial policies and programs were adopted to help the firm cope with shortages and yet minimize both across-the-board wage increases and turnover, while maintaining high levels and rates of growth of productivity relative to real wages. Four examples might be briefly cited: (1) A postwar revival of the practice of locating plants in rural areas resulted in the establishment of "factory castle towns" and territorial enclaves where local suppliers of labor tended to be reserved to specific firms in the vicinity. (2) Extensive programs of orientation to the firm and its culture, of training in organizational skills, and of employee involvement in management decision making were designed to build up loyalty among employees, detract from their interest in acquiring information about alternative opportunities, and even make them regard quitting as disloyal. (3) The proffer by large firms of assurances of so-called "lifetime" employment has remained popular in a work force with a characteristically high degree of risk aversion (a high marginal rate of substitution of employment for income) even during the period of rapid growth and labor shortage in the 1960s and early 1970s. (4) Age, seniority, or family need are included among the determinants of pay as well as long promotion ladders which are associated with continual training and employee evaluations based on performance and aptitude. In combination these features constitute a stretched-out incentive system with deferred compensation that the worker would have to forfeit in the event of early departure from the firm.

Policies designed to internalize supplies of labor to the firm have also included policies intended to restrict access to them by other employers, that is, by the big firm's smaller suppliers in the same area and by its big competitors in the same product markets. In the former case, any monopsonistic advantage held by the larger firm in traditional commercial relationships with smaller contractors can be utilized so as to enhance its ability to maintain a high relative wage level which would help to insulate its work force and also ensure it preferred access to supplies of new labor. Thus a large firm's monopsonistic position in a product market could reinforce its monopsonistic position in a labor market.

As for labor market competition among oligopolistic competitors, it has not infrequently been restrained by mutual agreement and informal cooperation. "Gentlemen's agreements" against poaching regular employees have been credited with (or blamed for) inhibiting the practice of hiring "mid-career" employees. Thus they tend to maintain the integrity of the large firms' "internal market" systems and also their ability to adjust to shortages of younger workers by raising their relative wages within the establishment rather than bidding up the wages of experienced workers.

Informal agreement has also been described as the "mechanism by which big businesses check their respective labor costs with each other . . . to ensure that they are reflected in the negotiations over revision of product prices" (Nitta 1990:2). Moreover, since wage rates are ultimately established at company level in bargaining with autonomous enterprise-based unions, the latter have been placed in a weaker bargaining position than they might have enjoyed under formal industrywide bargaining (which the employers had successfully opposed).

On the other hand, it has been observed that Japanese managers have always been sensitively attuned to the mood and morale of their employees and that they have feared any outbreak of employee unrest or work stoppages. Accordingly, restraint in the exercise of monopsonistic power to set wages might well reflect an efficiency wage mentality and is not necessarily inconsistent with the long-run profitability of the enterprise. At the same time, employer policies like some of those alluded to above, which can offer nonpecuniary compensation to employees or feature deferred compensation ("investment wages") under implicit contracts of long-term employment, are clearly consistent with the ability of productivity to outpace even rapidly rising real wages. They are also consistent with the input of high levels of effort (including long hours of work) which have characterized the economy at large and have been conducive to its economic growth and international competitiveness.

Enterprise-Based Unions: Weak or Willing?

Can wage behavior that conforms to employer preferences and policies be reconciled with the prevalence of unionism and collective bargaining in the sectors dominated by large-scale enterprise? The answer can be yes if those enterprise-based unions are characterized by bargaining weakness. The answer can also be yes if, whether weak or not, these unions deliberately choose to follow policies which conform to the requirements of economic efficiency and are responsive to (or do not contravene) the wishes of their members.

In fact, according to a recent regression analysis by Tachibanaki and Noda (1992), enterprise unionism has not passed the U.S. economists' standard test for union bargaining power (i.e., the ability to secure higher wage rates than are found in nonunion but otherwise comparable establishments). In another model by the same authors, unionism is found to have an impact on a measure of union "bargaining power," but that measure was assessed subjectively by the employers surveyed and, furthermore, apparently does not affect the relative wage.

However, the same study finds evidence of union impact on such nonwage conditions as working hours (negative) and length of vacation (positive). Earlier studies of union behavior reveal union attempts to reduce hours, including overtime, and also to raise premium rates for overtime. At the same time, enterprise unions have sought to prevent violations by management of their commitment to "lifetime employment." They have also tried to raise the age of mandatory retirement and have favored seniority-based wages over performance-based wages. Finally, enterprise unions have been consulted or informed extensively by management on a wide range of issues—from transfers, promotions, and working conditions to the firm's investments and development plans and financial condition.

Whether the bargaining power of enterprise unions in the nonpecuniary field is generally more significant than in the area of wages, however, is doubtful. Their influence appears to have been strongest (historically as well as on a current basis) in the area of employment security, but not in the area of employee effort in its several dimensions. Hours of work, as noted above, have remained long by international standards. Workers still elect not to take their paid vacation time, and they compete intensely among themselves for favorable performance evaluations from supervisors. Codetermination and cooperation afford a "voice" to the enterprise unions, but not one as powerful as the negotiated rules of seniority by which American managers are contractually bound. "Labor unions who are cooperating closely with the management in securing employment opportunities for their members by means of trying to expand market share," concludes Shimada (1990:8), "often fail to put a limit on the overworking of workers."

Yet the enterprise unions have also been awarded a generous share of credit for Japan's outstanding performance in the areas of employment (via the responsiveness of wages to declines in demand) and growth (via wage restraint relative to productivity). In the former case, Shimada (1983:183) claimed that it was the "economic rationality" of Japanese unions which "tends to make (them) accept flexible wages in return for stable employment," adding that "such an inclination may be reinforced by well-developed internal labor markets which they organize."

If it is rational for enterprise unions to accept downward wage flexibility in order to keep their "insider" members employed during downswings in demand, should it not be rational for them to raise wages sufficiently to preclude (or minimize) the employment of additional workers (from the "outside") during expansions? Koike (1988), however, claims that the employment of more workers in the firm (at the entry level only) would ultimately increase, rather than reduce, the incomes of members of the experienced work force by increasing their opportunities to acquire more skills and promotions. Aoki (1988) goes on to argue that enterprise unions have been strong enough to oblige management to side with them against the firm's shareholders and force firms to grow beyond the scale and output levels at which profits are maximized, at least in the short term. But any union strong enough to oblige a firm to buy more capital and labor than it would otherwise choose to do should be able to buy itself a front-loaded contract by raising base rates ("base-ups") rather than accept a rear-loaded contract which relies on a "lifetime" incentive system to yield deferred increases for members (and in exchange for increased effort expended in learning, etc.). A union that accepts a second-best alternative presumably lacks the bargaining power to secure the first best and, hence, to force excessive firm growth.

A more plausible motivation has been assigned to enterprise unionists by Koshiro (1976): "Originally as a result of major strike losses under left-wing militant leadership in the late 1940s," they became convinced that "the best way to improve their wages and working conditions is to increase productivity and grow with the respective enterprises which usually promise them permanent employment until the retirement years. In other words, unions do not wish to kill a golden egg-bearing goose to improve the immediate conditions of employment." In this model, risk aversion has dominated insider rationality.

To the left-wing unionists in the Sohyo confederation, however, such risk aversion was itself a product of the structural weakness of autonomous and uncoordinated enterprise unions in isolated bargaining with oligopolistic employers. Galenson (1976:637, n.95) relates an incident in which Walter Reuther asked some leaders of enterprise unions in an automobile factory why the JAW couldn't follow the practice of the UAW and select one firm as a potential strike target and pattern setter. He was informed that no workers in a firm would be willing to jeopardize its market share in this manner. Nevertheless, Óta Kaoru, the deputy chairman of the Sohyo confederation and head of the union of chemical workers, persisted in the belief that even cowards can hold hands and move forward in the dark and (in 1954) led an effort to outflank the employers by calling for a global wage push by the major industrial federations. That marked the beginning of *Shuntō*, the annual spring labor offensive.

Shuntō: From Labor Offensive to Social Contract

Although *Shuntō* has been hailed in academic circles as an outstanding example of neocorporatist wage policy, it has in fact exhibited two highly distinctive characteristics. Whereas other systems have been designed from the outset to restrain wages in the belief that union bargaining power was too great, *Shuntō*, as we have just seen, originated in the conviction of its founders that union bargaining power had to be augmented in order (a) to reduce inequitable interfirm wage differentials and (b) to boost wages rapidly to "European levels." Moreover, *Shuntō* began life as a "labor offensive" without strong central or industrywide bargaining institutions to rely on. In their place it has featured the annual construction of a national consensus based: (a) on the continuing power and influence of major firms in sectors concurrently chosen to set the wage pattern in early consultations and negotiations; (b) on the preparation and widespread circulation of information prepared by the central, industrywide, and local bodies of industry and labor as well as government agencies; and finally (c) on the knowledge imparted to company managers and their counterparts in the corresponding enterprise unions that their firms' competitors have already followed or are about to follow the same pattern which they are prepared to accept.

Pattern setters have been drawn from the private sectors on the basis of their current economic importance (a function of size, growth, and profitability)—at first private railways and steel, later shipbuilding, autos, and electrical manufacturing. In the 1960s, however, public-sector unions, which were economically sheltered and highly militant, were also included as pace setters, especially in recession years. (For the public sector to lead rather than follow the private sector has frequently been regarded as a symptom of failure in conventional policies of wage restraint.)

Nevertheless, the employers, after acknowledging that Sohyo had stolen a march on them, were able to adjust readily enough to the new system. The bargaining power of the big firms was not impaired; this was dramatized when the major steel firms defeated a strong national union in a series of strikes in the late 1950s and then imposed a regime of "take-it-or-leave-it" bargaining. Militantly led enterprise unions were in many instances replaced by "second unions" under more moderate leaders who entered into company-level agreements calling for cooperation to increase productivity. Government agencies responded vigorously to challenges by unions in the public sector. And pattern following (or convergence on the *Shuntō* norm) did discourage leapfrogging.

Above all, the 1960s were a period of unparalleled growth in output and productivity and also of labor shortage. Money wages did accelerate—which was consistent with union insistence that each annual settlement exceed its predecessor—and the average rate of increase of consumer prices in the decade tripled the average rate (of less than 2%) which had prevailed in the last half of the 1950s. Yet in 1967 when the central employer body, Nikkeiren, called for the adoption of an official incomes policy with a productivity guideline (in the American and British styles), it was rebuffed by a special commission. The commission did endorse the productivity principle and unofficial exhortation, but it concluded that Japanese inflation was a demand phenomenon and not cost-push, because in the final analysis the enterprise-based unions could be counted on not to impose uneconomic settlements on their employers.

Exuberant economic growth and tight labor markets in the 1960s gave way to a regime of slower growth and higher levels of unemployment, which was ushered in by the first oil price shock. In 1974 a "People's *Shuntō*" roared in like a March lion, producing an unparalleled wage increase of 32.9%, which exceeded increases in both the cost of living and wholesale prices. The 1974 *Shuntō* was also attended by demands for indexation to protect against further price inflation which the 32.9% wage hike would generate. And it was accompanied by threats of another special *Shuntō* the next fall and of a general strike to support strikes by public-sector unions for the right to strike. The prime minister pleaded for wage moderation in the national interest, and the ministry of finance called for an incomes policy. Finally, big business caved in out of deference to forthcoming national elections and their Liberal Democratic allies.

But the 1980 *Shuntō* (following the second oil price shock) went like a lamb, with negotiated wages rising by only 6.7%, translating into a reduction in both real and product wages—signs that this time wages had accommodated rather than resisted price rises in energy inputs. Meanwhile, public-sector unions and their intransigent left-wing leadership lost influence to unions in the growing export sectors and gave way to moderate, more risk-averse leadership in *Shuntō* pattern-setting roles and within the labor movement. And the calls heard for wage restraint in 1974 were heeded. Hence, while a sharp decline in growth rates (by roughly one-half) and an increase in unemployment (roughly doubling to 2%) certainly contributed to the dramatic outbreak of wage moderation from one oil shock to another, it has been generally believed that these institutional and policy developments had also been influential. Thus Shimada (1983:181) notes that conventional wage regression equations by Koshiro, which include measures of labor market tightness and price changes as explanatory variables, underpredicted the 1974 *Shuntō* increase but overpredicted for 1980. Moreover, even more left-leaning observers have tended to attribute Japan's success in surviving the oil price shocks with a mixture of lower unemployment and lower inflation than the other advanced industrial nations to the influence of "the conservative unions" and the policies of restraint with which they cooperated (e.g., Kawanishi 1992:91).

Moreover, while the Japanese once again rejected a *mandatory* incomes policy out of a continuing faith in the soundness and self-restraint inherent in their system of enterprise bargaining, the trilateral "social compact" (as it was called by Taira and Levine [1985]) that emerged in the 1970s might well have been necessary to save that system. The long-term employment relationship which has been its distinguishing feature has been characterized as an implicit employment contract wherein (in theory) the more risk-averse worker accepts a lower wage in return for the employer's assurance of steady employment. However, the theoretical feasibility of such an arrangement has been questioned on the grounds that wages might have to be driven to such a low level that the firm would be confronted by a shortage of labor. But in the real (if idyllic) Japanese world of the 1960s, monopsonistic employers could cope with equilibrium shortages, and above all, high rates of economic growth could minimize employer risks to the point where "lifetime" guarantees could be accompanied by rising real wages.

However, after growth rates declined, government had to participate in the task of risk containment. In an implicit global contract with workers and employers, government undertook to pursue macroeconomic policies which would maintain employment at high levels and achieve price stability if the unions held their *Shuntō* increases within limits set by economywide rates of growth in productivity. In order to achieve price stability, however, the authorities pursued stringent fiscal policies, which precluded the attainment of high levels of employment via expansion of domestic demand. What they counted on instead was export-led recovery and growth. A policy that aimed at price stability and which linked increases in nominal wages to current (or anticipated) rates of increase in economywide productivity (real GDP per capita) was conducive to growth in exports because productivity growth in the export (or manufacturing) sectors tended to exceed overall productivity growth. In this manner, growth of the big firms could be encouraged and the employment of their "regular" workers be made more secure. Now, however, it is doubtful whether employment security under collective bargaining can continue to be underwritten by export growth to the extent that it has been thus far. It remains to be seen whether current and future governments will be able to rely more heavily on the expansion of domestic demand to do the job.

Acknowledgments

We wish to acknowledge our indebtedness to our colleagues Clair Brown and Michael Reich at Berkeley and colleagues at Doshisha University with whom we have been conducting comparative research in Japanese and American firms. We are grateful to the Institute of Industrial Relations at U.C. Berkeley, the Pacific Rim Foundation of U.C., and the Japan Foundation for generous financial assistance.

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The German Wage Bargaining System

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How well is the once-vaunted German system of wage bargaining faring in the early 1990s? Many commentators inside and outside Germany have identified cracks, if not major faults, in its current operation: it is commonly argued that German companies with high labor costs have priced themselves out of world markets. Moreover, smaller German companies see rigid rules governing both wages and work flexibility as competitively damaging.[1]

To what extent should these criticisms and others be taken seriously? The German wage determination system has problems, but the general problems of the German economy should not be exaggerated. Throughout the 1980s, Germany was a highly successful economy and, on many criteria, the most effective exporter: its real export growth between 1980 and 1990 of 3.5% pa was nearly double that of Japan with 1.8% pa (in turn greater than the U.S., the U.K., France, and Canada). Moreover, while it is true that its labor costs per employee are very high comparatively, its unit labor costs are not. Finally, while there has recently been a significant relocation of German production abroad, it is not a new phenomenon. German companies have not faced constraints against overseas investment for a long time, and relocation of production abroad requiring lower skills is a normal part of the process of upskilling.

I argue that the wage determination system played and still plays a key role in supporting German exports. This is partly a result of the widely known benefits of effective wage restraint. It is also because German export success has rested heavily (inter alia) on a highly skilled work force and a pattern of work organization requiring relatively high autonomy from skilled employees. Both the building up and maintenance of work force skills and a nonmonitored work force with company-specific and marketable skills have demanded an appropriate system of wage determination. This paper discusses how the German wage determination system operates and contributes to the incentives for companies to invest in training and assesses current challenges to the wage determination system.

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How the Wage Determination System Works

The German system is one of high but flexible and informal coordination in which both employer and organizations and unions play a critical role. This role ensures that the percentage increase in basic rates embodied in a key bargain spreads across different industries. It also ensures that supplementary settlements at the company level between managements and works councils stay broadly in line. Above the annual wage bargaining, the Bundesbank holds a Damoclean sword, threatening higher interest rates and exchange rates if wage increases push inflation upward.

Despite the coordination, it is worth saying that there is no formal system of joint discussions at the national level between the social partners or between them and the government or the Bundesbank. Such a system existed between 1967 and 1977, with formal concerted action meetings between both sides of industry, the government, and the Bundesbank. It broke down for reasons unconnected to wage determination. The unions withdrew from the system as a symbolic protest at the employers' court challenge to 1976 legislation by the Social Democrats extending codetermination. Moreover, most observers never treated it as more than a ritual; otherwise, the unions would have been unlikely to withdraw. Despite the lack of importance of the concerted action meetings and their subsequent demise, the German system works informally to provide a high degree of economywide coordination.

The most important formal locus of wage bargaining in Germany is the regional industry level, followed by the company and/or plant level. German unions are organized on an industry basis, so that with minor exceptions, they do not compete for members. The largest and most important union is the engineering union, I.G. Metall. Union coverage is around 35% of dependent employees. But nearly all large and most medium-sized manufacturing companies are heavily unionized. Furthermore, employer organizations are very powerful—organized on an industry basis with 80% of employers included as members. In addition, while industry bodies are more important (particularly in major industries), both employer associations and unions have powerful peak organizations: the BDA representing employer organizations and the DGB representing industry unions.

Even given the low overall rate of unionization, industry collective agreements on basic rates (and on an important range of other conditions including working hours) are legally binding on all member companies of the employer association in the industry, irrespective of the number of union members among their employees. In addition, the federal government can declare a collective bargaining agreement to be the legal minimum for wages and benefits in any given sector so long as companies employing a majority of workers in the sector are covered by the agreement.

The Key Settlement

Wage determination generally occurs on an annual basis. Collective agreements are negotiated in each industry region by region. The tone of the wage rough is set by a key leading settlement between I.G. Metall and the engineering employers' association, Gesamtmetall. Before that settlement—which other industry settlements will broadly follow—a great deal of informal discussion will take place. The discussions involve the DGB and the BDA, as well as other industry unions and employer organizations. There are also extensive contacts particularly on the employers' side with the government and the Bundesbank, but the primary discussions are between I.G. Metall and the engineering employers' organization. This can mislead uninformed commentators into thinking that coordination takes place within but not between industries. To understand why this is not the case we may look at I.G. Metall's situation.

I.G. Metall's main objective is to increase (or at least minimize the reduction in) employment in the engineering industries which include autos and steel. It therefore needs to ensure that wage developments do not erode the competitiveness of engineering in the world economy. There are three elements involved, given the evolution of world prices and costs: first, German unit labor costs in Deutsche marks (DMs); second, the DM cost of nonlabor input costs into engineering; and third, the nominal effective exchange rate.

Much time is taken up discussing the development of world engineering prices and export prospects as well as prospective growth in labor productivity with the employers' organization. Assuming the exchange rate remains constant and given the growth of nominal nonlabor units costs, the permissible growth rate of nominal wages is determined.

The exchange rate, however, cannot be taken as exogenous in these calculations because of I.G. Metall and the engineering employers' perception of the Bundesbank's strategy. The strategy is not, of course, cut and dried, but the rough belief of the social partners is that increases in the rate of inflation will be met by the Bundesbank raising interest rates and hence inducing exchange rate appreciation. Why is this relevant to wage bargaining in engineering if it is an increase in the economywide inflation rate which triggers the Bundesbank behavior? It is because the key settlements in engineering set the broad percentage increase which, give or take 1% or 2%, most sectors of the economy follow (for reasons discussed below).

Thus with a fixed exchange rate, price inflation is substantially determined by the nominal increase in engineering wages less economywide productivity growth, or at least is seen in that way by participants. To avoid the risk of deterioration of international competitiveness as a result of the Bundesbank responding to higher inflation by tightening monetary policy and, thus, bringing about an appreciation, engineering wage settlements have to be in line with existing inflation plus economywide labor productivity growth.

This point is reinforced by the need to hold down inflation of nonlabor engineering inputs. This inflation rate will likewise be (indirectly) determined by the key wage settlements on the above argument. Thus too high a rate of nominal wage growth in engineering will also lead to an increase in nonlabor costs by this process, which will worsen competitiveness.

An important element in this process is that settlements in other industries and supplementary settlements in companies are sufficiently in line with the initial key settlements. Were that not the case—if, for instance, the effect of even important settlements on the "going rate" was individually small as in the U.K.—the sanctioning effects of the Bundesbank's strategy would not be so powerful. To understand why these other settlements usually stay roughly in line, we look first at other regional-industry settlements and then at company negotiations.

Other industry settlements. There are temptations for unions to settle above the going rate at the industry level. Settlements later in the wage round have less effect on the inflation rate, and settlements in the public sector and the nontrading sectors generally have little to fear from the Bundesbank threat to raise the exchange rate. Indeed, they gain from it since it raises real wages without affecting their employment position. Such temptations can cause great problems. For either it raises the going rate—especially if it is a key settlement at the start of the round, or it puts strains on unions and employer organizations in the next round. Thus pressure would be put on any sector which did attempt to settle at a significantly higher than normal rate. These pressures could come from either side at the national level. The ability of the centralized employers organization (the DBA) and/or the union confederation (the DGB) to exert pressure is substantial, since many contacts between industry organizations and central or regional government are via the two peak associations. More generally, especially for the smaller industry unions and employer organizations, there is much reliance on the DGB and BDA respectively for the provision of services. Industry organizations would not wish to fall out with them.

Company settlements. There is somewhat more flexibility about bargaining at the company level. Almost all basic rate agreements are established at the regional industry level (Volkswagen is an exception but its basic rate agreement is very similar to the engineering agreements for auto sectors). Company agreements are supplemental and take place as a result of negotiations between senior management and senior members of the company or plant works council. (In a technical sense, works councils are not allowed to negotiate over wages, so these agreements are formally unilateral management decisions without legal force.) These company agreements are carefully watched by the social partners at the industry and regional and local level. Both the industry employer organizations and industry union are keenly aware that a generous settlement in one company can lead to pressures for increases in other companies and that companies using high wages as a recruitment strategy can be destabilizing for local labor markets, especially if incentives are set up for skilled workers to move. On the other hand, both the employer organization and the union want (for different reasons) to allow the company some flexibility. The employer organizations believe in giving companies as much freedom as possible to develop internal incentive structures so long as it does not have damaging externalities. Unions want to help works councils which in large and medium-sized companies are generally close to the union (although technically independent). The works council's negotiation of a supplementary increase strengthens its members' position among employees.

These supplementary agreements are, however, carefully controlled. Both the employer organization and union have a range of possible sanctions they can use against management and works councils, respectively. In the German system, employer organizations and the business associations to which they belong provide a far greater set of infrastructural services than their counterparts in the U.S.; for example, export marketing, research and development cooperation, and vocational training. They function as conduits to government at the regional and national level. They run extensive strike insurance funds. They provide assessors with the unions for the Labor Courts, which in turn have extensive powers inter alia over questions of individual and collective dismissals. In an industrial system in which long-term but frequently noncontractual relations exist between companies for product development and other purposes, they can function as mediators and facilitators. And with the banks they embody a collective memory of the strong and weak points of companies, including their "misdemeanors." Thus, if need be, the employer organizations are in a position to restrain companies. Equally, unions supply a wide range of services to works councils and can hold them back in company-level wage negotiations.

Conclusion

Over all, the German system provides a very clear incentive structure. The union and employers' organization involved in the key settlement or settlements at the start of the wage round believe that subsequent regional industry settlements will more or less follow the initial ones and that company supplementary agreements will not significantly distort this pattern. Given the exchange rate and world price developments, this key settlement has a major impact on the inflation rate. They believe that the Bundesbank has an inflation objective and will tighten monetary policy with a likely exchange rate appreciation if actual inflation appears to exceed the target.

Given these beliefs, two things are critical: First, that the union or unions involved in the key settlements are employment oriented and that they are concerned to get or keep a real exchange rate as low as possible. (In any case, they must not be concerned with maximizing short-term real wage growth. The incentive structure set up by the Bundesbank would then work in exactly the wrong direction, for it would translate high nominal wage growth into high real wage growth as a result of exchange rate appreciation. This is why it is problematic for the system if public-sector unions with high employment security and limited concern for international competitiveness become too important in the wage bargaining process.) Second, it is critical that employers can sufficiently coordinate their activities to ensure that other sectors and profitable companies are held roughly in line.

Why Is Coordinated Wage Bargaining So Important to German Export Success?

There are a number of arguments for effective wage restraint in an economy with imperfect product and labor markets in which there is involuntary unemployment. Generally, if the real wage bargained by unions is held down to the real wage at which companies are prepared to increase production, a noninflationary expansion of the economy can take place to reduce involuntary unemployment. If the NAIRU is determined by real wage bargaining, then increased real wage restraint will enable the NAIRU to fall. This situation can occur if individual unions bargain in each industry without coordination. This is because of a prisoner's dilemma—at full employment it will pay any given union (unless the union has no concern for the real wage of its members) to bargain a higher wage in its industry, gaining a real wage increase by pushing the higher industry price onto consumers throughout the economy. This argument applies to a closed economy. In an open economy, there is a related argument that a noninflationary expansion can take place if the real exchange rate can be suitably lowered by real wage restraints during the course of the expansion. This general approach to wage restraint informed much of the thinking behind the so-called second generation of "real wage" incomes policies of the 1970s in response to supply shocks.

We might ask why certain economies, including Germany and Japan, have persisted in the more market-oriented world of the '80s and '90s with wage determination systems embodying coordination. The same is true of Sweden, even after the collapse of centralized bargaining: the major employers in the private sector have reconstituted a coordinated bargaining process. An institutional answer is that the countries which have persisted are all economies in which employers are well enough organized through employer associations or more informal groupings to permit such coordination of wages to take place. This is an important part of any answer. But I want to suggest that this can only be part of the answer, for it raises the question, Why should employers want a coordinated wage bargaining system?

One answer in Germany might be that German employers accept the system because the unions have insisted upon maintaining it, and the unions want it because it helps preserve employment in the exporting sectors. Much of the evidence is the other way around. It has been the combined desire of large German companies and the employer associations that have been responsible for the preservation of the system in the 1980s. This has not been at all contrary to the will of the industrial unions—they have also wanted to preserve it since it is a source of power for them; but it was the employers who insisted on the system's preservation in the early 1980s when the conservative government was keen to deregulate labor markets. This is consistent with maintenance of coordinated systems of wage determination in other countries with strong employer movements and relatively weak national unions, such as Japan, Switzerland, and (post-centralized) Sweden.

I suggest that German employers (and their counterparts in those other economies) are interested in wage coordination because of the way in which they need to organize both skill acquisition and work, particularly in the manufacturing export sector.

Skilled manual employees and incomplete contracts. The product market strategies of German exporting companies—with emphasis on high-quality incremental innovation and customization, typically with a relatively narrow and stable range of products—require that a substantial proportion of the manual work force be highly skilled both in the technology of the industry and in the particular technology of the product range. Thus skilled employees have both marketable skills and company-specific skills. Training in the company-specified skills is costly for the company because in-depth knowledge of the company's products takes considerable time to acquire, and a precondition for acquisition is that the trainee either has knowledge of the industry technology (i.e., has already served an apprenticeship) or is currently an apprentice and learning the industry technology. If the trainee is not an apprentice, then he must be paid as a skilled worker even though his marginal product may be low. Hence it is costly for the company to replace skilled employees from the external labor market.

For the skilled manual employee to be valuably deployed, he needs to work with substantial autonomy in a broad group context. Thus it is difficult for the company to monitor his performance. Moreover, skilled manual employees may choose to use their considerable joint bargaining power within a plant in the absence of external intervention. These employees have marketable skills, they are costly to replace, and it is costly to monitor their individual and, indeed, their group performances.

Thus the problem for German management of developing a contract with their skilled employees can be seen in Williamsonian terms. Because of the nature of the work, it is difficult to write a legally binding contract that would secure satisfactory performance. Ex-ante, the group of employees has limited bargaining power; ex-post, with company-specific skills they have substantial power, at least in principle.

The direct way in which this dilemma is resolved in Germany is through the works council. But the works council is elected by the employees and, in effect, represents skilled manual employees. If management had to negotiate wages completely with a powerful works council, there would be the possibility of the works council using its power to bargain wage increases above those consistent with the company's ex-ante profit requirement. Therefore, a system in which the major part of the wage is determined outside the company and in which the social partners stand ready in principle to intervene if wage supplements are too high, is one which provides a governance structure which resolves the Williamsonian dilemma.

Wage coordination and incentives for companies to train apprentices. Critical to the operation of the German system is that companies have sufficient incentives to make substantial net investments in training apprentices.

There are a number of institutional conditions for this to be the case, among them that the wage determination system is appropriately supportive. This occurs in three ways:

1. With a number of qualifications not addressed here, companies cannot use wages as a means of poaching skilled employees from other companies. In the German system this works because the basic rates of pay are set in industry agreements and because company supplemental agreements are carefully monitored.

2. The rates of pay of apprentices are also set in industry collective agreements between employer associations and unions and are kept at a level of about 30% of a skilled employee's wage to reinforce the incentive for companies to take on apprentices.

3. Companies have to pay newly hired skilled employees at least the industry basic wage, thus, raising the cost of training them in company-specific skills, given that their marginal product without these skills is low.

Conclusion

We should seek to understand wage coordination in economies like Germany in terms of employer needs and employer coordinating capacities. German employers are not interested in wage coordination because it reduces unemployment or keeps inflation low. Wage coordination is important for them—at least according to my hypothesis—because it enables them to resolve contractual dilemmas posed by highly skilled work forces needed for the type of incremental innovation product strategies they adopt.

Current Problems with the Wage Determination System

The most critical problem until recently was whether the Bundesbank had the capacity to threaten the export unions, since the exchange rate mechanism of the EMS imposed something like fixed exchange rates on the main European economies. Since 70% of German exports are to other European economies, the difficulty for the Bundesbank to change exchange rates weakened its threat against the export sector unions. If the Bundesbank raised German short-term interest rates, that raised interest rates throughout Europe rather than changing the exchange rate, so that the effect on German exports was solely through the income effects of the interest increases. However, the virtual collapse of the ERM—in fact as a result of the Bundesbank carrying out its threat strategy of raising interest rates in response to inflation increases—has restored a firmer discipline to German wage determination.

A second weakness of the system, which has also become less important, is the role of the public-sector unions. Benefiting from exchange rate increases since they increase real wages, the public-sector unions were not threatened by the Bundesbank. However, cuts in government expenditures in the former West Germany have substantially clipped the wings of the public-sector unions.

The most serious challenge for the future of the system is the attitude of employers. Large employers, most concerned about their skilled manual work force, continue to be the main beneficiaries of the system. Moreover, they are not too concerned about working-hour inflexibilities, which the unions have imposed through collective bargaining, since they can normally rearrange procedures to get around them. Smaller employers are much more affected by these restrictions and also want more freedom to reduce wages (or wage growth) if their main markets are adversely hit. Thus it is probably not going too far to predict that changes will take place in the wage determination system, making it more flexible for smaller companies.

In the longer term, the future of the system depends upon the extent to which business associations and employer organizations remain worthwhile clubs. In the foreseeable future, while companies depend upon each other for technology development and cooperation in vocational training, export marketing, standard setting, dealing with federal and local government, and above all, dealing with organized labor, the attraction of being a member of the "club" is high. But whether that will remain the case is unclear.

Endnote

[1] I focus in this paper on what is happening in the former West Germany. Unless explicitly mentioned, I shall use Germany to refer to former West Germany.

DISCUSSION

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In the real world, wage determination responds to both economic and institutional forces. However, there has been a major change in the wage determination mix in recent years. Research conducted at the National Planning Association (NPA) indicates that between 1948 and 1980 economic forces accounted for roughly 50% of the actual wage patterns seen in the U.S., while institutional forces accounted for the remaining 50% (Belous 1989). However, between 1980 and 1988 economic forces accounted for approximately 80% of the wage patterns seen, while institutional forces accounted for only 20%.

Thus in recent years, the impact of economic forces in the wage determination process has grown. Nevertheless, institutional—or sociological—forces still matter a great deal. The papers by Lloyd Ulman and Yoshi Nakata, David Soskice, and David Levine show how wage determination in the United States, Japan, and Germany have been buffeted by both short-term and long-run economic forces.

The Ulman-Nakata paper clearly shows that the Japanese wage determination system works best in an environment of rapid growth. However, Japan has not experienced—and will not experience—rapid growth for quite some time. This means the wage determination process in Japan will be under serious pressure. I would suspect that more Japanese employers will try to opt out of the former wage determination system by using more *contingent* workers.

The Soskice paper shows the recent tensions that the German wage determination system has experienced. However, it is not fair to blame recent German economic problems on the German industrial relations system. What Germany is experiencing in the early 1990s is a form of "Reagonomics on the Rhine." Just as President Reagan pushed a U.S. policy in the 1980s of expansionary fiscal policy and very tight monetary policy, Germany in the 1990s is experiencing the same macro policy mix. In the U.S.,

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Reaganomics distorted the value of the dollar and made it very difficult for U.S. exporting industries. Germany is experiencing a similar result from "Reaganomics on the Rhine." Thus it is not fair to blame the German industrial relations system for macroeconomic problems.

The Levine paper contains a very important insight: so-called wage flexibility does not mean that markets will go magically to equilibrium. It is possible to have many forms of wage flexibility and still see labor markets not clearing. This is because employers are more interested in efficiency wages than they are in market clearing.

The increased role of economic forces in the wage determination process could lead more German, Japanese, and American employers to opt out from any form of pattern bargaining. This could lead to more wage and income inequality in these three countries in the 1990s.

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XIII. REFEREED PAPERS: EMPLOYEE RIGHTS AND PUBLIC POLICY

Vacating Arbitration Awards Dealing with Sexual Harassment in the Aftermath of *Misco*

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Sexual harassment cases decided by the federal courts generally involve situations where an employee has quit, has been constructively discharged or terminated, and then has filed a complaint alleging that he or she has been the victim of quid pro quo or hostile environment sexual harassment. Labor arbitrators also decide sexual harassment cases, but the issue in such cases usually involves the discipline or discharge of an employee who is accused of perpetrating the harassment. Moreover, because supervisors and/or managers are not typically covered by a collective bargaining agreement, arbitrators, as a rule, do not decide quid pro quo harassment cases, but rather only hostile environment ones. Arbitrators normally apply traditional just cause and due process considerations in fashioning their awards in these cases.

Recently there have been several circuit court decisions dealing with the vacutur of arbitration awards in sexual harassment cases. The cases were each decided in a different circuit. *Newsday v. Long Island Typographical Union*,[1] and *Stroehmann Bakeries v. Local 776*,[2] represent cases where the courts vacated an arbitration award based on the contention that the award violated a clear public policy forbidding sexual harassment. On the other hand, two other circuits have decided against vacating arbitration awards despite the fact that in each case the arbitrator had reinstated an

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employee who was found to have committed acts of sexual harassment (*Communication Workers v. S.E. Elec. Co-op*[3] and *Chrysler Motors v. International Union*[4]). It is the purpose of this paper to discuss the rationale employed by the various circuit courts in reaching their respective decisions and to provide guidelines to arbitrators when deciding sexual harassment cases in order to avoid court scrutiny or reversal. Also, the reasoning applied by the courts when reversing arbitration decisions in sexual harassment cases is examined and critiqued.

Misco

The Supreme Court in *Misco* (*United Paperworkers International Union v. Misco, Inc.*)[5] reversed the lower court, noting that the latter had made no attempt to review existing laws and legal precedents to determine whether there existed a "well-defined and dominant" policy regarding the operation of dangerous machinery while under the influence of drugs.[6] While the High Court observed that such a judgment is "firmly rooted in common sense," it argued that a public policy based only upon "general considerations of supposed public interests" is not sufficient to set aside an arbitration award. It pointed out that the court of appeals erroneously drew the conclusion that because traces of marijuana were found in the grievant's car, he was under the influence of marijuana while on the company's property. "A refusal to enforce an [arbitration] award must rest on more than speculation or assumption."[7] The U.S. Supreme Court even asserted that had the arbitrator found that Cooper had possessed drugs on company property and still imposed discipline short of discharge on the basis that Cooper could have been trusted not to use the drugs on the job, the award could not be upset on the assertion that public policy regarding plant safety was threatened.[8]

Communication Workers

The first post-*Misco* court case involving the vacation of an arbitration award dealing with sexual harassment was *Communications Workers*. A district linesman for Southeastern Electric Cooperative, Willie Gray, was discharged after a customer claimed that he had forced a kiss on her and had touched her breast while in her home.[9] Gray had 19 years of service with the coop and had an otherwise good work record. Subsequently, an arbitrator concluded that though the offense was a "serious one" in a "sensitive industry," it was a one-time offense, the grievant was penitent, and corrective discipline was appropriate to salvage Gray's career. Gray was suspended one month without pay and reinstated. The employer then sought to vacate the arbitrator's decision but a district court entered a summary judgment for the union, and the employer appealed.

The Tenth Circuit, relying on *Misco*, noted: "Thus, courts have limited authority to review the merits of labor arbitration awards. We are not free, *Misco* teaches us, to reject factual findings with which we disagree or the arbitrator's interpretation of the contract."[10] The Court further stated that the arbitrator had fully considered the evidence in the case, including making determinations of witness' credibility. It noted that the arbitrator had indicated that it was a one-time (first time) offense and that Gray was penitent and apologetic. The Court also emphasized that broad discretion is accorded to arbitrators "when it comes to formulating remedies."[11] Finally, the Tenth Circuit observed:

> Albeit preventing the sexual assault and abuse of women is of paramount importance, we believe the just cause determination (of the arbitrator) fully incorporated this important concern under all the circumstances.[12]

Chrysler Motors

The facts in the *Chrysler Motors* case were not in dispute. Ronald Gallenbeck, a forklift operator, put down a telephone receiver, approached a female coworker from behind, and then grabbed her breasts as she was inspecting a door panel. He returned to the telephone and commented, "Yup, they're real." The company discharged Gallenbeck and he grieved. While the company argued in arbitration that Gallenbeck had committed four other offenses when he intentionally grabbed and/or pinched female coworkers, the arbitrator refused to consider this evidence because Chrysler had obtained it *after* Gallenbeck's dismissal (the arbitrator in *Misco* also refused to consider post-discharge obtained evidence). The arbitrator reinstated Gallenbeck because he believed that the grievant could be rehabilitated.

The Seventh Circuit, in upholding the arbitration award, noted that arbitrators routinely measure the seriousness of employee conduct against the penalty imposed and also take into account a grievant's past employment and disciplinary record. No prior warnings or discipline were found in Gallenbeck's file. The Court observed that an arbitrator has authority to bring his "informed judgment" to reach a solution to a problem and wide latitude is granted to him in formulating remedies. It concluded that a court:

> . . . would be hard pressed to find a public policy banning reinstatement in a case in which an arbitrator has, or by implication, determined that the employee is subject to rehabilitation and

> therefore not likely to commit an act which violates the public policy in the future.[13]

Newsday

In *Newsday* a compositor named Waters was discharged for "disorderly conduct" in 1983. When he would pass by female employees, he would touch them. Later, the company decided to reinstate Waters voluntarily, but he filed a grievance protesting his suspension of some four days. This discipline was sustained by an arbitrator, and he warned that any further behavior of this type would be grounds for his immediate discharge.

Subsequently, Waters was discharged again in 1988 for "disorderly conduct" after he had brushed up against a female employee's lower back and upper buttocks and then later "slammed into her back." Previous to this incident he had slapped a woman on the buttocks and put his hands on the rib cage of another woman and slid them down toward her waist.

The arbitrator concluded that the three sexual harassment incidents had, in fact, occurred. However, he argued that even though the conduct was "serious," the offenses were not "ones that call for immediate discharge." The arbitrator applied concepts of progressive discipline and reinstated the grievant without back pay.

In vacating the arbitration award, the Second Circuit held that the award was in violation of a clear public policy. It claimed that the policy was ascertained "by reference to the laws and legal precedents. . . ."[14] The Court pointed out that Title VII of the Civil Rights Act of 1964 prohibits discrimination on the basis of sex.[15] It also cited provisions of the EEOC's policy guidelines regarding sexual harassment including a definition of hostile environment harassment. As to legal precedent, the Second Circuit pointed to *Meritor Savings Bank, FSB v. Vinson*,[16] which upheld the concept that sex discrimination may create a hostile or abusive work environment.[17] Finally, the Second Circuit concluded:

> Instead, [arbitrator] Adelman's award condones Waters' latest misconduct; it tends to perpetuate a hostile, intimidating, and offensive work environment: Waters has ignored repeated warnings. Above all, the award prevents Newsday from carrying out its legal duty to terminate sexual harassment in the work place.[18]

Stroehmann Bakeries

The most recent case in which the courts have entertained a motion to vacate an arbitration award occurred in *Stroehmann Bakeries*. There the company discharged a delivery man, Leonard, for "immoral conduct" after an employee at a customer's store had reported him for committing acts of sexual harassment against her. The company suspended Leonard while investigating the matter. It determined that Leonard had touched the employee's breast, pushed himself against her, and made sexually explicit remarks. The grievant was called in to make a written statement. Subsequently, the suspension was converted to a discharge. Leonard filed a grievance, and it was eventually arbitrated. The arbitrator ordered reinstatement with full back pay, based on his finding that Stroehmann had insufficiently investigated the incident. He [arbitrator] reached no conclusion concerning the evidence or the credibility of the witnesses as to whether or not Leonard had committed the acts for which he was accused (at least, according to the Third Circuit majority). The Third Circuit noted that:

> Since collective bargaining agreements are contracts, courts may not enforce them in a manner that is contrary to public policy. Accordingly, if an arbitrator construes a collective bargaining agreement in a way that violates public policy, an award based on that construction may be vacated by a court.[19]

It, as the Second Circuit had reasoned on *Newsday*, stated that a well-defined and dominant public policy concerning sexual harassment in the workplace can be ascertained by reference to the Civil Rights Act of 1964, the EEOC guidelines, and the Courts in *Meritor Savings Bank, FSB v. Vinson*. The fatal flaw in the arbitrator's award, according to the Second Circuit, was that the arbitrator had reinstated an employee accused of sexual harassment without determining first whether or not the sexual harassment had taken place.[20] It remarked:

> His [arbitrator Sands' award] would allow a person who may have committed sexual harassment to continue in the workplace without a determination of whether sexual harassment occurred. Certainly, it does not discourage sexual harassment. Instead, it undermines the employer's ability to fulfill its obligations to prevent and sanction sexual harassment in the workplace.[21]

Finally, the Third Circuit contrasted its conclusions with those of the Tenth Circuit in *Communication Workers*. It pointed out that while the arbitrator in the latter case determined the merits of the sexual harassment charge after considering the evidence and making credibility determinations, the arbitrator in *Stroehmann* did none of those things. The Tenth Circuit merely deferred to the arbitrator's choice of remedy.[22] The case was subsequently remanded by the Court to a different arbitrator.

Discussion

A review of the cases shows that the courts appear willing to set aside arbitration awards in sexual harassment cases under certain circumstances. The *Stroehmann* court stressed that the arbitrator had erred when he reinstated an employee accused of sexual misbehavior without first determining whether the harassment had occurred. Instead of reviewing the evidence and making credibility determinations regarding the various witnesses and making a finding as to the guilt or innocence of the grievant, the arbitrator overturned the discharge on due process grounds alone—alleged lack of an unbiased investigation and failure to provide the grievant an opportunity to present his side of the story. Normally an arbitrator makes a factual determination of guilt or innocence first and, if insufficient evidence of guilt is apparent, reverses the discharge (for lack of just cause). On the other hand, if there are grounds for discipline including discharge, the arbitrator may find mitigation in the form of procedural or due process mistakes made by the employer.

An arbitrator may also be reversed even though he made a factual determination that an employee had committed the sexual misbehavior for which he was accused but is reinstated anyway. Presumably this reinstatement must follow an earlier finding that the employee had committed a similar sexual harassment offense(s). The *Newsday* court found that such an arbitrator's reinstatement action would be to "condone" a known or repeat sex offender's return to the workplace. This would allow him an opportunity to again create a hostile, intimidating, or offensive work environment. However, if an arbitrator fully considers the evidence before him, entertains conflicting evidence, and makes credibility determinations, his award in a sexual harassment case will be on firmer (judicial) grounds (*Communication Workers*). Reinstatement of an employee found to have sexually harassed a coworker or customer may be tolerated if it represents the first time that the employee has committed such an offense, particularly when the employee is one of long service and is apologetic and penitent for his offense.

The various circuits' guidelines notwithstanding, a question remains whether or not the courts should reverse arbitral decisions in sexual harassment cases on public policy grounds. It is conceded that a court must not enforce an arbitration award that sanctions a contract clause which is contrary to public policy. However, when a court reviews the merits of an award that interprets or applies the just cause clause, it appears that the courts violate that dicta which the U.S. Supreme Court endorsed in *Enterprise Wheel (United Steelworkers of America v. Enterprise Wheel and Car*

Corp.);[23] namely, that courts must not annul the bargain of the parties for an arbitrator's construction of their collective bargaining agreement. Discipline is a mandatory subject for bargaining, and the parties have disposed of this issue by specifying that discipline or discharge should be for just cause and leaving the interpretation and/or application of the just cause proviso up to an arbitrator. When the courts set aside an arbitrator's interpretation of the just cause clause, they nullify an award permitted by law and supported by federal labor policy. In effect, the courts authorize an employer to take unilateral action in certain disciplinary matters. To be sure, no one would argue that an arbitrator should exceed his authority by interpretations that violate the clear and unambiguous terms of the collective agreement, but the just cause clause is, on its face, ambiguous and thus subject to interpretation.

In United States Postal Service v. National Association of Letter Carriers, AFL-CIO,[24] a post-*Misco* case (but not one dealing with reversal of an arbitration award for violation of public policy in a sexual harassment matter), the Third Circuit outlined some of the public policy parameters for when setting aside an arbitrator's award is inappropriate. These occur (1) when there is no showing of a dominant and well-defined public policy; (2) when a judicial finding that a public policy would be violated rests on inferences of fact not made by the arbitrator; and (3) when a court's finding that a public policy has been violated is, in reality, merely a disagreement with the arbitrator's construction of a just cause provision.[25] It is this latter point which is crucial. While there is no doubt that a dominant and clear public policy exists which forbids sexual harassment, there is no reason to conclude that there has been a violation of such public policy when an arbitrator has failed to make a determination that the harassment has occurred. Unless an employee has been disciplined before for the (sexual misconduct) offense, there appears to be no public policy violated when an arbitrator reinstates an employee in the absence of a factual finding that the employee either did or did not commit the misbehavior for which he was accused.

In *Communication Workers*, the Tenth Circuit declined to overturn the arbitrator's award, even though the arbitrator had found that the employee had engaged in sexual misconduct and was going to be allowed to return to the workplace. Moreover, the Seventh Circuit in *Chrysler Motors* refused to vacate the award of an arbitrator who ordered reinstatement (after a 30-day suspension) for an employee who had engaged in egregious sexual harassment. If the Tenth and Seventh Circuit could find no violation of public policy when a known sex offender was reinstated, how could the Third Circuit in *Stroehmann* find the arbitrator's award to contravene the public policy when it was never determined (at least, according to the Third Circuit) whether the sexual harassment had occurred in the first place?

Endnotes

[1]915 F.2d 840 (2nd Cir. 1990).

[2]969 F.2d 1436 (3rd Cir. 1992).

[3]882 F.2d 467 (10th Cir. 1989).

[4]959 F.2d 685 (7th Cir. 1992).

[5]108 S.Ct 364 (1987).

[6]In *Misco*, an employee (Cooper) had been discharged for possession and use of marijuana on company property. His normal job was a slitter-rewinder machine operator. That machine uses sharp blades to cut rolls of paper and is considered potentially dangerous to operate. He was discovered in the back seat of another employee's car while a lighted marijuana cigarette burned in the front seat ashtray. The arbitrator found a lack of evidence to support the claim that Cooper possessed or used marijuana on company property because no one had observed him smoking and the ownership of the burning marijuana cigarette was not established. He (arbitrator) also did not consider evidence that traces of marijuana were found on scales in the grievant's car because the company was not aware of that fact when it discharged Cooper.

[7]*Id.* at 374. The text of the arbitrator's award in the *Misco* case is reported at 88-2 ARB. Par. 8503 (CCH) (Fox, Arb.) (1983) or 89 Lab. Arb. 137 (BNA).

[8]*Id.* at 374, 376. Justice Blackmun writing and Justice Brennan joining in a concurring opinion stated: "I do not understand the Court; by criticizing the company's public policy formulation, to suggest that I understand the Court to hold that such compliance is merely a necessary step in an award is not to be enforced."

[9]Complaints were made by the customer to the district attorney, but the charges were later dropped.

[10]*Communication Workers, supra*, n. 3 at 468.

[11]*Id.* at 470.

[12]*Id.* at 469.

[13]Cite omitted, *Chrysler Motors, supra*, n. 4 at 688.

[14]*Newsday, supra*, n. 1 at 844.

[15]*Id.*

[16]106 S.Ct. 2399 (1986).

[17]*Newsday, supra*, n. 1 at 845.

[18]*Id.*

[19]*Stroehmann Bakeries, supra*, n. 2 at 1441.

[20]*Id.* at 1442.

[21] *Id.*

[22] *Id.* at 1443.

[23] 80 S.Ct. 1358, 1360 (1960).

[24] 839 F.2d 146 (3rd Cir. 1988).

[25] This conclusion becomes all the more compelling in view of the fact that the postal employee involved in that case fired gun shots into his supervisor's unoccupied parked car. Yet the arbitrator found that the behavior, though "serious" and deserving discipline, was not cause for dismissal because the employee had 13 years of excellent service and had never before demonstrated a violent attitude.

Does the Banning of Permanent Strike Replacements Affect Bargaining Power?

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The Wagner Act system of U.S. collective bargaining and its Canadian cousin are fundamentally premised upon a balance of power between labor and management.[1] Since the primary determinant of labor's power is its ability to withhold labor via a strike, North American collective bargaining ultimately revolves around the nature of the strike threat. Thus it is not surprising that recently introduced U.S. legislation banning the hiring of permanent strike replacements is organized labor's top legislative priority and has been intensely debated in many forums.

While these debates have many facets, the effect such a ban would have on bargaining power is at the forefront. Labor claims that replacing workers is analogous to firing them. Thus workers are not being allowed to exercise their right to collective representation. Business contends that without the option of hiring replacements during a strike, the union's bargaining power would be so high it would jeopardize competitiveness. But no one knows what would actually happen in the U.S. Until a recently enacted law in Minnesota, there had been no experience with strike replacement legislation in the U.S. except for some state prohibitions on professional strikebreaking firms. However, there have been laws enacted in several Canadian provinces. Since the industrial relations systems are very similar, one can look to the Canadian experience with strike replacement legislation for insights into possible effects in the U.S.

The focal point of the arguments against strike replacement legislation is that it will drastically affect relative bargaining power. If this is true, collectively bargained wages would be higher in situations in which there was

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a ban on strike replacements. This paper empirically tests this proposition by analyzing the effects of provincial strike replacement legislation on unionized wage determination in Canadian manufacturing between 1966 and 1985.

Permanent Strike Replacements: Policies and Debates

While part of the U.S. labor relations system for over fifty years, permanent strike replacements have not traditionally been a major issue of contention between labor and management. However, with the number of recent high-profile strikes in which permanent replacements were used, the current efficacy of this economic weapon is one of the major labor relations policy issues today.

Permanent replacements are not explicitly addressed in the National Labor Relations Act (NLRA). However, the Supreme Court quickly made a provision for this economic weapon. In *NLRB v. Mackay Radio and Telegraph Co.*[2] the Court stated, "Nor was it an unfair labor practice to replace the striking employees with others in an effort to carry on the business." This statement is especially striking because the Supreme Court was not presented with the question of the legality of permanent replacements.

Subsequent Supreme Court opinions have reinforced the pronouncements of *Mackay* and have defined the limits on the use of permanent replacements. The replacement of strikers is not allowed where the strike is the result of an employer's unfair labor practice. In addition, replacements cannot be given special treatment by employers; and when considering new hiring, employers must first exhaust the pool of employees who had been replaced before hiring others.

Scholars and practitioners have been critical of the *Mackay* doctrine since it was handed down. The major criticisms of the doctrine are (1) it makes the right to strike and, thus, all NLRA Section 7 rights meaningless, (2) it is inconsistent with subsequent Supreme Court doctrine regarding the use of economic weapons in labor relations, (3) permanent replacements are not necessary to the continuing operation of a business, and (4) the real impact of permanent replacements is that they allow an employer to rid itself of a union.

Supporters of permanent replacements argue that the impact of the *Mackay* doctrine is not as significant as opponents state. They assert that (1) the balance of power would be irrevocably altered if permanent replacements were banned, (2) the right to strike is not protected in all situations, (3) requiring employers to show the necessity of permanent replacements in every situation would result in increased litigation, and (4) unions are protected from employers who attempt to use permanent replacements to decertify them.

While the *Mackay* doctrine has been criticized for decades, unions have shown little inclination to change the law regarding permanent replacements because it was seldom used by employers. However, in the past decade attention toward the use of permanent replacements has increased, and unions have made the repeal of *Mackay* one of their utmost priorities. In the past three Congressional sessions, legislation has been introduced to ban the hiring of permanent replacements. Most recently, HR 5 was reintroduced by Congressman William Clay (D-Missouri) in January 1993. This bill would specifically override *Mackay* by amending Section 8(a) of the NLRA to make it an unfair labor practice "to offer, or to grant, the status of permanent replacement employee to an individual for performing bargaining unit work for the employer during a labor dispute." The bill would similarly amend the Railway Labor Act.[3]

At past Congressional hearings featuring debate over this bill, all of the above-mentioned arguments for and against the banning of permanent replacements were articulated. However, the main focus of the debate was the impact that banning permanent replacements would have on the collective bargaining system. The chairman of the House of Representatives Subcommittee on Labor-Management Relations framed the debate in the following manner:

> What is ultimately at stake is the survival of collective bargaining. Without an effective right to strike, workers enter into negotiations with no leverage. The specter of permanent replacements always hovers over the bargaining table, grossly distorting collective bargaining from the outset (U.S. Congress 1991:2).

At the hearings, union officials presented testimony illustrating numerous situations over the past decade where permanent replacements had been used with severe effects on the viability of unions. Labor further argued that permanent replacements were used to impede collective bargaining and that they allowed employers to eliminate unions, not negotiate: "The evil of the *Mackay* doctrine goes beyond its fundamental injustice to employees, as great as that injustice is. *Mackay* also serves to corrupt the collective bargaining process itself" (U.S. Congress 1991:73).

At the Congressional hearings, management representatives and the Bush Administration also focused on the issue of collective bargaining. Arguing for the status quo, they stated that without permanent replacements there would be no check on a union's desire to strike. Secretary of

Labor Lynn Martin argued that "HR 5 would eliminate a major check on precipitous striking, promote increased labor unrest, and disrupt the flow of commerce" and added that "HR 5 would destroy the balance in the collective bargaining system" (U.S. Congress 1991:4-5).

In sum, a primary argument against such legislation is that "the playing field would then be tilted in favor of the union" (U.S. Congress 1991:452). In other words, a ban on the hiring of permanent strike replacements would increase labor's relative bargaining power. This contention can be translated into an empirical hypothesis: Collectively bargained wages would be higher in situations where the employer did not have the option of hiring permanent replacements. Note carefully that this hypothesis does not depend on the actual usage of replacements, but simply on the threat or the option of doing so.[4] However, there is no scope for testing this hypothesis in the U.S. since there is only one law in the U.S. banning the hiring of permanent strike replacements. That law was recently enacted in Minnesota, and the legality is still under question. Interestingly, in *Employers Association, Inc. v. United Steelworkers of America*,[5] a federal judge ruled against the legality of the Minnesota law on the grounds, *inter alia*, that the ban "has materially altered the congressionally defined equilibrium which exists between management and organized labor in collective bargaining negotiations." Again this is the empirical question in need of testing.

In contrast to the U.S., one can potentially gauge the effects of legislation pertaining to strike replacements in Canada. In 1977 the province of Quebec banned the hiring of *any* replacement workers: "Every employer is prohibited from (a) utilizing the services of a person to discharge the duties of an employee represented by a certified association that has declared a strike. . . ."[6] At the same time, Quebec provided strikers with reinstatement rights: "At the end of a strike or a lockout, any employee who has been on strike or has been locked out is entitled to recover his employment by priority over any other person. . . ."[7] Permanent replacement workers were effectively partially banned in 1970 in Ontario because striking employees were granted the right to get their jobs back within six months of the start of the strike. In 1985 Manitoba provided for reinstatement rights for strikers at the end of a strike, regardless of duration, and also explicitly banned the hiring of permanent replacements.[8]

Gunderson, Kervin, and Reid (1989) find that the Quebec replacement ban increases strike incidence, and Gunderson and Melino (1990) find that it increases strike duration. However, many of the arguments against banning replacements focus on the effects on bargaining power. This question has not been empirically examined. Thus the next section analyzes the effects of the Quebec replacement legislation and the Ontario and Manitoba reinstatement rights legislation on unionized wage determination.

Data and Results

A wage settlement file collected by Labour Canada consisting of data on collective bargaining agreements is the primary data for this study. Information available includes the company and location, union, number of covered employees, industry, wage information, and year and month of settlement.[9] These data were merged with several aggregate product and labor market indicators. The resulting data set contains 2042 collective bargaining agreements in Canadian manufacturing between 1966 and 1985. Sample statistics of the variables used in the regression analysis are presented in column 1 of Table 1.

Additionally, indicator variables are created for the presence of four public policy provisions: a strike replacement ban, striker reinstatement rights, a mandatory strike vote, and compulsory dues checkoff. For the most part these provisions vary by province and across time.[10] The strike replacement ban variable uses the Quebec legislation and the reinstatement rights variable uses the Ontario, Quebec, and Manitoba laws. As illustrated in Table 1, 13.8% of the contracts were negotiated in a province-month when the hiring of all strike replacements was prohibited and 51.5% in a province-month where strikers have some type of reinstatement rights.

As stated above, the primary question of interest is whether the presence of strike replacement legislation significantly affects unionized wage determination. To address this question, the logarithm of the average real wage over the life of the contract is regressed on bargaining unit size, log industry average hourly earnings, real gross national product, and the national unemployment rate.[11] These typical wage determinants are augmented with an indicator for the presence of strike replacement and striker reinstatement legislation. The point estimate in column 2 of Table 1 suggests that wages are approximately 4.9% higher in negotiations where replacements are banned and is statistically significant at the 5% level. For reinstatement rights, the estimate is negative.

However, recall that only one province, Quebec, had legislation banning strike replacements during the time period of these data. Thus the indicator variable for this legislation is observationally equivalent to an indicator variable denoting a contract in Quebec signed in December 1977 or later. If there was a structural change in industrial relations in Quebec in December 1977, these changes may be confounding our estimate of the

TABLE 1
The Effect of Strike Replacement Laws on Contract Wages in Canada

Variable	Sample Means (Standard Deviation)	OLS Regression Coeff. (Standard Error)[a]	
	(1)	(2)	(3)
Ban on hiring of strike replacements	0.138 (0.345)	0.049[c] (0.020)	0.026 (0.075)
Reinstatement rights for strikers	0.515 (0.500)	-0.034 (0.018)	-0.035 (0.018)
Mandatory strike vote	0.290 (0.454)		0.033 (0.072)
Compulsory dues checkoff	0.311 (0.463)		-0.021 (0.017)
Number of employees in the bargaining unit[b]	1530.810 (2292.170)	0.008[c] (0.001)	0.008[c] (0.001)
Log industry average hourly earnings (1986 dollars)	2.421 (0.219)	0.432[c] (0.116)	0.434[c] (0.116)
Gross national product (1986 dollars-billions)	377.150 (74.420)	-0.002[c] (0.001)	-0.002[c] (0.001)
Unemployment rate, both sexes, ages 15+	7.211 (2.301)	-0.018 (0.009)	-0.018 (0.009)
Industry effects		Yes	Yes
Province effects		Yes	Yes
Year effects		Yes	Yes
R^2		0.641	0.641
Sample size	2042	2042	2042

Source: Collective bargaining agreements in Canadian manufacturing, 1966-1985.

Notes: [a]Dependent Variable: Log of Average Real Wage Over Contract Life. Sample mean (standard deviation) of the dependent variable is 2.307 (0.261). Each model also contains an intercept.

[b]Regression coefficient multiplied by 1000.

[c]Statistically significant at the 0.05 level (two-tailed test).

legislation's effect. In fact, Quebec instituted several changes in industrial relations public policy at the same time as the ban on strike replacements: a mandatory strike vote and compulsory dues checkoff were both implemented in December 1977.

Unlike the ban on strike replacements though, these two public policy provisions are not unique to Quebec. In fact, column 1 of Table 1 illustrates that 29% of the contracts in these data were bound by a mandatory strike vote provision and 31.1% by compulsory dues checkoff. Thus we can use the variation in these laws across provinces and years to separately identify the effects of the various public policy initiatives.

The results of this analysis are presented in column 3 of Table 1. When controlling for the other laws implemented at the same time in Quebec, the effect of the strike replacement legislation is reduced to approximately 2.5% and is clearly not statistically significantly different from zero. Note that the Quebec legislation bans replacement workers without distinguishing between temporary and permanent workers and is therefore stronger than that proposed in the U.S., but still no effect on relative bargaining power is found. The coefficient for reinstatement rights remains negative. Recall that reinstatement rights effectively ban the use of permanent strike replacements (at least for six months in Ontario). Thus the primary finding of this paper is that there is no evidence to support the contention that the presence of legislation affecting the use of strike replacements significantly alters relative bargaining power and the wage determination process.

Furthermore, note that industry, province, and year effects are all estimated in the regressions.[12] Thus systematic differences in contracts in Quebec or contracts in the specific years of 1978-1985 relative to the other contracts are not generating the results.

Conclusion

Many aspects of U.S. and Canadian labor law continue to be subjected to close scrutiny and intense debate, and deservedly so. At the forefront of proposals for immediate change are laws and doctrine pertaining to the economic weapons of collective bargaining, especially the right to hire permanent strike replacements during an economic strike. Laws banning the use of permanent strike replacements recently passed in Ontario and British Columbia and bills to this effect are under consideration by the U.S. Congress and several state legislatures.

This type of legislation is highly contentious. While the passage of the U.S. bill is of the utmost priority for organized labor in the U.S., business argues that the effect on relative bargaining power would be irreparable. Actual empirical analysis of the effects of this legislation in the U.S. is lacking. However, the experience in Canada with different laws can be used to gauge the actual effects on collective bargaining.

To this end, this paper analyzes the effects of provincial strike replacement legislation on unionized wage determination in Canadian manufacturing between 1966 and 1985. No evidence is found to support the contention that strike replacement legislation distorts the existing balance of power between labor and management. This result is important for scholars, policymakers, and practitioners in the U.S. and Canada in the endeavor to craft new labor legislation that is responsive to the needs of workers while facilitating economic competitiveness.

Endnotes

[1]Due to space limitations, detailed citations and reference are not provided but are available upon request from the authors.

[2]304 U.S. 333, 346 (1938).

[3]In 1992, HR 5 was passed by the House of Representatives but died in a filibuster in the Senate. As of December 1993, HR 5 had again passed in the House but was awaiting action in the Senate. Legislation restricting the use of permanent strike replacements was also introduced in several states in 1993.

[4]Gramm (1991) and Olson (1991) analyze the relationship between actual replacement usage and strike duration.

[5]803 F. Supp. 1558 (D. Minn. 1992).

[6]*Labour Code*, 1977, sec. 97a.

[7]*Id.* at sec. 98a.

[8]Legislation since 1985 is not mentioned since the data end in 1985; see Budd (1993) and Spector (1992).

[9]David Card (1990) graciously provided a clean version of these data.

[10]Gunderson, Kervin, and Reid (1989, Table 1) contains a useful summary of the effective dates of various labor laws in Canada.

[11]The results are similar when the percent change in the contract wage is used as the dependent variable; see Budd (1993).

[12]The p-value for the F-test of joint significance for each of these categories is less than 0.001.

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Starting Salary Differences Between Women and Men: Organizational-Level Findings

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The female-male earnings ratio stands at 73% for managerial and professional specialty jobs (Bureau of Labor Statistics 1992). Economic theory attempts to explain gender-related earnings differences in terms of marketwide demand and supply. However, it has become increasingly apparent to economists, sociologists, and other students of pay determination that market and other influences on pay should be studied and understood in the context of specific organizations (employers) for two reasons: (1) the pay-setting process occurs within organizations, and (2) similar organizations can differ significantly in their pay practices (Gerhart and Milkovich 1990). Additionally, organization-level information is essential to estimate the likely impact of pay policies (such as pay equity) designed to reduce within-employer pay differentials (Groshen 1990; Johnson and Solon 1986).

Literature Review

In the absence of employer-level data, Johnson and Solon (1986) used industry-level data to conclude that a comparable worth policy would eliminate 8% to 20% of women's pay disadvantage. Moreover, the authors suggested that they actually may have overstated the policy's efficacy because they used industry rather than employer-level data.

Groshen (1990) was able to use establishment-level data to estimate that 40% to 74% of negative returns to percent female occur within establishments, and thus, a comparable worth policy would have great impact on female-male pay differences. In our study we build upon Groshen's (1990) application of policy to earnings differentials. However, Groshen's study did not control for human capital and examined only five industries, as opposed to Johnson and Solon's economywide sample.

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This study adds to the literature on female-male earnings differences in several ways. First, we measured human capital type and quality, neither of which is controlled for in the Johnson and Solon or Groshen studies. Second, using controls for both employer and industry, we evaluated Johnson and Solon's suggestion that employer-level data more finely distinguish and, therefore, provide lower estimates of within-organization pay differences. Finally, the present research expanded the generalizability of results beyond these and other previous studies by utilizing data on more than 60 industries and more than 250 private- and public-sector employers.

Because Gerhart (1990) and Olson, Frieze, and Good (1987) found that starting salary shortfalls for women explained a large portion of career female-male earnings differences, and because starting salaries do not contain the confounding influences of after-hire factors, this study focused on starting salary differences between women and men.

We examined two research questions: (1) How much of the female-male disparity in the starting salaries occurs within versus between organizations? (2) What are the implications of these results regarding the ability of public policies to remedy differences between female and male starting salaries?

Methods

Sample

We studied 2,720 new graduates of a large university. The subjects, 46% of whom were women, graduated between 1985 and 1988 and accepted employment with more than 250 organizations, that on average hired ten graduates.

Measures

We explored differences between women and men in starting salaries. Since the primary human capital sources of female-male pay differences include level and quality of education (Becker 1971; Mincer 1974), we distinguished masters and bachelors degree recipients by a dummy variable for degree level; human capital quality was measured by grade point average and by examining graduates of a single university to minimize variation in educational quality. Dummy variables were also used to hold constant the year of graduation and ethnicity.

College major served both as a measure of human capital and a measure of labor market conditions and has been found to be a significant predictor of salaries (Daymont and Andrisani 1984; Gerhart 1990). Major was measured with 65 dummy variables. We were unable to measure another source of gender-related pay differences—labor market experience (Mincer and Polachek 1974; Olson et al. 1987)—but variation in experience is expected to be minimized by the fact that more than 80% of the sample consists of undergraduates.

Controls for occupation assured that employees within organizations are doing similar enough work that a pay equity policy would have an impact on them. We controlled for occupation using three-digit Standard Occupational Classification (SOC) codes. We used industry dummy variables based on three-digit Standard Industrial Classification (SIC) codes to capture market influences specific to particular industries. We assigned codes to employer dummy variables based on the Dun and Bradstreet Million Dollar Directory coding (where applicable) and unique employer identification numbers otherwise to capture market influences specific to particular employers.

The demand-side variables of occupation, employer, and industry are important because women work in separate industries/sectors (Blau 1977; Goldin 1990), establishments (Groshen 1990), occupations (Blau 1977; Groshen 1990), and job-cells (occupation within employer) (Blau 1977; Bielby and Baron 1986; Groshen 1990) than do men. Significant segregation by these related structural components may translate into earnings differences between women and men (Buckley 1971; Beller 1982).

Analyses

To determine the portions of the female-male pay difference occurring between and within organizations (research question 1), ordinary least squares (OLS) regressions were performed with data on women and men in the same equation. To each of four basic models (A, B, C, and D), employer or industry dummy variables were added and changes were calculated in the gender (SEX) variable coefficient:

A) $$\ln(S_i) = \text{SEX}\,\beta_1 + \mu$$

B) $$\ln(S_i) = \text{SEX}\,\beta_1 + \text{HC}\,\beta_2 + \text{ETH}\,\beta_3 + \text{DATE}\,\beta_4 + \mu$$

C) $$\ln(S_i) = \text{SEX}\,\beta_1 + \text{HC}\,\beta_2 + \text{ETH}\,\beta_3 + \text{DATE}\,\beta_4 + \text{MAJ}\,\beta_5 + \mu$$

D) $$\ln(S_i) = \text{SEX}\,\beta_1 + \text{HC}\,\beta_2 + \text{ETH}\,\beta_3 + \text{DATE}\,\beta_4 + \text{MAJ}\,\beta_5 + \text{OCC}\,\beta_6 + \mu,$$

where S_i is the starting salary of the i-th worker, HC is a vector of human capital characteristics, ETH represents a vector of ethnic dummy variables, DATE represents a vector of graduation date dummy variables, MAJ is a vector of college major dummy variables, and OCC a vector of occupation dummy variables. β represents the vector of coefficients and μ is an error term.

For example, Model B includes a gender dummy variable and the human capital controls of degree level and grade point average. This model may generate a negative coefficient on the gender variable, indicating that women were paid less than men despite controls for human capital. If the subsequent addition of the employer variable to this model decreases the gender dummy coefficient, then the new gender coefficient equals the earnings difference occurring within employers. The difference between the former and the new gender coefficients equals the between-employer pay difference.

Results

Research Question One

How much of the female-male disparity ($4,344) in the starting salaries occurs within versus between organizations? Table 1 presents estimates of between- and within-organization differences.

For each of four general Models A, B, C, and D, three sets of regressions were run, and changes in the gender dummy coefficients were calculated as subsequent variables were added to the model. For example, in Model B starting salary was regressed on the gender dummy variable, degree level, GPA, and controls for year of graduation and ethnicity. The resulting coefficient on gender was -.15, or -15%; thus women received 15% ($3,620) less in pay than men. To determine how much of this -15% occurs within versus between employers, a second regression added the employer dummy variables, and a new gender coefficient of -.04, or -4% ($965) was estimated. This represents the amount of the 15% ($3,620) occurring within organizations. The difference between the -15% and the -4%, or -11% ($2,655), represents the between-employer portion of the pay difference.

These percentages are also expressed as a percentage of the total difference for a particular model. Thus for Model B, of the unaccounted for difference of -15%, 73% occurred between employers; 27% occurred within employers (Table 1).

Two findings from these analyses are noteworthy. First, gender segregation by employer may be largely based upon college major. In Model B, which does not control for major, 73% of the initial salary difference was due to segregation by organization, or between-employer differences. However, when department major was added in Model C, between-employer sources accounted for only 40% of the remaining pay difference. In other words, the within- and between-organization sources became more equivalent in Model C because of the control for major.

TABLE 1
Between- Versus Within-Employer Salary Differences

Model	Adj. R^2	Total Salary Difference % ($) % of Total	Between Employers % ($) % of Total	Within Employers % ($) % of Total
(A) ln(Sal) = SEX	.080	-18% ($4,344) 100%		
+ Employer	.702		-13% ($3,137) 72%	-5% ($1,206) 28%
+ Industry	.620		-12% ($2,896) 67%	-6% ($1,448) 33%
(B) Model A + HC	.209	-15% ($3,620) 100%		
+ Employer	.790		-11% ($2,655) 73%	-4% ($965) 27%
+ Industry	.697		-10% ($2,413) 67%	-5% ($1,207) 33%
(C) Model B + MAJ	.581	-5% ($1,448) 100%		
+ Employer	.815		-2% ($579) 40%	-3% ($869) 60%
+ Industry	.740		-2% ($579) 40%	-3% ($869) 60%
(D) Model C + OCC	.698	-4% ($965) 100%		
+ Employer	.848		-1% ($290) 25%	-3% ($869) 75%
+ Industry	.789		-1% ($290) 25%	-3% ($869) 75%

Relatedly, in Models A and B, the employer dummy variables attributed somewhat less of the female-male differences to within-organization sources than did industry variables. For example, in Model B the employer dummy attributed 27% of the remaining gap to within-employer differences, while the industry dummy attributed 33% to such sources. These differential results could lead to different policy conclusions, although the results are similar.

However, in Models C and D, employer and industry variables resulted in the same between- versus within-organization assignment of the unaccounted for pay differential (25% between employers, 75% within employers in Model D), due in part to the greater number of controls in the model. These findings suggest that employer variables may have incremental value over industry only in less completely specified models. Nevertheless, in all models the use of employer variables resulted in better fit.

Research Question 2

What are the implications of these results regarding the ability of public policies to remedy differences between female and male starting salaries? Policy options are presented in Table 2, which was generated in part from applying the results presented in Table 1 to the raw salary difference of $4,344.

Pay equity has the potential to remedy the entire within-employer difference at most and, at a minimum, the unexplained part of the within-employer portion. Based upon Table 2 then, pay equity could remedy between 28% ($1,199) and 17% ($724) of the overall difference. The 17% figure may be the better estimate because it represents the portion of the gap that is due to pay differences between women and men (within employers) that occur despite controls for qualifications such as degree level, college major, and occupation.

Equal employment opportunity efforts and affirmative action have the potential to affect the portion of the earnings difference that is due to discriminatory job assignment and hiring practices. However, these policies did not address the unexplained differences that occurred in our sample. Equal education efforts could address the portion of the earnings difference due to different majors or levels of education.

Conclusion

The primary finding of this study is that in a sample where we expected to find small pay differences between women and men, we found sizeable differences in pay even within organizations. Thus these recent cohorts of women college graduates for a variety of reasons have begun their careers

TABLE 2
Female-Male Starting Salary Differences and Current Policy Options

Source of Pay Difference	Between Employers	Within Employers	Policy[a]
Human Capital, Controls 17% ($724)		6% ($241)	Pay Equity EEO/AA (A) Equal Education
	11% ($483)		EEO/AA (B) Equal Education
College Major 55% ($2,416)		5% ($241)	Pay Equity EEO/AA (A) Equal Education
	50% ($2,175)		EEO/AA (B) Equal Education
Occupation 6% ($241)		0% ($0)	Pay Equity Equal Pay EEO/AA (A)
	6% ($241)		EEO/AA (B)
Unexplained 22% ($965)		17% ($724)	Pay Equity Equal Pay EEO/AA (A)
	5% ($239)		EEO/AA (B)
Total 100% ($4,344)	72% ($3,138)	28% ($1,199)	

[a]Definitions of Policy Options:
1) *Pay Equity*: Equal pay for work of equal value as determined by a job classification system free of gender bias.
2) *Equal Pay*: Equal pay for equal work as defined in the 1963 Equal Pay Act.
3) *Equal Education*: Equal access to ad opportunity in education.
4) *Equal Employment Opportunity* (EEO): Nondiscrimination in employment. *Affirmative Action* (AA): Employment goals to assist women and minorities under-represented in certain jobs/occupations.
   (A) Job assignment practices
   (B) Hiring practices

at a serious pay disadvantage. While pay equity is not a common policy option considered for addressing starting pay differentials, the findings of this study suggest that such a policy has the potential to remedy a significant amount of the gender-related starting pay difference.

Another important finding, as speculated by Johnson and Solon (1986), is that employer data more accurately distinguish between inter- and intra-organization pay differences than do industry data as presented in Table 1, Models A and B. This is consistent with other relevant literature (Blau 1977; Buckley 1971) and reinforces the importance of organization-level data in studying pay determination (Gerhart and Milkovich 1990). However, in the case of more completely specified models such as our Models C and D, the employer variables do not distinguish within-employer differences any differently than industry.

Finally, this study suggests that there are no simple explanations or solutions to the pay differential between women and men. In addition to the fact that starting salary differences between women and men occur both within and between employers, pay differences are due to a variety of factors, which suggests the need for an integrated approach of targeted policies to address these differences.

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DISCUSSION

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The subjects of the papers included in this session may seem minimally related: judicial rejection of arbitration awards, striker replacement, and pay equity. It is not the subject but three aspects of the field of industrial relations (IR) that provide the critical link across the studies. First, each paper focuses on a "labor problem," just as the early work of John R. Commons and his associates emphasized labor problems. The authors undertake objective and systematic analyses of the problems but do not transform the studies into the sterile and far-removed assessments that characterize much academic research today. By using systematic examinations to assess and offer solutions to human problems, each paper is deeply rooted in IR tradition.

Second, each labor problem raises questions of public policy and how such policy might be designed and implemented to be effective. Two of the papers deal with the expanding individual rights that are being granted and defined by public policy. As the authors indicate, however, it is more difficult to enforce policies encouraging pay equity and discouraging sexual harassment—policies emphasizing the rights of individuals—than it is to proclaim them. The third paper addresses collective rights and, more specifically, whether bargaining rights are emasculated by common law permitting the permanent replacement of strikers. Regardless of how individuals feel about any of these rights, the public and judicial policies underlying them are undergoing careful scrutiny today.

Third, and related to these issues, each of the papers is linked by the presence of (traditional IR) values advocating that workers be treated respectfully—values the different authors infer from the specific policies they study. In essence, the papers advocate a focus on work-outcome criteria other than efficiency.

Having noted the ties across the papers, I have some specific comments on each study. Increasingly, arbitrators are being asked today to decide cases

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where contract language and public policy (or two public policies) do not coincide. Although the Petersen paper focuses on four cases, and the federal courts have split their rulings in those cases, it is too early to draw conclusions about court treatment of arbitrated sexual harassment claims. But it is not too early to observe that Petersen's analysis hints at an ominous trend where courts are increasingly willing to examine the merits of arbitration cases that have been appealed, the Steelworkers' trilogy notwithstanding.

The Graham and Gerhart paper suggests some disturbing findings with regard to gender-based pay equity. Even after collecting new and very appropriate data for the analysis, the authors find persistent gender-based pay differentials both between and within firms. So much for the Equal Pay Act. Although the authors speculate about the usefulness of a variety of pay equity policy options, it is not at all clear that strong options could be enacted into law or, if enacted, would minimize women's pay disadvantage. This may suggest that other ways of dealing with this problem should be explored. For example, there is considerable evidence that unionization reduces gender-based pay inequity. Although this is not likely to be an option for the women graduating from the prestigious university studied by Graham and Gerhart (as those students took managerial jobs), it may be an option for other women who face the same obstacles. Another option, appropriate in university settings, would be to determine whether negotiation-skills training reduces pay inequity. Although laboratory studies of the effectiveness of such training between genders are inconclusive, it would be worthwhile for researchers to examine this issue to see if courses on negotiation could help overcome this societal problem.

The Budd and Pritchett paper is consistent with a growing body of evidence on the effects of prohibiting the permanent replacement of economic strikers. That literature generally suggests that employers are not unduly harmed and unions are not unambiguously aided when public policy prohibits the permanent replacement of strikers. This paper examines the issue in a way that differs from prior studies. Budd and Pritchett ask whether union *bargaining power* is increased by the implementation of a ban on permanent replacements; they use an accepted conventional measure of bargaining power—the log of the average real wage over the life of a union contract. Ultimately, they find that once other statutory policies are controlled in their large sample of Canadian bargaining units, the imposition of a ban on permanent strike replacements does not have a statistically significant influence on wage outcomes. They take this to mean that a ban on permanent replacements does not substantially alter the balance of power between labor and management.

It is important to note that the Budd and Pritchett paper is technically well done. It contains no major flaw that would predict the result reported. One interpretation of the finding, however, is that the issue of striker replacement is more symbolic than substantive—a conclusion that is seemingly at odds with the experiences cited by unions (and managers) as reasons for banning (allowing) permanent replacements. This seeming incongruence may serve to intensify rather than reduce the debate over the effects of striker replacement. Nevertheless, that would be a useful outcome because labor and management will each be better off if this debate is broad, for the underlying differences in the parties' positions are as much a question of values as an interpretation of facts.

Overall, each of these papers contributes to an important policy debate. Taken together, the papers also illustrate some consequences of the growing litigiousness and polarization of our society. Specifically, the desire to debate and discuss seems to be less important today than the desire to win. Ultimately, in the realm of IR, firms and managers must decide whether they are really better off with fewer unions and more laws covering individuals' employment rights. Ironically, the elimination of unions virtually guarantees the development of a system of workplace rights that is conceived, overseen, and enforced by lawyers, lawsuits, and the courts—precisely the situation that employers speak against.

DISCUSSION

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There are an increasing number of public policies that regulate workplace behavior and thereby impinge on the abilities of employers, employees, and unions to act in their self-interest. The papers in this section nicely illustrate three of these policies: pay equity, striker replacement, and judicial review of arbitration awards. The connecting theme across these papers seems to be that the impact of these actual or potential policies is limited.

Graham and Gerhart do an excellent job of identifying the reasons for the male-female gap in starting pay among a select sample of highly educated and relatively homogeneous men and women. Their most noteworthy finding is that the person's choice of college major has more influence on starting pay differentials than any other single factor. As the authors note, though, there are no easy public policy solutions to the substantial male-female pay differences they identify. For instance, their findings indicated that three-fourths of this gap occurs across employers, and it is not clear how this between-employer difference could be reduced by existing antidiscrimination policies. Further, their findings indicate that pay equity as a public policy could be expected to remedy 17% to 28% of the within-employer difference in male-female starting pay rates, and I agree with their assessment that the 17% figure is the better estimate. Their well-specified methodology provides a lot of confidence in this estimate—provided that we accept the premise that a pay equity policy could accurately identify and compensate the "work of equal value" as determined by an unbiased job evaluation system. It takes great faith in the job evaluation process to believe that a pay equity policy could finely tune male and female pay levels in the same precise manner that Graham and Gerhart computed these regression coefficients. In other words, even if pay equity is adopted as part of public EEO policy and works as it should, their research confirms that pay equity cannot be expected to eliminate very much of the male-female pay differential.

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Turning to the striker replacement issue, Budd and Pritchett's analysis is quite informative. Their study shows that manufacturing wages in Quebec were about 5% higher than otherwise expected after that province passed its law prohibiting the use of all striker replacements. This wage effect was reduced by half, though, once other public policy controls were added to the equation, and the striker replacement coefficient was no longer statistically significant. It should be noted that the average bargaining unit in this sample contained 1,500 employees, which means that the typical unit in this sample is relatively large. To the extent that hiring permanent strike replacements becomes more difficult as unit size increases, this sample may understate the impact of a striker replacement prohibition on the distribution of bargaining power in small units.

In any case, Budd and Pritchett's results nicely put into empirical perspective the arguments advanced by U.S. partisans on both sides of this hot-button issue. To the extent that wage bargains in large manufacturing bargaining units are an accurate indicator of relative bargaining power across all union-management relationships, their results indicate that the prohibition of both permanent and temporary strike replacements has not had a major impact on the distribution of bargaining power in Quebec. Accordingly, we should expect that a U.S. law outlawing only permanent strike replacements would have even less impact at the bargaining table than the Quebec legislation. This means that the passage of the pending U.S. striker replacement bill should not hurt employers nearly as much as the overheated political rhetoric suggests. By the same token, Budd and Pritchett's results suggest that the failure of this bill (i.e., the continuation of the status quo) should not hurt unions nearly as much as organized labor claims it is being hamstrung by the current *Mackay Radio* doctrine. However, the union and employer flamethrowers in the current debate are not about to lessen their zeal because of a few inconvenient regression coefficients.

Turning to the judicial review of grievance arbitration awards, Petersen has taken a dull topic and livened it with a heavy infusion of sex. His paper informatively analyzes the clash between the older and firmly established common law policy of judicial deference to arbitration awards and the newer and equally firmly established statutory policy of prohibiting sexual harassment in the workplace. This clash has become more acute, for other evidence (not reviewed here) suggests that more and more awards are being appealed (usually by employers) on the grounds that the arbitrator's decision violates some public policy.

Petersen analyzes four such decisions issued by the federal appellate courts during the past five years. The common elements of all four court cases are that each involved a unionized employee who was discharged for engaging in sexually harassing behaviors, each employee grieved his discharge under the just cause for discipline language in the collective bargaining agreement, each discharge was arbitrated, each arbitrator reinstated each employee (with varying amounts of back pay), and each employer appealed to the federal courts to vacate the award. It is not precisely clear what happened at the district court level in each case, but at the circuit level the courts split 2 to 2 in their responses to these employer-generated appeals. The *Newsday* (Second Circuit) and *Stroehmann Bakeries* (Third Circuit) courts overturned the arbitration awards on the grounds that these awards violated a well-defined and dominant public policy that prohibits sexual harassment in the workplace. In contrast, the *Communication Workers* (Tenth Circuit) and *Chrysler* (Seventh Circuit) courts upheld the awards on the grounds that the U.S. Supreme Court had clearly instructed the lower federal courts to show considerable deference to arbitrators' decisions.

Petersen's analysis nicely illustrates the dilemma of the reviewing courts in these duelling public policy cases. On the one hand, they do not want to appear to be tolerating sexual harassment by condoning the mild or no punishment of the harassers ordered by arbitrators. On the other hand, the Supreme Court has told the federal courts repeatedly since 1960 not to substitute their judgment in grievance disputes for the bargained-for judgment of the arbitrator. Petersen correctly concludes that an arbitrator does not violate the public policy prohibiting sexual harassment by reinstating an employee accused of sexual harassment, for there is no public policy that requires that every instance of harassment must result in discharge. However, his analysis demonstrates that the long-established public policy that limits judicial review of arbitration awards sometimes will be overridden by federal judges when the judges are sufficiently disturbed by an arbitrator's ruling.

In sum, these three papers make very useful contributions to our knowledge of the actual or likely effects of three workplace public policies. In particular, these papers do an excellent job of increasing our awareness of the limits of these policies.

XIV. TRAINING FOR WORK: CROSS-NATIONAL COMPARISONS

Whatever Happened to Apprenticeship Training? A British, American, and Australian Comparison

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This article examines the training of blue-collar workers in three English-speaking countries, chosen because of the historical similarities in the origins of their training systems. It focuses on apprenticeship training because historically this was the main formal method of manual worker skill formation in each country. However, in these three countries apprenticeship has fared very differently: it declined at an early date in the U.S. in most sectors of the economy; it survived intact in Britain well into the post-World War II period but has declined in recent years; and it has survived relatively strongly in Australia up to the present day, though it is now under some pressure. The experience of these countries is in contrast to the German-speaking countries where apprentice systems have grown in coverage and remain very strong to the present date. This article examines the reasons for relative decline and survival and speculates about consequences.

Apprenticeship is defined here as a method of employment and on-the-job training which involves a set of reciprocal rights and duties between an employer and a trainee (usually a young person): The employer agrees to teach or cause to be taught a range of skills, usually of a broad, occupational nature; in return, the apprentice agrees to work for an extended period of time at a training wage which by custom is relatively low compared to the skilled worker rate but which normally rises on an annual basis

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until the term of the apprenticeship is completed. A contract between the employer and the apprentice usually exists which may be in the form of a legal indenture, a formal agreement, or an informal understanding.

In general terms, training may be coordinated in a number of different ways. It may be organized in the market, within the firm, by the state, or by a combination of these mechanisms. Apprenticeship usually partakes of a number of these modes. Thus it is very clearly a system based on occupational markets which shape apprenticeship rules and constitute the job market for skilled workers. More competitive market forces of supply and demand also influence apprenticeship training such as decisions to become or to take on an apprentice. Apprenticeships are usually served within the one firm, and so for a period of time at least, the apprentice is a part of the firm's internal labor market. Apprenticeship systems may also overlap with state coordination of training in that apprentices may attend state-funded educational institutions, and the apprenticeship itself may be subject to certain legislative requirements.

The Development of Apprenticeship Training in Britain

In Britain the origins of apprenticeship go back to the guild system and artisanal trades such as building and printing, and it spread in the nineteenth century to newer industries such as engineering and electrical work (More 1980). By the late nineteenth century, however, legal indentures had almost died out and been replaced by formal or informal agreements binding the parties for between five and seven years. The apprenticeship was usually served within the one firm, but it was market-oriented in that training was supposed to be in all-round skills which were externally marketable. This suited all the parties concerned. It suited the apprentice and his family who knew that the youth would have wider job opportunities. It suited the employer who was dependent on craft production methods and required genuine craft skills. It also suited other employers who could subsequently acquire such skills in the market. In addition, it suited the trade union, since a long period of training in all-round skills restricted the supply of labor, rendered their members mobile, and provided a support for wage rates. In Britain the system was supported from the late nineteenth century onward by the development of collective bargaining of a multiemployer nature which allowed for monitoring and enforcement of rules governing apprenticeship. However, it should be stressed that in the British context, apprenticeship was given little state support and government intervention was minimal.

At various times in different industries, the apprenticeship system came under strain. In the late nineteenth century it was subject to pressure from technological change in industries where there was a growing division of labor. During the two wars it was subject to pressures of dilution as non-time-served workers were upgraded and as firms failed to take on apprentices. During the depression of the interwar years, it also came under strain as many employers used apprentices as cheap labor and provided only narrow training. Over time there were changes in the system of apprentice training. The period of training was gradually reduced to five, four, or three years. Apprentices started to attend local, government-provided night school and after World War II were allowed day-release. Also a growing number began to take examinations and to receive formal qualifications certified by educational institutions.

There were some reforms of the system in the 1960s with the introduction of training to standards, modular training, and improvement in off-the-job training in colleges. The interventionist Industrial Training Act of 1964 and the levy-grant and Industrial Training Board (ITB) system which this introduced supported apprenticeship training and also promoted its reform. The ITBs sought to spread the costs of training and to extend formal training beyond the apprentice trades. Throughout the 1970s and into the 1980s reforms on these lines were gradually implemented, and modular and competency training began to replace time-serving. However, the system was not fundamentally reformed, and by this time it was being overtaken by other major changes affecting youth training in Britain (Senker 1992).

With rising unemployment from the mid-1970s and the political pressures which this caused, governments introduced a series of schemes to combat youth unemployment and to provide training. The main development was the Youth Training Scheme (YTS) introduced in 1983 and now called Youth Training (YT). This began as a one-year (and in 1986 became a two-year) system of training under which the government provided the funds and employers or other training agents provided the training. The young persons were not apprentices with an employment status but trainees with a government allowance. There was no compulsion on employers to enter the scheme and often there was a dearth of good training places.

The advent of YT(S) put training on the agenda of many firms which had previously given it little attention and spread formal training to young people who would never have done an apprenticeship. On the other hand, the schemes were largely intended to deal with problems of youth unemployment, and much of the training has been of a low level. Some firms which traditionally had apprentices replaced their programs with YT(S) trainees. Others used YT(S) as a screening device and later upgraded some trainees to apprenticeship status. Simultaneously, therefore, YT(S) both supported apprenticeship training by providing subsidies and undermined it by providing a state-funded alternative.

In other respects Conservative governments since 1979 have done nothing to support apprenticeship training. The Thatcher government repealed the Industrial Training Act and reduced trade union involvement in and monitoring of training arrangements. This has been replaced with a private-sector, "employer-led" system of Training and Enterprise Councils (TECs), groupings of employers charged with coordinating training locally and spending government funds on YT(S) and training measures for the adult unemployed. More recently, the government has initiated a national system of vocational qualifications under the National Council for Vocational Qualifications. Under this system, employer-dominated "lead bodies" draw up a national framework of standards based on "competencies" rather than time serving. The intention is to create a national system of portable qualifications, though these will be the subject of local employer testing. According to critics, the standards that are being established are often low and the range of skills narrow. Moreover, given the general nature of the qualifications and the lack of any compulsion on employers, there may well be an incentive to "free riding" unless employers can make the training sufficiently firm specific to prevent portability.

This set of government interventions from the early 1980s onward has done little to support the traditional apprenticeship system. Indeed, cumulatively they have served to undermine it. The ratio of manufacturing apprentices as a percentage of manufacturing employment had already fallen by 31% between 1969 and 1974 and fell by an additional 54% between 1981 and 1987 (Gospel 1993a). As a result, Britain finds itself with a very mixed and uncertain system of skill formation: a deteriorating system of apprenticeship and occupational labor market training; a move toward unregulated markets; a simultaneous attempt to develop interfirm provision through the TECs; a move toward internal labor markets, though this is uneven and incomplete; more vocationalism within schools, but without a real system of school-based training; and a move toward greater state intervention in terms of funding and compulsion on the unemployed to take up training places but without any commensurate compulsion on employers.

The U.S.

In the colonial period, the U.S. inherited from Britain a system of craft apprenticeships which were the main formal method of training for manual workers well into the nineteenth century. However, these came under increasing pressure in the course of the nineteenth century, and by the early twentieth century, the traditional occupational apprenticeship had declined in most areas other than construction, printing, and in some metalworking trades in a few large urban centers (Douglas 1921).

Elbaum (1991) has described how the traditional apprenticeship declined in the U.S. because it lacked the efficiency advantages of the apprenticeship system in the U.K. In the context of high levels of geographical mobility and employment opportunities, it was difficult for American employers to enforce apprenticeship rules and to prevent apprentices walking off with their employer's investment. Occupational training markets, therefore, ceased to operate effectively and to provide sufficient economic benefits for employers. Jacoby (1991) has also described how the apprenticeship system declined in the U.S. during good periods when labor mobility was high, and employers found it increasingly difficult to make apprentices complete their terms. By contrast, in bad periods employers found it burdensome to keep on apprentices and felt that their right to hire and fire was trammelled by apprenticeship rules. In this context, from the late nineteenth century onward, the traditional apprenticeship in the U.S. was abandoned by most employers or in some cases was transformed into an institution that existed because unions could impose apprentice rules on employers in industries such as construction and printing.

When viewed in comparative historical perspective, three other factors should be considered to explain the decline of apprenticeship training in the U.S. First, American employers could look to immigration as a source of labor, including skilled labor. Second, the development of mass production systems in large U.S. manufacturing firms had a profound effect from the late nineteenth century onward. These production systems depended on well-educated and trained managers (provided by the growing tertiary education system) but could be operated with semi- and unskilled production workers. Third, in the U.S., unions were not only weaker, but multiemployer bargaining was also less widespread than in the U.K. Hence most sectors of the economy were lacking an important institutional support for apprentice training and a way of enforcing collective employer provision.

Of course, skilled manual workers were still required in manufacturing industry. In the U.S. context, small and medium firms resorted to poaching, immigrant labor, and upgrading informally on the job. From the early twentieth century onward they also looked increasingly to training provided by expanding high-school and college-level educational institutions.

Large firms, using specialized mass production techniques, adopted an internal labor market strategy. Firms such as Ford, GE, International Harvester, and Westinghouse established their own schools, where workers (sometimes called apprentices) were trained in skills that were more specific to the firm (Sundstrom 1988). When these large companies were unionized in the late 1930s, apprentice training arrangements often came to be organized bilaterally by the employer and the union and were set down in company collective agreements. Access to training was in large part determined by administrative criteria, especially seniority; training was a combination of on-the-job learning and in-house and college-based instruction; and at the end of the training period because of the seniority accrued, the trainee was likely to stay with the firm. This system had the advantage that training was done and in a way that was efficient for specific company production systems. However, it had the disadvantages that it could be narrow—training was for the job to be done—in line with the job-territory rules of the firm's internal labor market; the period of return on investment could be relatively short because of the age of the apprentice (30s-40s); and, from a broader social perspective, these arrangements excluded workers who were not insiders in the internal labor markets of big firms.

Thus in the nonunion sector, training for skilled work was and still is provided by a combination of informal on-the-job learning and varying degrees of formal training and college-based instruction. It is mainly in unionized parts of the construction industry that the traditional occupational apprenticeship still persists, and a form of in-house apprenticeship also exists in some large unionized manufacturing companies. At the present time there is some talk about (re)introducing apprenticeship training in the U.S. (Rosenbaum 1992), but the institutional supports seem to be largely lacking.

Australia

Australia also inherited a system of apprenticeship training from Britain (Shields 1990). However, as in the U.S. by the late nineteenth century, the apprenticeship system in Australia had come under great pressure. Legal indentures had largely died out, and it was difficult to enforce apprenticeship rules. Also during this time, it may have been difficult to enforce apprenticeship rules in a situation where immigration and labor mobility were high as it was in the U.S. In an economy where cyclical fluctuations were pronounced, in times of economic prosperity apprentices quit their jobs, and in times of depression employers were reluctant to take on and train apprentices.

However, apprentice training survived in Australia and prospered; and of these three English-speaking countries, it is in Australia that it has remained the strongest. In 1990 approximately 23% of all employed 15 to 19 year olds in Australia were doing an apprenticeship. A rough calculation of total apprentices as a percentage of the employed labor force may be made for various years from the late 1970s onward. This provides a figure of just over 2% for Australia, less than 1.5% and declining for Britain, and around 0.25% for the U.S. For the metal working industries, apprentices represented roughly 10% of employment in Australia, 3% in Britain, and around 0.5% in the U.S. By international standards the Australian figure is high and is surpassed only by German-speaking and related countries (Germany, Austria, Switzerland, and Denmark) where apprenticeship also covers a broader range of occupational groups. If manufacturing alone is considered, Australia in the mid-1980s had a slightly higher proportion of manual worker apprentices (10.6% of all manufacturing employees in Australia as opposed to 10.1% in West Germany) (Gospel 1993a; Gospel 1993b; Elbaum 1991; Sweet 1990). A number of factors combined to ensure the survival and growth of apprentice training in Australia.

The apprenticeship system suited the product and labor market situation of Australian employers. In manufacturing in the early twentieth century, given that product market size was limited and much work was of a small batch, jobbing, or repair nature, scope for capital substitution was low, and what was required by employers were all-round, adaptable skills such as were produced by the apprenticeship system. Firms, which were often small in size with weak managerial hierarchies, were not for the most part able to develop internal labor market systems of training. The external labor markets in which Australian employers operated were not as subject to mass immigration as in the U.S. in the late nineteenth and early twentieth centuries, and though mobility was high, it was for the most part within a few relatively concentrated urban labor markets. In these circumstances, apprenticeship continued to perform a valuable economic function, facilitating investment in training and providing a good supply of workers with all-round, recognizable skills.

Another major support for apprenticeship training in Australia was the role of the state and the development of a distinctive industrial relations system. From the early twentieth century, the creation of a system of compulsory arbitration and legally binding awards served to restore and codify apprenticeship rules and make them legally enforceable on employers. As this extensive and elaborate system developed, it laid down rules for each major trade on the numbers, conditions, and wages of apprentices. These awards were either regional or national and acted as a form of marketwide regulation. The award system also served to strengthen trade unions and in this way provided further institutional support for apprenticeship.

In Australia the state also played an important role in three other respects. First, the largest employers in Australia were federal or state institutions such as the railways and public utilities. In a spirit of public service and a relatively protected market situation, these employers felt obliged and able to support apprenticeship training. Second, from the beginning of the twentieth century onward, Australia developed a strong system of technical institutions where trade courses were taught and which apprentices attended in relatively larger numbers than their counterparts in the U.K. and the U.S. Because of the factors cited above, this did not displace but rather complemented apprenticeship training. Third, after the World War II when the apprenticeship system came under pressure from higher levels of immigration, the government established a system for testing and certifying the craft skills of immigrants which supported apprenticeship training.

More recently under Labor governments, Australia has not gone down the free-market, deregulatory road of the U.K. There has been state intervention in the form of the Australian Traineeship Scheme, but this has not been as large as YT(S) in the U.K. and has not subverted apprenticeship training. Change has been much more related to the reform of collective bargaining and the introduction of more flexible awards, which usually make provision for apprenticeships and their joint regulation with the trade unions. Australian governments have subsidized apprenticeship training and written apprenticeship into a newly created national system of competency-based qualifications (Gospel 1993b).

Conclusions

The course of apprenticeship in these three countries would seem to have been determined not so much by the supply of potential apprentices or even by the price of apprentice labor. It has been determined much more by the presence or absence of institutional and state supports and the needs and capabilities of employers. Over the last decade, free market-based approaches to training were in vogue in the U.S. and Britain; there may also have been a move toward a strengthening of internal labor market systems in Britain and Australia, though these are still underdeveloped compared to the U.S.; in all three countries there has been greater state interest in training, though this has ranged from the purely facilitative in the U.S., to the more interventionist in Britain, and the rather more directive in Australia. The outcome of these changes is that these three countries find themselves with very mixed systems of training which are commonly held not to compare well with Germany (with its apprenticeship system), Japan (with its strong internal labor market-based system), or France (with its school-based system). Where apprentice training survives in these English-speaking countries, there is much to commend its continued existence. However, to survive in the future or to be revived, it needs significant institutional and government support and incentives or compulsions for employers.

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The Wisconsin Regional Training Partnership: A National Model for Regional Modernization Efforts?

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This paper reports on an effort now underway in southeastern Wisconsin to establish a labor market board for the regional labor market of the greater Milwaukee metro region.[1] The board, called the Wisconsin Regional Training Partnership (WRTP), features a variety of institutional innovations in areas of national policy concern—primarily in training, manufacturing modernization, and labor market service delivery—that warrant its examination as a national model for improving the U.S. performance in these areas. The WRTP is bottomed on unusually dense and active cooperation between individual firm managers and labor representatives, among firms, and between the private sector and the state. Its development suggests the emergence and utility of a more *spatially defined* industrial relations system with clearer *public regulatory* functions in which wage norms and power sharing within firms are increasingly driven by concern for ensuring an *effective institutional supply* of inputs for economic upgrading, including the maintenance of learning capacity within the regulatory institutions themselves.

The paper has three parts: (1) a bare-bones overview of the WRTP's core activities and structure, (2) notice of its relevance to current national policy debates, and (3) some speculation on future directions.[2]

Overview of the WRTP

The WRTP engages in two broad sorts of activities: one-stop shopping for labor market services and the organization of sectoral training consortia.

Labor market service coordination is achieved primarily through the WRTP's HIRE (Help in Re-Employment) subsidiary, which aims to service displaced or threatened-with-displacement workers. Closely coordinated with "early warning" systems in place in the leading unionized plants in the Milwaukee metro area and with local social service agencies and funders

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(both state agencies and such private organizations as United Way), HIRE provides comprehensive assessment and job search assistance to displaced workers, eases their transition into training programs, and provides referral and counseling on eligibility for various public and private assistance programs. Funding is provided largely through JTPA grants with some direct supplemental assistance from the state. The involvement of the United Way and other private service agencies provides a multiplier on these public efforts.[3]

More interesting for our purposes are the sectoral organizing efforts. Under the terms of its organizational charter,[4] the WRTP is dedicated to creating a series of sectoral training consortia, the first of which, the Wisconsin Manufacturing Training Consortium (WMTC), is now well advanced. Concentrated heavily in metro Milwaukee's metalworking industry,[5] founding members of the WMTC include many of the largest and most advanced manufacturing firms in the region—including such well-known firms as A.C. Rochester, Allen-Bradley, Harley-Davidson, Harnischfeger, Johnson Controls, and Waukesha Engine.[6] Production workers at most member firms belong to the IAM, UAW, USA, UE, UPIU, or other industrial unions also represented in the governance of the effort.

The basic idea of the sectoral training consortia is to overcome free-rider problems in the provision of broad and advanced training by organizing a critical mass of lead firms to jointly commit to shared standards on training effort, standards, and administration. An auxiliary idea, regarded by all parties as essential to success, is to move the control of training away from the "core of entrepreneurial control" toward full jointness in decision making. These goals are reflected in the structure and activities of the WMTC. Member firms stipulate to benchmarking a certain percentage of payroll to the training of frontline workers; to training according to regional skills standards that they and their labor counterparts devise;[7] to making access to the increased pool of training dollars available to any worker who wants it; to establish a workplace learning center at each production site to provide assessment, counseling, and delivery of training services;[8] to governing this center, as well as their increased human capital budget generally, through a joint labor-management committee with at least 50% of the membership comprised of independently selected worker representatives; and, increasingly, to conform internal compensation practices to workers' position in the skill hierarchy defined on a suprafirm basis.[9] Unions stipulate to competency testing in the ascertainment of skill and to greater flexibility in tying wage compensation to demonstrated competencies.[10]

TABLE 1
WRTP Charter Members

Firm	Product Market	Employment
AC Rochester	catalytic converters	1200
Allen-Bradley	automation controls, components, systems	4000
Carlson Tool and Mfg.	custom die casting dies & plastic molds	85
Delco Electronics	microcomputers, guidance systems	2400
Electrotek	circuits boards	200
Garden Way	lawn & garden equipment	400
GE Medical Systems	medical equipment	3800
Harley-Davidson	motorcycle engines	1600
Harnischfeger	mining & construction machinery	2468
Johnson Controls-Systems	temperature & other bldg. control devices	3387
Johnson Controls-Battery	automotive & industrial batteries	—
MagneTek	drives, drive systems	400
Master Lock	locks, padlocks, lockers	1450
Motor Castings	iron castings	230
Navistar	iron castings	425
PM Plastics	custom plastic parts & products	125
PPG Industry	protective coatings & resins	600
Stroh Die Casting	zinc & aluminum castings	200
Waukesha Engine	engines, generators	900

The WRTP effectively institutionalizes a new bargain in labor-management relations. The critical elements of this bargain are (1) compensation is increasingly tied to demonstrated competencies; (2) competencies are defined on a sectoral and regional (rather than firm) basis through dynamic benchmarking of firm best practice in the regional labor market; (3) worker access to training and the definition of skill clusters is such that any motivated worker is able to move from any point in the skill set to any other through a series of incremental moves; (4) management of frontline work-force training and skills standards is truly joint. From this bargain, management gains a better-trained work force inside the firm, a better-trained pool of labor outside it, and greater flexibility in work-force deployment. Workers gain security and greater possibilities for internal promotion and external portability. Both sides gain real partners in managing economic uncertainty and industrial upgrading.

Governance of the WRTP is tripartite (four representatives each from labor and business, five representatives of area technical colleges, PICs, and the state Department of Industry, Labor, and Human Relations [DILHR]); governance of the WMTC is bipartite (six representatives each from labor and business, with "technical liaisons" to the area technical colleges). Funding for substantive activities is provided almost exclusively by member firms who are now spending several million dollars annually on training under the terms of the agreement. Funding for the executive staff of the organization has been provided largely through the Wisconsin AFL-CIO but has recently gained public support from the state.

Policy Relevance

The WRTP and its subsidiary organizations exhibit distinctive institutional and programmatic features of national policy interest. These include close and formalized working relations among private firms and unions and between government and industry; joint labor-management governance in the human capital budgets of unionized and unrepresented firms; on-site facilities for accessible, confidential education and assessment services provided by technical colleges; joint development of sectoral skills standards; use of such standards by firms in hiring decisions and administrating internal labor markets; future work-force programs combining classroom and workplace-based instruction for disadvantaged workers and youth; and consolidation of labor market service delivery within the region.

Somewhat more specifically, current national policy discussion shows considerable interest in the following:

- Redefining the delivery of training and other labor market services in ways that are simultaneously more attentive to customer needs and more capable of driving customer preferences in the right direction (i.e., toward high-performance work organization, higher productivity and wages, etc.). This entails (a) restructuring delivery mechanisms to conform less closely to preexistent juridical boundaries or program mandates than to functionally defined regional economies and labor markets, (b) permitting tradeoffs across and packaging of different services by providers within those markets, and (c) doing these things in a way that explicitly encourages appropriate economic upgrading. The WRTP does all these things. It lowers cost of access to a variety of programs and permits packaging and tradeoffs across established services. Unlike most "one-stops," however, it also conditions receipt of these benefits on participation in an ambitious scheme of upgrading.

- Increasing private support for incumbent and entry-worker training. Even when employers want better-trained workers, however, they only increase their investment if the danger of free-riding (one firm's trainee becoming another firm's asset without compensation) is diminished. Comparative experience instructs that there are basically two ways of doing this. One strategy, best developed in Japan, is to assure workers of long-term employment and to assure employers that it will be accepted. With workers kept within particular firms, each management is assured of payback to training investments. Another strategy, best developed in continental Europe, is to compel (either through state or private associative action) a sufficiently large share of firms to train broadly so that each becomes effectively indifferent to the free mobility of workers between internal and external labor markets. As the European case makes clear, however, the "what's-good-for-the-hive-is-good-for-the-bee" approach requires extrafirm institutional supports. The requisite kind are largely lacking in the U.S., but a familiar speculation in U.S. training discussion has been that those might be generated on a regional basis through consortial efforts of the sort here described. The WRTP experience suggests that this speculation is not aimless. Having launched an ambitious initiative in the durable goods sector (the WMTC), moreover, WRTP anticipates replicating this model in other sectors in the near future.

- Developing competency-based sectoral skill standards. These promise a reduction in employer search costs, greater security for workers in unstable employment relations, and a means of regulating (without heavy "command and control" bureaucracies) the performance of both public and private training providers. Unless employers are committed to using such standards in their own hiring and internal promotion, however, the standards are close to meaningless. And employers will not use the standards unless they help create them. At the same time, any regime of employer-generated standards risks obvious devolutions from the public interest in upgrading and the worker interest in protected capacities for mobility. The WRTP suggests one solution to this problem—joint determination among a cluster of leading firms and unions, as assisted but certainly not led by public training providers.
- Improving the "school-to-work" transition in U.S. labor markets through increasing the workplace-based component of secondary and early postsecondary instruction. A problem with most current proposals, however, is their inattention to the universe into which new labor market entrants are transiting. Unless firms already have significant capacities and incentives to provide training and are doing so already with their incumbent work force, it is most unlikely that "youth apprenticeship" or "tech prep" systems with a workplace-based instruction component will reach adequate scale. The WRTP is developing pilot projects under more favorable conditions of intrafirm and incumbent worker training innovation. In effect, it has organized the incumbent worker training system, and having done so, its member firms are better prepared than disorganized ones to accept, direct, monitor, and actually deliver effective training to entry workers.

• More generally, moving U.S. labor relations beyond the present system of "job control" unionism and management hostility to collective worker voice. Most observers of contemporary U.S. industrial relations recognize that the system is not working well for workers or the general economy. Most also recognize that unions or other worker organizations, if they are to advance the living standards of their members, need to get more deeply involved in securing productivity, and that management, if it wants the cooperation and loyalty of workers in securing firm goals, needs to strike a new bargain on the internal labor market in sharing the fruits of firm success. And most know that securing the wage and productivity-enhancing measures needed for this new bargain is currently baffled in the U.S. by the fact that no individual firm or agreement negotiated within an individual firm can do this on their own. The WRTP is an innovative example of interfirm, interunion, and union/nonunion cooperation in providing skills and securing a skills-based system of compensation in an environment in which the boundaries of the individual firm are permeable and not robust. It presents an instance of a "virtual hiring hall" and "virtual apprenticeship" corresponding to the rise of the "virtual firm" and points toward the more spatially defined, firm-indifferent labor relations system likely needed to meet compensation and productivity concerns in the global economy of heavily decentralized firms.

What's Next?

Business, labor, and public-sector principals in the WRTP see it moving in three directions in the future:

1. Consolidation of the existing training consortium and its extension to smaller firms in metalworking. Initial recruitment to the WMTC was deliberately targeted on large and advanced firms first—both because they would more likely recognize the need for an advanced training system, and because they would have the power (via supplier certification programs and other means) to organize the smaller firms themselves. The charter firm members and unions now wish to extend the reach of the effort to smaller firms. Firm managers see this as an obvious way to improve the quality of their local supplier base. Labor sees it as a natural foundation for, in effect, "sectoral bargaining" with a pattern agreement (on training and on wages) applied to all area firms in the sector. All this would apply both to the incumbent worker and emerging entry-worker or "youth" component of the project.

2. Extension of the model sectorally to other industries in the Milwaukee area and extension of it spatially[11] to other regions of the state. The former

will likely involve efforts aimed at the hospitality industry and public sector. The latter will be a large political project, but one which enjoys broad support. This support is evident within Wisconsin labor but comes as well from DILHR and even from a Republican governor perhaps better known nationally for his promotion of private school vouchers and welfare reform—all of which now see the WRTP as a model for labor market service delivery and human capital system consolidation within Wisconsin generally.

3. Extension of the model into technology diffusion and manufacturing modernization efforts. While the WRTP has thus far focused principally on the human capital aspects of industrial upgrading, the close working relations among firms, across unions, and between the private sector and the state, and the limits of a "human capital only" approach (well recognized by members) underwrite enthusiasm for getting more directly and actively into manufacturing modernization of the whole of the regional manufacturing base. Members of the WRTP recently decided to enter the next round of NIST competition for a manufacturing technology center, outreach centers, and other aspects of the emerging modernization infrastructure—aiming to establish the first U.S. manufacturing extension and modernization service in the country in which labor and business were genuinely joint partners.

APPENDIX

WMTC Training and Certification Model

Certificate	Skill Level	Occupations	Competencies
Introductory manufacturing certificate	Traditional basic skills	All occupational clusters	Computing, listening, problem-solving, reading, speaking, team-building, writing
Intermediate manufacturing certificate	Basic occupational skills	All occupational clusters	Work teams, statistic process control, trouble-shooting, computer literacy, etc.
Advanced manufacturing certificate	Technical occupational skills	Machining, electronics, welding, etc.	Parts programming, preventive maintenance, etc.

Endnotes

[1]Following local convention, we define Milwaukee metro region as the area covered by Milwaukee, Ozaukee, Washington, and Waukesha counties. The population of the region is 1.5 million, with approximately 180,000 employed in manufacturing.

[2]Space does not permit review of the history of how the WRTP got started, or organizing difficulties along the way. Suffice it here simply to assert that while the conditions in Milwaukee were in various ways favorable to the emergence of the institution, we do not judge them uniquely so—i.e., we judge the model indeed to be replicable in other metropolitan labor markets.

[3]In part inspired by the HIRE experience and in larger measure moved by the same pressures that have led other states to do the same, Wisconsin has sought to consolidate job search, training referral, and other assistance in its growing network of "job centers." These are expected to get a big boost from the Clinton administration's program initiatives in one-stop shopping. It is possible, though at present not likely, that HIRE will be superseded by these state-led efforts. More likely, it will continue to function as a center, albeit integrated into the developing state network—perhaps with special responsibility for coordinating dislocated worker one-stop shopping in the Milwaukee area.

[4]See "Wisconsin Regional Training Partnership—Organizational Charter" on file with author.

[5]Given their importance in the regional economy within the universe of metalworking, we are particularly interested in the following sectors (Standard Industrial Classification number given in parentheses): foundries (332), engines and turbines (351), farm machinery (352), construction and related equipment (353), metalworking machinery (354), general industry machinery (356), miscellaneous industrial and commercial machinery (359), electrical industrial apparatus (362), and motor vehicles (371).

[6]The concentration on large firms, while not exclusive, was deliberate. The thought was that if the large firms could be organized, the lesser ones could be made to follow—through supplier certification and other programs enforced by the large purchasers from them.

[7]The standard-setting process builds on the Wisconsin Educational Skills Analysis (WESA) instrument and process, which is strongly oriented toward getting organization-wide consensus on skills needed for production tasks. Technical colleges collaborate with joint steering committees in this skill specification process in providing confidential interviews and observations of workers and in actual testing and other assessment. This heavily (or relatively) "worker-centered" approach improves the quality of information used for contextualized workplace curricula and performance-based assessments and promotes mutual agreement on occupational qualification requirements. The WMTC is currently in the process of creating three manufacturing certificates as occupational clusters/pillars in what is envisioned as an essentially modular skills system (see Appendix).

[8]Here the WMTC builds on a more general emerging Wisconsin model of workplace education—now present in close to 100 firms—based on local partnerships between management, labor, and technical colleges. In both unionized and unrepresented firms, joint steering committees design and administer a "workplace education center." As neutral third parties, local technical colleges provide confidential assessment, counseling, training and certification services. The on-site delivery of comprehensive services improves accessibility and personalizes training. Computer-assisted and video-based instruction facilitates self-paced learning on an open entry/open exit basis. A network of peer advisors publicizes the program among fellow workers and carries their concerns back to the steering committee.

[9]Unlike the other elements in the agreement, the points about compensation are not stipulated to formally, though they are *de facto* increasingly operative and understood as *norms*.

[10]Technical assistance to the project is provided by the Center on Wisconsin Strategy (COWS), a research and policy center directed by the author. The final structure of the WMTC conforms closely to that recommended by COWS at the beginning of its negotiation. See Joel Rogers and Wolfgang Streeck, "Recommendations for Action" (COWS December 1991), on file with the author.

[11]And, again, quasi-juridically.

Training Structures, Skill Formation, and Wage Profiles in Japan and the U.S.

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Large Japanese firms are well known for their ability to develop skills on the job and to involve all levels of workers in continuous improvement and problem solving (Koike and Inoki 1990). In contrast, U.S. firms are said to undertake much less training of nonprofessional or nonmanagerial workers who are seldom involved in suggesting improvements or solving problems (OECD 1993). This paper analyzes the institutional framework within which firms create employment systems that result in these observed outcomes. We then discuss the actual training structures and wage profiles at Japanese and U.S. firms in the electronics and automobiles industries. We argue that lifetime employment security in Japan, which is said to solve the public good problem of providing general training, represents only one element of the institutional differences that account for the differences between Japanese and U.S. outcomes. U.S. institutions also reduce firm-provided training because skill ladders are shortened by customary job assignment, transfer and promotion practices, as well as by the asymmetry of risk taking between employers and employees.

Conceptual Framework and Empirical Context

We assume the firm operates in an institutional labor market in which workers queue for the preferred jobs at the firm and are then rationed within the firm by an employment system that determines job assignments, training, promotions, earnings, and layoffs.[1] A firm creates an employment system that is economically consistent with the firm's environment: the characteristics of the industry or product market, the economy's macroeconomic

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performance, and the industrial relations institutions, including both legal constraints and social norms. In this paper we focus on the factors that directly affect a firm's choice of training, career paths, and wage profiles. In general, training decreases with the use of seniority and increases with penalties for job change, long career ladders, steep age-earnings profiles, and high earnings variance within and between occupations. The U.S. situation is more complex than the Japanese, since most large companies in Japan have a union, while unionization among large companies in the U.S. is very uneven.

The empirical context of training, tenure, and age-earnings profiles in Japan and the U.S. is presented in Tables 1 and 2. Table 1 indicates the differential incidence of worker training and job tenure in Japan and the U.S. The first column shows the percentage of Japanese employees who indicated that they had received company-provided, formal, off-the-job training since being hired by the current firm; the second column shows average years of tenure with the firm. The U.S. data in the third column indicate formal company training, while the fourth column refers to any kind of training—whether through a formal company program, informal on-the-job training, courses at a school or university, corespondence courses or other means. A comparison of columns 1 and 3 indicate huge disparities between reported Japanese and U.S. training incidence, confirming previous studies. Since occupational differences in training are much greater in the U.S. than in Japan, these columns understate Japanese-U.S. training differences for blue-collar workers.

Further study of Table 1 indicates that the quantitative differences may not be so great. First, the greater level of job tenure in Japan biases the training incidence data upward. But studies that hold tenure constant still find a very similar differential (OECD 1993). Second, much training in the U.S. is informal, while very little is in Japan. Using a broader definition, as in column 4, narrows the Japan-U.S. differences considerably. Even with this broader definition in the U.S. survey, it is apparent that U.S. workers at both large and small establishments report receiving much less training than their Japanese counterparts. But more importantly and as we emphasize below, training programs have a more cumulative impact on skill development in Japan than in the U.S.

Table 2 provides data on wage profiles for male workers in the automobile and electronics industries in Japan and the U.S. As Table 2 indicates, age-earnings profiles are much steeper in these industries in Japan than in the U.S. for both high-school graduates who are blue-collar workers and for college graduates who are white-collar workers. National data for each country shown in Table 2 indicate that the automobile and electrical industry

TABLE 1
Incidence of Training (Percentages) and Average Tenure (Years)
Japan and the United States

	Japan		United States		
Establishment Size	Training	Tenure	Formal Training	All Types	Tenure
30-99	59.5	8.9			
25-99			10.6	34.5	5.4
100-499	75.5	(10.2)	13.2	41.9	6.8
500-999	83.6	(10.2)	18.4	47.7	7.0
1,000 or more	89.5	13.7	26.2	52.2	8.4

Japanese data are drawn from the 1989 Survey of Vocational Training in Private Enterprises (available in Japanese only), which surveyed establishments with 30 or more regular employees. U.S. data are drawn from the 1991 Current Population Survey Training Supplement, which asked about training received to improve skills since obtaining current job.

Source: "Enterprise Training, Labour Turnover and Skill Training," in OECD 1993, Tables 4.8 and 4.10

age-earnings profiles are steeper than the national average. Yet the cross-national economywide differences are just as substantial as the cross-national industry-specific differences.

We suggest that U.S. institutions are not well structured to support firm-provided training because they do not solve the public good problem posed by general training in the absence of a long-term employment relation, and because they do not counter the asymmetry of risk taking borne by firms who do offer training and employment security. The public good problem arises because an individual firm that provides transferable training has no mechanism for ensuring that the firm can recoup the costs of training. In the U.S. there are no institutions to limit or eliminate job changing by experienced workers (as in Japan) or to ensure that a firm's competitors—and potential employer of job changers—participate in and pay for training (as in France and Germany).

U.S. institutions militate against workers bearing the costs of general training by accepting lower wages early in their working years. These institutions include the prevailing U.S. practice of job assignment through post-and-bid systems in which seniority rather than cumulative skill development is the predominant factor, as well as an egalitarian ideology, especially in unionized contexts. The resulting relatively flat age-earnings profiles of production workers mean that employees do not bear the cost (or share in the reward) of firm-based general training. Consequently, employers are likely to underprovide training.

TABLE 2
Age-Earnings Profiles, Japan and the United States, 1988-91
Ratio of median earnings, employed males, ages 45-49 to employed males, ages 25-29

	High-school graduates	College graduates
Japan		
Motor vehicles	1.9	2.7
Electrical	2.0	2.8
All manufacturing	1.7	2.4
United States		
Motor vehicles	1.9	1.6
Electrical	1.6	1.8
All U.S. earners	1.4	1.6

Sources: Japanese data are calculated from the tapes of the 1988 Basic Survey of Wage Structure, which is the Ministry of Labor's establishment survey of regular employees in companies with at least 10 employees and from the 1992 Wage (*Chingin*) Census, vol. 3.

The U.S. data are calculated from the 1989 to 1991 March Current Population Surveys (CD-ROM version), which report earnings for the previous year.

Cyclical volatility in the U.S. adds to the risks borne by employers who provide general training. Relatively flat age-earnings profiles result in high mobility, especially during periods of low unemployment. Employers in the U.S. who offer training and employment security to their workers bear a financial risk during periods of weak demand, only to find that workers do not reciprocate by bearing the risk during periods of high demand, when they can find and move to higher paying jobs. In contrast, in Japan steeper age-earnings profiles, which reward training and experience and reflect the development of skills through job assignments, result in a substantial wage penalty for job changers.[2]

Training and Wage Structures in Japanese Companies

Although Japanese companies typically face tight labor markets with mild business cycles, which might induce high quits, the large companies offer lifetime employment and extensive training. In return, employees who are hired by large companies seldom quit, since job quitting entails a substantial wage penalty and loss of status.[3] In addition, companies sign "nonpirating" agreements. In this structure of lifetime employment reinforced by lack of mobility for workers, the distinction between specific and general training breaks down, as training is used only by the provider-firm and is not transferred by the worker through job changes. The wage penalty for job changers is a result of the upward sloping age-earnings profile. Wages rise automatically with tenure, reflecting the typical pattern of skill acquisition: employees develop job-related skills and knowledge through a series of job assignments that are decided by their superiors.

The connection between training, skill development, and job assignment is critical in Japan. The U.S. practice of permitting workers to choose to move between shifts in order to increase overtime or to move between departments because of preference would be seen in Japan as inconsistent with meaningful career ladders that create increasingly knowledgeable and productive workers. Experience consequently becomes much more equivalent to skill development and skill deepening.

Japanese training structures a greater integration of classroom training with planful on-the-job training. In many companies each worker has a training plan with a time line for the year indicating when particular skills were to be learned and when on-the-job learning would be coordinated with courses and tests. Tests are administered both by the company and through a national qualifications system.

The Japanese system for compensation and performance appraisal is more attuned to broadening employees' knowledge and skill. Individual pay does not depend so much on the particular job being performed during the pay period as in the U.S. (and Europe). Instead, Japanese companies pay according to age and job grade, the latter being determined by seniority and the cumulative effect of frequent performance appraisals. Performance or *satei* pay rewards the top 10%-20% of performers who assume leadership roles within their cohort. The performance appraisal provides incentives for passing along skills and knowledge to younger workers. The high performers are put on a faster promotional track and advance earlier to supervisory positions.

Seniority plays no direct role in Japan in rationing workers through the firm's internal labor market. Shifts are rotated, management decides job assignments, vacation time is taken collectively at specified times or scheduled by the supervisor, and workers are not subject to temporary or permanent lay off. As a result, seniority is not used in any of the activities in which it plays a determining role in the U.S.

Occupational differences are less sharp in Japan than in the U.S. Although high-school graduates fill production jobs and university graduates fill engineering and support jobs, both groups enter the company as union members and are covered by the same negotiated compensation system. University graduates enter at only a slightly higher earnings level as that of a high-school graduate with four years tenure. But university graduates move up the job-grade ladder at a faster pace than high-school graduates and reach management status after 18 years, and fast trackers may do so in 10 years.[4] Female university graduates are mainly relegated to office lady (menial clerical jobs) for the six to seven years or so that they are expected and encouraged to work.

Although personnel practices in large Japanese companies are remarkably homogeneous across industries and companies, there are interindustry dissimilarities that reflect differences in product markets. Compared to the automobile industry, the consumer electronics industry operates in a more competitive environment with shorter generational life, more competition from third world producers, and greater variation in products. This is reflected in the employment system in one major way—the Japanese electronics industry is heavily dependent upon female production labor. Compared to male production workers in electronics or automobiles, female electronics production workers perform relatively labor intensive operations, receive relatively little training, do not move past the first level or two in job grade even if they remain with the company for many years, and are expected to retire after five or so years when they have children. In contrast, the employment and wage systems for male high-school and university graduates in the two industries are similar and correspond to what is thought of as the Japanese system.

The use of women in the lower level production jobs in electronics results in lower labor costs and more flexibility in employment provided by high turnover. Since female workers are bunched at the bottom of the job ladder, the Japanese electronics industry can maintain a flatter hierarchy of jobs while allowing the male workers to experience normal promotion rates. The Japanese automobile industry, which does not hire regular female production workers,[5] gains flexibility by using female or foreign workers through subcontractors or suppliers.

Training and Wage Structures in U.S. Firms

Unlike in Japan, the automobile and electronics industries in the U.S. are dissimilar in their employment systems for production workers, primarily because the automobile industry is unionized while the electronics industry is not. For this reason, they face different industrial relations institutions as well as different product markets. For example, seniority is used more extensively in the largely unionized automobile industry than in the largely nonunion electronics industry. Yet, because of the importance of unions in shaping internal labor markets in the U.S. and because of the possible threat of unionization, norms of fairness based on the use of seniority to ration workers within the firm appear to be similar in the two industries.

In the U.S. context, the leading firms in the automobile and electronics industries are national leaders in providing training for their employees. The Big Three domestic producers in autos, for example, have negotiated extensive agreements with the UAW for jointly sponsored career development and apprenticeship training programs. A major electronics company has mandated that *every* employee receive at least 40 hours of formal training per year; this goal is especially significant for production workers, who generally receive the least amount of training in U.S. companies. In some companies skill charts are displayed, showing the extent to which each worker had mastered each of a team's tasks. At some other companies we visited, a pay-for-knowledge system organized the learning agenda for each employee. But these were the exceptions, and even they often organized training on an ad hoc and "as-needed" basis. Training programs and skill formation in these industries do not have the planful character and cumulative impact observable in Japanese companies.

U.S. electronics companies have more job grades so that production workers have longer career ladders than at U.S. auto companies. Entry-level wages are lower in the U.S. electronics industry, but eventually many long-term workers earn as much as U.S. auto workers, who face a flat age-earnings profile (except for the few who move into management or enter an apprenticeship program).

University graduates are hired into the management and professional track in U.S. auto and electronics. They are never members of the union. In the two industries, they operate under similar employment systems which include job security (except under exceptional circumstances), long promotion ladders based on performance as well as personal preference, and pay determined on an individual basis with high variance across workers of the same age and often of the same rank. In general, U.S. professional and managerial workers face a steeper age-earnings profile with larger variance than their Japanese counterparts, who are union members. These differences tend to disappear after age 40 when most Japanese university graduates have left the union and become managers.

A Comparison of Japanese and U.S. Employment Systems

Although production workers in large Japanese and large U.S. companies operate under structured internal labor markets, their respective sets of rules are dissimilar. Japanese institutions are structured to keep regular workers tied to a particular firm and to have career ladders that develop the workers from unskilled to semiskilled to skilled workers and then supervisors over a lifetime. Job security coupled with long career ladders has been called by Koike "the white collarization of blue-collar workers." This system is compatible with automation and the replacement of many assembly workers with a few machine operators. However, it does rely upon high growth to facilitate steady downsizing and the promotion of workers through the system, as well as upon full employment to reward firms for providing employment security. Both business and labor rely upon wage moderation during the annual synchronous national wage negotiations (*Shunto*), coupled with high investment rates and long periods of full employment, to attain high growth rates. Temporary workers and the relocation of workers within the company and between the company and its subsidiaries provide the firm with some flexibility in employment without undermining the basic employment system.

Facing weaker labor markets and more volatile movements in product demand, U.S. firms are much more poised to adjust their employment levels through temporary layoffs using unemployment insurance or through permanent layoffs with plant closures than to provide steady employment with training and career ladders. Similarly, U.S. workers see job shopping as one way to improve wages and labor market opportunities as well as to respond to changing family needs. Instead of providing continual skill development, workers are identified as semiskilled and skilled. The sharp boundary between the two is reinforced by the lack of a natural progression between the two levels and the absence of acknowledged gradations within each skill level.

Relying upon seniority criteria and on relatively flat earnings profiles (in lieu of performance or skill pay) as "fair" undermines management's ability to structure training based on job assignment as is done in Japan. However, using seniority and flat earnings profiles to govern job assignments does have a function. It reduces the need to develop a fair evaluation system. Inequity problems in job assignment, transfer, and promotion have long been viewed by production workers and unions as a weak point of American management.

Professional and managerial workers operate under similar employment systems in large Japanese and large U.S. companies. However, U.S. employees have more opportunities to move quickly up the corporate ladder and to improve their labor market opportunities by changing firms. Compared to their Japanese counterparts, American professional and managerial workers operate in more fluid markets with a higher potential return to effort, creativity, and luck. Overall, the average return to a college education, as well as the variance, is higher in the U.S. than in Japan. In contrast to the U.S., one might term the Japanese system the "blue collarization of white-collar workers."

Conclusion

Employment security commitments made by large Japanese companies help to explain the greater incidence of company-provided training in Japan relative to that in the U.S. But additional institutional differences between employment systems in the two countries also play important roles. Since both experience and accumulated skills are reflected in pay in Japan, age-earnings profiles are steeper and the penalty of job leaving is much greater than in the U.S. Japanese companies do not suffer from the public good problem associated with training or the asymmetry of risk taking associated with job security to the extent that U.S. companies do. They are better able to make tenure in the firm a skill-deepening experience because job assignments are organized according to skill progressions rather than by a seniority-based, post-and-bid system among "qualified workers," with personal preferences for transfer and promotion usually dominating cumulative skill formation considerations. In principle, U.S. companies and their employees could restructure training ladders, job assignment, and pay systems to be more focused on production workers' skill development over a career, as is more common for professional and managerial employees. Indeed, many workers may prefer to work in high-performance workplaces that provide longer training ladders and link increased skills and productivity to increased earnings. But given the current institutions of the U.S. labor market, such restructuring is not easy for individual companies to accomplish, and it may well require a refashioning of broader elements of the U.S. employment system.

Acknowledgments

We are grateful to the Institute of Industrial Relations at UC Berkeley, the Pacific Rim Research Program of UC, and the Japan Foundation for financial support. Krishna Pendakur and Adriana Kugler provided excellent research assistance. Yoshi Nakata and Lloyd Ulman have collaborated in our study of Japanese and American companies during the past five years. The ideas in this paper reflect our joint research with them and our colleagues at Doshisha University.

Endnotes

[1]The large firms we are discussing operate in primary labor markets. Their own employment systems produce their internal labor market structure.

[2]Data in the *Basic Survey on Wage Structure* indicate that male high school graduates aged 35-39 who are just starting a job with a new employer earn 34% less in monthly scheduled wages than similar males with continuous employment since age 18.

[3]During the boom years of 1990-91, large companies did experience high turnover—often 15% per year—of production workers during their first year of employment.

[4]Japanese management begins at *kacho* (section chief), which is two levels above "foreman" (the first management level in the U.S.). The first two levels of supervisor (*shunin, kakaricho*) are in the union.

[5]A common explanation suggests that the law preventing women from working the midnight shift prevents hiring them as regular workers, since the shifts rotate and all workers work all shifts. However, the electronics industry circumvented this problem by rotating only two shifts and hiring a group of men, dubbed the night owls, to work the midnight shift. Often these men are long-time temporary workers.

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XV. ATTITUDE SURVEYS OF UNION MEMBERSHIPS: LONGITUDINAL AND INTERNATIONAL PERSPECTIVES

A Longitudinal Examination of Union Steward Behaviors and Behavioral Intentions

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Even though empirical work on the role of the union steward has increased since 1980 (Clark and Gallagher 1988; Clark, Gallagher, and Pavlak 1990; Dalton and Todor 1982; Martin, Magenau, and Peterson 1986), more research on the steward is needed. As union publications often stress, the steward is the personification of the union to the members, and thus, impressions of the steward greatly influence member perceptions of the union. Clark and his colleagues find that rank-and-file members who hold positive views of their stewards also have a positive view of the grievance procedure and greater union commitment. Longitudinal research (Fullagar, Gallagher, Clark, and Gordon 1993) finds that perceived steward leadership qualities are related to the development of member union commitment. An understanding of the antecedents of relevant steward behaviors and intentions should increase our understanding of the steward's role. In this paper we seek to extend our knowledge about stewards through an exploratory longitudinal examination of the antecedents of the following

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three steward behaviors and behavioral intentions: the number of grievances handled by them, the amount of time they spend on their steward duties, and their intentions to remain a steward.

Relevant Steward Behaviors and Behavioral Intentions

The three behaviors and behavioral intentions are linked together by cognitive consistency theory. That theory, the work of Salancik and Pfeffer (1978) on social information processing, and the work of Bateman and Strasser (1984) on commitment suggest that behaviors are explained by other behaviors and attitudes which allow individuals to "make sense" of their current situation. The three behaviors and behavioral intentions are all likely related to the way stewards carry out their role. Nash (1983) notes that grievance handling consumes between 50% to 80% of the time stewards spend on union matters. Thus the number of grievances a steward handles defines much of the steward's activities and should be related to the hours stewards spend on union duties. Rosen, Greenhalgh, and Anderson (1981) find in their study of 54 plants that stewards spend an average of 11.6 hours a week on labor relations matters. While their data suggest that much of this time is related to handling grievances, they conclude that stewards carry out socioemotional leadership functions similar to those expected of managers and supervisors. Warren (1971) notes that the amount of time involved in being a steward may entail work outside of normal work hours. Nicholson (1976) finds that a number of stewards had competing demands for their time between their steward duties and home commitments. Nicholson also found that many stewards reported moderate to severe feelings of role overload because of the sheer demands placed on the stewards' time.

Also consistent with the number of grievances and the hours spent should be the behavioral intention of whether or not stewards want to run for reelection. Those less willing to run for reelection are likely to be less committed to the union and perhaps less effective in the steward role. Turnover is considered to be a major problem for stewards (Winch 1980; Sayles and Strauss 1953), and Winch (1980) suggests that the amount of time a steward spends on their duties may be a cause of that turnover.

Potential Predictors

Several demographic variables may be relevant to steward behaviors or behavioral intentions. For example, gender is found to affect grievance processing (e.g., Dalton and Todor 1982) as well as the amount of time a steward can devote to the job (Nicholson 1976), and skill level is often related to how the steward views the role (e.g., Sayles and Strauss 1953). The experience of a steward is also thought to relate to how the steward views the role and his/her reelection intent (e.g., Sayles and Strauss 1953; Winch 1980).

The literature suggests that orientations for becoming or remaining stewards are potentially relevant predictors of their behaviors (Nicholson 1976; Warren 1971). Miller and Form (1964) and Sayles and Strauss (1953) suggest that such orientations are interrelated and are based on the stewards' interrelationships with the union, employees, and company. The relationship of some other predictors to steward behaviors and intentions may be explained by exchange theory. The work of Mowday et al. (1982) uses exchange theory to explain organizational commitment and suggests that if an organization provides a vehicle for the use of people's abilities and satisfies their needs, they reciprocate with commitment and with other positive behaviors and behavioral intentions in relation to the organization. When an organization fails to provide these opportunities, the behaviors and intentions concerning it will be low. Similar to Magenau, Martin, and Peterson (1988), we do not directly measure exchanges but view them as a hypothetical construct intervening between a steward's perception of various organizational attributes and various behaviors and intentions. We assume that if stewards perceive a characteristic of the union that benefits them, they will reciprocate with higher levels of prounion behaviors and intentions.

Union loyalty, the major constituent component of union commitment (Fullagar and Barling 1989), represents one result of positive exchanges with the union. Martin et al. (1986) find union loyalty to be positively related to union activities in a sample of stewards. Thus union loyalty should have a positive relationship to the hours spent on union matters and to the number of grievances handled. Klandermans (1989) finds union loyalty to be a strong negative predictor of withdrawal from the union. Deciding to remain a union steward is conceptually similar to a member's decision to join or withdraw from a union. Thus we expect that union loyalty will have a positive relationship to the decision to remain a steward.

Another important exchange with the union is represented by perceived union instrumentality, which Fullagar and Barling (1989) find is significantly related to participation in union activities. Union instrumentality has also been found to be positively related to the individual's decision to support unionization (DeCotiis and LeLouarn 1981). Thus it should be positively related to relevant steward behaviors and intentions.

Good union-management relations can be viewed as a positive aspect of the work environment that is at least partially attributable to the actions of the union. Nicholson (1976) reports that stewards felt more quantitative role overload on their time where there was a favorable labor-relations climate, likely reflecting the strenuous work on their part to achieve such a climate. However, poor union-management relations usually result in more grievances being filed (Katz, Kochan, and Gobeille 1983). Thus it is a worthwhile concept to examine in relation to steward behaviors and intentions.

Similarly, integrative views of collective bargaining (Walton and McKersie 1965) should indicate a positive relationship between management and the union and, thus, fewer hours spent on labor relations matters and fewer grievances handled. Martin (1978) reports that more integrative views of bargaining are related to union membership when choice is possible and, therefore, should be related to the intent to run for reelection. Integrative views of grievance processing should also reflect a positive labor relations climate and, thus, should be related to steward behaviors and intentions in a parallel way.

Reference group theory (e.g., Hyman and Singer 1968) provides other potential predictors. It holds that the groups to which people orient themselves are an important source of their norms, attitudes, and values. For stewards, some of the most important reference groups are the members they represent and their friends in the union. Gordon et al. (1980) found that coworkers' attitudes toward the union are positively related to union loyalty and, thus, by extension to steward behaviors and intentions. Since stewards presumably represent their coworkers, the latter would be a relevant reference group. We hypothesize that stewards' beliefs about how well the members they represent support the union are positively related to their behaviors and intentions. Likewise, we believe the percentage of a steward's friends in the union will be positively related to the same.

The last set of predictors incorporates changes over time. As the exchanges improve and the reference groups become more prounion, we expect that positive changes (e.g., better union-management relations, more union loyalty, and more union support among the members) would result in less grievances handled, fewer hours spent on union activities, and a greater intention to seek reelection.

Method

This study uses a subset of steward data previously used by Magenau et al. (1988) from surveys administered to all stewards of a union representing retail food employees at the union's annual steward conferences in two consecutive years. In this paper we analyze the data longitudinally rather than cross-sectionally. The 108 stewards with complete data for all measures who remained in the position throughout the time period constituted the sample.

The dependent variables in our study include two measures of behaviors and one behavioral intention. The measure of hours spent carrying out steward duties consists of two items: hours per week on company time and hours not on company time. The measure of grievances handled was derived by asking the stewards how many grievances they had handled in the past two years. Willingness to continue as a steward was assessed by asking: "Do you plan to run for reelection as steward?" which has a 5-point response format (1 = definitely no, 5 = definitely yes).

The predictor variables consisted of demographic variables and variables measuring orientations, exchanges, reference groups, and changes. The four demographic variables were gender and seniority as a steward, with age and pay rate as indicators of skill level. The orientations came from the work of Martin (1986), who developed items measuring why stewards took on the role. Using factor analysis, he found four interrelated sets of orientations: (1) unionism, desiring to help the union and believing in union-oriented goals; (2) helping, desiring to help coworkers and to effect change; (3) intrinsic, having an interest in the power and prestige of the steward's position; and (4) self, desiring personal gain from the steward position. All orientations are used in this study.

Five measures relate to exchanges with the union. Union loyalty consists of three items which Gordon et al. (1980) report load highly on the union loyalty component of the multidimensional construct of union commitment. Perceived union instrumentality is measured with the 5-item scale Magenau et al. (1988) previously named "union decision making." These items assess how well the union handles grievances and how well it selects issues for contract negotiations. They also assess the influence and communication between the union and its members. Our measure of the general quality of union-management relations comes from Rosen et al. (1981). The scale measuring integrative views of collective bargaining is reported in Magenau et al. (1988). Integrative views of grievance processing consists of an item concerning agreement with finding practical solutions to problems rather than sticking to the letter of the contract.

Two variables related to reference groups are included. The perception of how well the represented members support the union is assessed by the following item: "The workers I represent in my unit strongly support Local [X]." The percentage of friends in the union is assessed by the following item: "What percentage of your close friends are Local [X] members or officials?"

Change over time was measured for the three dependent variables, the exchanges, and the reference groups. The values of these variables at time 1 were subtracted from the values at time 2 to compute the difference scores representing the change variables.

Analyses and Results

Due to the small sample size and the exploratory nature of the study, three separate stepwise multiple regressions were run, one with each dependent variable measured at time 2. The value of each dependent variable at time 1 was included in the set of variables to be possibly entered into each regression equation for that variable, but not the difference score measuring the change between its values at time 1 and time 2. However, the potential predictors in the regression equations included the difference scores measuring changes over time of the other two remaining dependent variables.

The results shown in Table 1 indicate that the variables examined as potential predictors explain substantial variance in the relevant steward behaviors and behavioral intentions. For hours spent, the strongest predictor was the number of hours at time 1, which explained 24% of the total variance, with the other variables adding an additional 15%. For grievances handled, the strongest predictor was grievances handled at time 1, which explained 17% of the total variance, with the other variables adding an additional 13%. However, reelection intent at time 1, while significantly correlated with itself at time 2 ($r = .20$, $p < .05$), was not a predictor of itself at time 2. Hours spent at time 1 was a significant predictor of reelection intent, with fewer hours spent associated with greater intent. Hours spent was also associated with grievances handled, with the change to fewer hours spent associated with more grievances.

Demographic variables were not very important. Male stewards handled more grievances and older stewards were more willing to run for reelection. The significant orientations were logically associated with the dependent variables. A higher helping orientation was a predictor of more grievances, and the intrinsic orientation was a predictor of reelection intent.

Several steward exchanges were significant predictors. Union loyalty and increased loyalty over time were predictors of reelection intent. Worse union-management relations and a change to worse union-management relations were predictors of grievances handled. As expected, less integrative views of the grievance procedure and a change to less integrative views of the grievance procedure predicted more hours spent. The two variables

TABLE 1

Results of Stepwise Regression Analyses

Independent Variables[b]	Dependent Variables[a] Hours Spent on Union Matters	Grievances Handled	Reelection Intent
Hours spent on union matters	.43°°°		-.23°°
Change in hours spent, time 1 to time 2		-.15°	
Grievances handled		.30°°°	
Sex		-.18°°	
Age			.22°°
Helping orientation		.15°	
Intrinsic orientation			.24°°°
Union loyalty			.36°°°
Change in union loyalty, time 1 to time 2		.31°°°	
Union-management relations		-.33°°°	
Change in union management relations, time 1 to time 2		-.29°°°	
Integrative grievance processing	-.33°°°		
Change in integrative grievance processing, time 1 to time 2	-.25°°°		
Perceived member support	.19°°°		
Percent of friends in union	-.16°°		.17°°
R^2 (Adj. R^2)	.39(36)	.32(.28)	.26(22)

°p < .10; °°p < .05°°°; p < .01. One-tailed tests of significance.

[a]The dependent variables are measured at time 2.

[b]The independent variables are measured at time 1 except for the change variables.

representing steward reference groups were also significant predictors. As expected, more membership support for the union predicted more hours spent. More friends in the union predicted greater reelection intent. However, opposite to expectations, less friends in the union predicted more hours spent. Less friends in the union may mean the steward has to spend more hours to accomplish the same results.

The correlations of a change to worse union-management relations with several other variables are also of interest. There were significant correlations between a change to worse union-management relations and a change to less integrative views of grievance processing (r = .25, p < .01), a change to less union loyalty (r = .15, p < .10) and more hours spent at time 1 (r = -.21, p < .05).

Discussion and Implications

The results suggest that the hours stewards spend on their duties is an important variable related to their other behaviors and behavioral intentions, but the results are not in line with what cognitive consistency theory would predict. Those who spent fewer hours a year earlier were more willing to run for reelection, suggesting that the large amount of time spent was not rewarding, creating a disincentive for remaining a union steward (Clark and Gallagher 1988; Winch 1980). Further, spending fewer hours than a year earlier meant handling more grievances, suggesting that handling large numbers of grievances was not rewarding either.

More hours spent was also related to less integrative views of the grievance procedure and to a change to less integrative views of the grievance procedure. Not surprisingly, there were more grievances with worse union-management relations and a change to worse union-management relations. When these findings are viewed in light of the significant correlations between a change to worse union-management relations and the other variables, it appears that both the number of grievances handled and the steward's view of grievance processing are related to the hours spent and to the quality of union-management relations. Further, the change in the quality of union-management relations is related to variables which predict reelection intent; e.g., the change in union loyalty and the hours spent on union matters.

This study, while based on stewards in only one union, still offers some suggestions for practitioners. Following Clark and Gallagher (1988), training of stewards is likely to be needed on grievance processing. Our results suggest that devoting time in training to showing how grievances could be handled in a more integrative fashion would help reduce the amount of hours spent on steward duties. With less time required, stewards would be more likely to seek reelection. If the union officers could focus more of their energy on having better relations with management and achieve such relations, there likely would be fewer grievances (Katz et al. 1983) and a climate that would enable grievances to be handled more integratively with less time spent on each grievance. Thus we believe that steward training and improved union-management relations will make stewards more willing to run for reelection, helping to reduce the problem of steward turnover.

Acknowledgment

This research was partially supported by the Master of Arts in Industrial Relations program at Wayne State University.

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Union Commitment, Participation, and Membership Turnover in Sweden: A Longitudinal Study

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While research on union commitment has burgeoned considerably over the last decade, the relationship between commitment and union participation appears unclear. One school of thought suggests that commitment causes participation (Barling, Fullagar, and Kelloway 1992). According to another school, behavior precedes the attitudes of commitment (Salancik 1977). A third approach views the relationship between commitment and participation as cyclical and mutually reinforcing; that is, the increased knowledge about union activities derived from participation increases commitment which, in turn, may influence subsequent participation (Kuruvilla, Gallagher, and Wetzel 1993). Since the purpose of studying attitudes of union members is to understand their behavior, what is missing is a clearcut theory of union commitment stating causal links between different types of commitment and different kinds of behavior. Further, as noted by Gallagher and Strauss (1991), longitudinal research comparing attitudes over time is required to achieve greater understanding of phenomena such as union commitment and union participation.

This study uses longitudinal data from three Swedish unions and, as a first purpose, conducts a formal test of the causal relationships postulated in a new integrated theory of union commitment (Sverke and Kuruvilla 1993). Although Sverke and Kuruvilla demonstrate support for their theory, their study used cross-sectional data that are unable to establish causality. An additional benefit provided by this study is that it allows for examining union-related attitudes and behaviors before and after a structural transformation; two of the unions in the study merged between the first

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and second waves of data collection, while the third did not. Therefore, to gain a wider understanding of merger effects, the second purpose of the study was to compare in an exploratory fashion the merged unions with the nonmerged union with respect to central union variables before as well as immediately after the merger.

Brief Description of the Integrated Theory

Sverke and Kuruvilla's (1993) integrated conceptualization departs from two main theoretical approaches, namely, Weber's (1968) theory of social action and Fishbein and Ajzen's (1975) theory of reasoned action. First, on the basis of Weber's theory, Sverke and Kuruvilla (1993) and Sverke and Abrahamsson (1993) suggest that union commitment is composed of two dimensions, instrumental rationality-based commitment to the union (based on instrumentality perceptions about the union) and value rationality-based commitment to the union (based on ideology and value congruence between member and union), which are suggested to have different consequences for membership behavior. Second, consistent with the Fishbein and Ajzen (1975) framework applied to union commitment (Sverke and Kuruvilla 1993; Kuruvilla and Sverke 1993), the commitment dimensions influence behavior through behavioral intentions. However, the behavioral intentions are affected not only by the two commitment dimensions but also by subjective norms (i.e., internalized perceived social pressures from important others).

More specifically, Sverke and Kuruvilla's (1993) integrated theory posits that value rationality-based commitment influences participation in union activities as well as members' willingness to retain membership. Instrumental rationality-based commitment is proposed to impact only the decision to remain a member. Subjective norms are suggested to affect both the participation and the membership retention intentions. In other words, value rationality-based commitment results in increased member activism, while instrumental rationality-based commitment does not (see Sverke and Kuruvilla [1993] and Sverke and Abrahamsson [1993] for a full development of the theory). The theory suggests the following testable implications: (1) Value rationality-based commitment predicts the intentions to participate in union affairs and to retain membership. (2) Instrumental rationality-based commitment predicts only the membership intention. (3) Subjective norms predict both the participation intention and the membership intention. (4) The intention to participate predicts actual union participation. (5) The membership intention predicts union membership turnover.

The Merger

Two of the three unions participating in the present study merged in May 1993. There were several reasons for the merger, the most important of which were of an economical nature or associated with decreases in union density (see Abrahamsson, Ahlén, Eriksson, and Sverke [1991] for a more detailed discussion). In terms of Chaison's (1986) typology of union mergers, the merger was intended to be an amalgamation characterized by a high degree of integration. Although pointing to risks in generalizing merger effects, Chaison suggests that mergers characterized by a high degree of integration result in centralized governing structures which, in turn, may reduce participation in union activities.

However, only a limited amount of research has been conducted on the psychological effects of a merger on union attitudes and union-related behaviors. While this fact makes it difficult to formulate precise expectations and hypotheses concerning potential effects of a merger between Swedish unions (Abrahamsson et al. 1991), the present exploratory investigation of short-term merger effects still provides a unique contribution. An increased understanding of merger processes has practical implications not only for unions planning to merge but also for countries facing several mergers (e.g., Sweden and Australia).

Data and Methods

Sample

The data for this study were collected in the first and second waves of a longitudinal research project covering three Swedish blue-collar unions, namely, the unions of factory workers, clothing workers, and food workers. Time 1 data were collected in winter 1991-92 and time 2 data in summer 1993. Of the 2831 union members sampled for the study, 1486 (52.5%) respondents provided usable questionnaires in the first wave. Time 2 questionnaires were distributed only to those who responded at time 1; of those, 1170 (78.7%) respondents provided usable responses also in the second wave. Thus the individuals used in the present study amount to 41.3% of those initially selected for the survey. The sample comprises 58% males; the average age, company tenure, and union tenure are 41.36 (SD=12.91), 11.78 (SD=9.20), and 12.65 (SD=10.10) years, respectively. Analysis of nonrespondents did not suggest any dramatic differences between respondents and nonrespondents at time 1 (see Sverke and Netrell [1993] for further details). Comparisons between time 2 respondents and nonrespondents also suggested no differences regarding time 1 mean values in union commitment, behavioral intentions, subjective norms, and union participation measures.

Measures

Table 1 presents means, standard deviations, reliabilities (alphas), and intercorrelations for time 1 and time 2 variables, as well as test-retest reliabilities for all variables measured at both time points. All indices were constructed by summing the responses on items and then dividing by the number of items (further details about the variables can be found in Sverke and Kuruvilla 1993). Value rationality-based commitment to the union was measured by nine items, instrumental rationality-based commitment to the union by seven items (instrumental beliefs ° outcome evaluations), and subjective norms by three items (normative beliefs ° motivations to comply). For the latter two variables, the square root of the products were used to achieve 5-point scales. Membership intention (i.e., the intention to retain union membership) and participation intention (i.e., the intention to participate in union affairs and to hold union office) were each measured by 3-item scales. Thirteen two-point items (1=no, 2=yes) representing a composite measure of administrative, occasional, and supportive participation (e.g., McShane 1986) were used to tap union participation. Membership turnover, the only variable measured solely at time 2, was assessed by two separate single items asking the respondents about their current union affiliations; on the basis of these, a dummy variable was constructed (0=still a union member, 1=not a member of a union). Only those instances when the individual had left the union movement as a whole (N=31) were treated as turnover; however, since in Sweden a change of employer or branch may automatically imply a change of union, those instances in which the individual had a change in union as a consequence of a job change (N=61) were not treated as turnover.

Analysis

The hypothesized model (see Figure 1) was tested using the maximum likelihood estimation procedures of LISREL VII (Jöreskog and Sörbom 1989). We used the path analysis methods for directly observed variables and treated the composite values on variable indices as observed variable scores (thus assuming reliabilities of 1 for all variables). The time 1 measures of value rationality-based commitment, instrumental rationality-based commitment, and subjective norms were used as exogenous variables and were allowed to correlate. All exogenous variables were set free to predict two of the endogenous variables, namely, participation intention and membership intention (both measured at time 1). Among the endogenous variables, only the parameters for the effects of the participation intention on union participation (time 2) and of the membership intention on membership turnover (time 2) were estimated.

TABLE 1
Intercorrelation Matrix and Descriptive Statistics for All Variables in the Study

				Variables, Time 2						
Variables, Time 1	M	SD	Alpha	1	2	3	4	5	6	7
1 Subjective norm	3.04	0.96	.80	(.49)	.45	.36	.26	.28	.18	.05
2 Value rat-based UC	2.48	0.94	.91	.45	(.72)	.66	.57	.53	.34	.06
3 Instrumental rat-based UC	3.32	0.65	.85	.37	.64	(.57)	.38	.42	.16	.07
4 Participation intention	2.37	0.93	.68	.21	.49	.45	(.62)	.23	.44	.04
5 Membership intention	3.96	1.21	.84	.22	.40	.47	.33	(.59)	.11	.01
6 Union participation	1.34	0.24	.84	.14	.33	.19	.52	.17	(.68)	.05
7 Membership turnover	—	—	—	—	—	—	—	—	—	(—)
Mean				3.06	2.68	3.38	2.50	4.17	1.34	1.03
Standard Deviation				0.85	0.92	0.68	0.84	1.04	0.24	0.16
Alpha				.75	.91	.89	.57	.78	.82	—

Time 1 variables intercorrelation coefficients are presented below the diagonal, time 2 correlations above the diagonal, and test-retest reliability coefficients in the diagonal (for $r \geq .06$, $p<.05$; $r \geq .08$, $p<.01$; $r \geq .10$, $p<.001$).

The hypothesized path model was also tested against a null model in which no parameters for effects of exogenous on endogenous variables or among endogenous variables were estimated, thus allowing for a test between nested models. Since large samples can produce significant chi-square values even if the fit of the model is good, following standard procedures, we relied on several other fit indices such as the NFI (Normed Fit Index) (Bentler and Bonnett 1980) and the PFI (Parsimonious Fit Index) (James, Mulaik, and Brett 1982), as well as the normal fit indices provided by LISREL. We used Bentler and Bonnet's (1980) rule suggesting that fit indices above .90 indicate good fit.

The merger between the unions of clothing workers and factory workers two months prior to the second data collection wave provides a quasi-experimental situation ("The Untreated Control Group Design with Pretest and Posttest"; Cook and Campbell 1979), the merger serving as the treatment. Several analyses were conducted to address the second purpose of the study, that is, to compare the merged unions with the nonmerged union with respect to commitment, subjective norm, intentions, and participation. First, *F*-tests were computed at both time 1 and time 2 to assess whether the unions differed in variable means at either of the isolated time points. Second, paired t-tests were used to test for potential mean differences within unions over time. Third, to more accurately test for potential mean differences between the unions at time 2, by controlling for time 1 mean values, analyses of covariance (ANCOVA) were computed (thus using time 1 measures as covariates).

Results

The path diagram in Figure 1 presents the standardized LISREL estimates of the parameters in the hypothesized model. Consistent with Hypothesis 1, value rationality-based commitment to the union significantly predicts the participation intention as well as the membership intention. Further, as postulated in Hypothesis 2, instrumental rationality-based commitment predicts only the intention to retain membership, while it is nonsignificant in predicting the intention to participate. Unexpectedly, however, the subjective norms variable, although predictive of the membership intention, is nonsignificant in predicting the intention to participate in union affairs. The relationships between the behavioral intentions and the actual behaviors are consistent with Hypothesis 4 (the participation intention significantly predicts union participation), but nonsupportive of Hypothesis 5 (the membership intention is nonsignificant in predicting membership turnover).

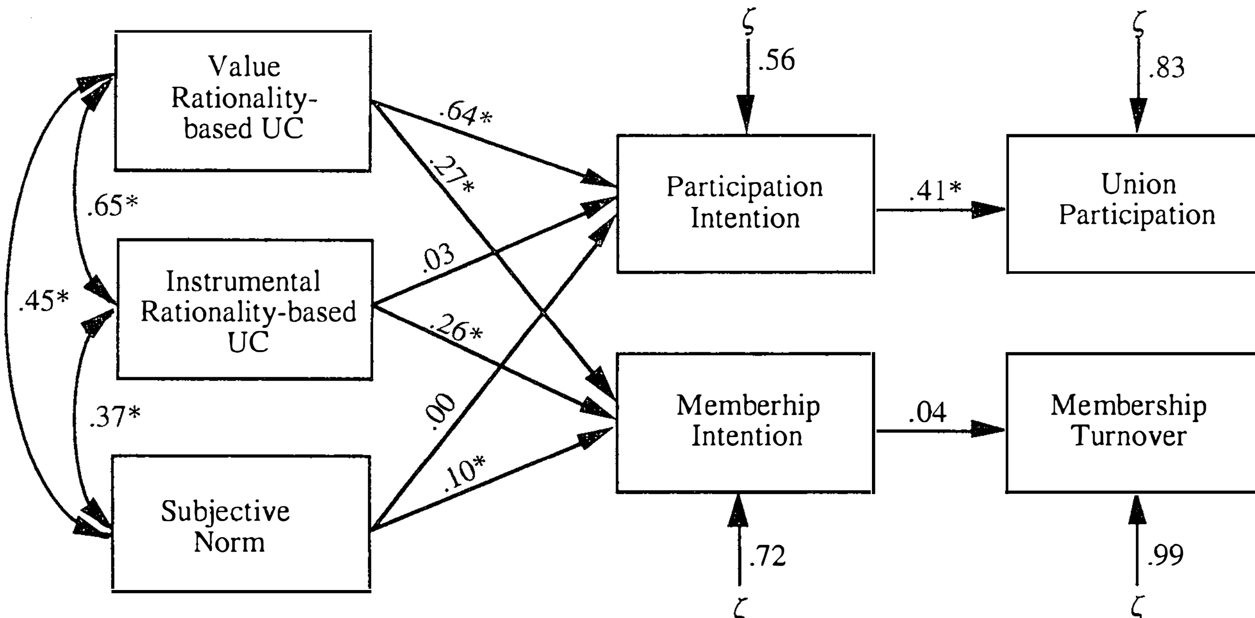
Table 2 presents the fit indices for model tests. Athough the chi-square value for the hypothesized model is significant, the chi-square difference test clearly indicates that the hypothesized model provides a substantial and significant improvement in fit over the null model. Further, all the fit indices for the hypothesized model are within acceptable standards and indicate good fit of the model to data (GFI=.99; AGFI=.98; NFI=.97; PFI=.95; RMSR=.03).

Table 3 presents results of the analyses examining potential differences between the merged unions, on one hand, and the nonmerged union on the other. While the value rationality-based commitment mean value increases from time 1 to time 2 for all unions, there is an increment over time in instrumental rationality-based commitment only for the factory workers' union. It should be noted, however, that there are no significant differences in commitment between the unions at either of the isolated time points and that the increments over time are very small in absolute values. Further, after controlling for initial values (i.e., using the time 1 variables as covariates), the ANCOVA F-tests reveal no significant differences between the unions regarding time 2 values in value rationality-based or instrumental rationality-based commitment to the union.

Similar analyses for subjective norms, behavioral intentions, and union participation reveal no significant differences between merged and nonmerged unions, either at the isolated time points or at time 2 after controlling

FIGURE 1

Results of Path Analysis Based on the Integrated Theory
(Standardized parameters)



Note: N = 1056; *p < .001

TABLE 2
Fit Indices for Model Tests

Model (k)	df_k	χ^2_k	df_{k-1}-df_k	χ^2_{k-1}-χ^2_k	GFI	AGFI	RMSR	NFI	PFI
Null model	21	1189.67			.75	.67	.25		
Model	13	35.20	8	1154.47	.99	.98	.03	.97	.95

For all χ^2 values, $p<.001$; N=1056.

for time 1 values. However, while there is no increment over time in subjective norms or union participation for any of the unions, the values in membership and participation intentions increase significantly for the factory workers' union as well as for the food workers' union; for the union of clothing workers there is a significant increase in membership intentions from time 1 to time 2, but a nonsignificant increase in participation intentions.

TABLE 3
Comparisons Between Merged and Non-merged Unions

Variable	Union[a]	Time 1	Time 2	t-paired	ANCOVA F[a]
Value rationality-based commitment	Clothing	2.55	2.70	2.85°	
	Factory	2.46	2.70	7.72°°	
	Food	2.48	2.68	5.40°°	
	F-test	0.50	0.08		0.64
Instrumental rationality-based commitment	Clothing	3.31	3.39	1.75	
	Factory	3.28	3.37	2.90°	
	Food	3.37	3.35	0.44	
	F-test	1.13	0.31		1.74
Subjective norm	Clothing	3.04	3.00	0.12	
	Factory	3.01	3.09	1.36	
	Food	3.03	3.05	0.28	
	F-test	0.05	0.75		0.77
Membership intention	Clothing	4.00	4.20	2.57°	
	Factory	3.91	4.16	5.48°°	
	Food	4.01	4.18	3.06°°	0.13
	F-test	0.79	0.12		1.65
Participation intention	Clothing	2.29	2.38	1.43	
	Factory	2.39	2.54	4.63°°	
	Food	2.39	2.51	2.70°	
	F-test	0.82	2.36		1.65
Union participation	Clothing	1.33	1.32	0.96	
	Factory	1.35	1.35	0.05	
	Food	1.35	1.34	0.29	
	F-test	0.38	1.15		0.81

°° $p < .001$, ° $p < .01$
[a] The unions of clothing workers and factory workers merged on May 1, 1993.
[b] Based on multivariate analyses of covariance (ANCOVA) with Time 1 measures as covariates.

Discussion and Conclusions

Our central findings essentially confirm Sverke and Kuruvilla's (1993) theory. Value rationality-based and instrumental rationality-based commitment are dimensions of union commitment with different implications for union membership intentions. For increasing the participation of members in union activity (i.e., creating activists), value rationality-based commitment is a central determinant. Commitment to unions from an instrumental perspective seems not to be related to the willingness to participate. However, both dimensions generally predict the intent to retain membership in the union.

Unlike the earlier Sverke and Kuruvilla (1993) result in which the subjective norm was nonsignificant in predicting a general composite prounion behavioral intentions variable, subjective norms predicted the intention to retain membership, but not the intention to participate, in the present study. Although the intention to retain membership did not predict actual membership turnover, this problem is likely due to the low variation in the turnover variable.

In sum, this research note provides strong longitudinal support for the causal hypotheses developed and tested by Sverke and Kuruvilla (1993). Further tests of their theory in other international settings as well as other occupational areas are warranted. In addition, data from three time points would be required to establish causality between all variables in the model.

The second major finding of the present study is interesting in that it suggests that the merger between two of the three unions does not have an impact on commitment, prounion behavioral intentions, or union-related behavior. However, since the time 2 data were collected only two months after the merger officially took place, the nonsignificant differences between the unions at time 2 could be taken only as a preliminary indication of a short-term merger noneffect on central union variables. While intended changes in the new, merged union might not have been implemented that shortly after the official merger, a replication after one or two years can give a more accurate picture of potential merger effects. Further, we have not controlled for events specifically influencing either of the unions (i.e., the unions' local histories) (Cook and Campbell 1979). However, the fact that the mean values increased from time 1 to time 2 in several of the variables and for all (or most) of the unions suggests that all three unions might be influenced by a more general source likely to obscure potential differences in local histories. The prevailing recession in the Swedish economy is one such potential common influence. Future studies including a more careful evaluation of union-specific influences is needed before a firm conclusion of a merger noneffect is drawn.

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Industrial Relations Stress and Union Activism: Costs and Benefits of Participation

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Many aspects of industrial relations are stressful. Conflict and change characterize the practice of industrial relations and are also important sources of individual stress and strain (Bluen and Barling 1988). Empirically, industrial relations events such as strikes (Barling and Milligan 1987; McBride, Lancee, and Freeman 1981), layoffs (Brockner 1988), and involvement in both collective bargaining (Bluen and Jubiler-Lurie 1990) and cooperative union-management ventures (Driscoll 1981) have been associated with individual strain. Despite this consistent evidence, industrial relations stress is a comparatively unexplored topic (Hartley 1992). Reviews of stressors in the workplace frequently omit consideration of industrial relations events, and there is a need for research that examines the stressors associated with the practice of industrial relations (Barling, Fullagar, and Kelloway 1992).

Our study represents one such examination. In contrast to previous research focusing on acute stressors (Pratt and Barling 1988) such as strike action (Barling and Milligan 1987; McBride et al. 1981) or involvement in collective bargaining (Bluen and Jubiler-Lurie 1990), we focus on the chronic stressors and strain experienced by labor union members as they fulfill their roles in the union. Specifically, we draw on previous research on both industrial relations stress (Bluen and Barling 1987, 1988) and union members' involvement in the union (Kelloway and Barling 1993) to examine the strains experienced by union members as a function of their differential involvement in union activities.

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Industrial Relations Stress

Both conceptually and empirically there are grounds to suggest that both membership and leadership roles in labor unions are associated with stress (Bluen and Barling 1988). Individual union members face a variety of stressors related to their decision to join and become involved with the union. Empirically, unionization has been associated with a variety of strain indices. There is a wealth of empirical data suggesting that unionization is associated with decreased levels of employee job satisfaction (Barling et al. 1992), an index of affective mental health in the workplace (Kelloway and Barling 1991; Warr 1987). Moreover, increased role stress has been associated with unionization. Union members report higher levels of role conflict (Odewhan and Petty 1980; Shirom and Kirmeyer 1988) and role ambiguity (Shirom and Kirmeyer 1988) than comparable nonmembers.

Over and above the potential effects of union membership, holding a leadership role in the union may also be associated with increased exposure to role stressors (Bluen and Barling 1988). Stewards and union leaders often receive little training for the leadership roles they adopt (Barling et al. 1992; Nicholson 1976) leading to qualitative role overload. Moreover, the magnitude and extent of leadership responsibilities may lead to quantitative role overload. Nicholson (1976) reports that 75% of the shop stewards in his study reported at least moderate levels of role overload.

Union leadership roles are often poorly defined resulting in increased role ambiguity for shop stewards and local leaders (Bluen and Barling 1988). Ambiguity is likely to be enhanced when management withholds information and the expectancies of leaders' constituencies are either ill defined or poorly expressed. Finally, union leaders may experience increased levels of role conflict (Bluen and Barling 1988). Local leaders and especially shop stewards act as intermediaries between both management and the union and local members and a national or regional union (Barling et al. 1992). Given the size of local constituencies, the possibility also exists that local union leaders are placed in the position of mediating between conflicting interests among the membership.

Members' Involvement in the Union

Although there has been some debate of the nature and dimensionality of union participation, recent research supports Nicholson's (1978) view of members' participation in the union as a hierarchical construct. In analyzing data from six independent samples of union members, Kelloway and Barling (1993) found that in every case, measures of participation formed a Guttman (1944, 1947) scale. Consistent with the scale model, members' involvement in specific forms of union activities could be ordered along a unidimensional and cumulative continuum. Thus union leaders (i.e., those who held office in the union) also served on committees, attended meetings, participated in union votes, and read union literature. Another group of active members attended union meetings, participated in union votes, and read union literature but were not involved in union leadership roles. Finally, passive members participated in union votes and read union literature but did not attend union meetings or become involved in the leadership of the local union (Kelloway and Barling 1993).

Empirical confirmation of Nicholson's (1978) ordering of participation activities provides a means of linking the literature relating individual strain to union membership and union leadership. Specifically, we suggest that increased levels of involvement in union activities will be associated with individual strain.

The Current Study: Members' Involvement and IR Stress

Previous research and theorizing has identified stressors associated with both union membership and union leadership (Bluen and Barling 1987, 1988). We propose that the common thread linking these relationships is members' participation in union activities. In doing so we extend previous research in two ways. First, previous research has demonstrated effects of union membership on job satisfaction (e.g., Freeman and Medoff 1984) and role stress (e.g., Odewhan and Petty 1980). The union effects literature, however, has relied primarily on comparisons of unionized and nonunionized workers (Barling et al. 1992). The assumption underlying this approach is that there are more differences than similarities between unionized and nonunionized workers. Correspondingly, unionized workers are assumed to be a homogenous group. In contrast, research on members' participation in union activities has been based on and demonstrates that a lack of participation in the union is the norm (Kelloway and Barling 1993). Accordingly, there may be more within-group differences in union members than differences between unionized and nonunionized workers (Barling et al. 1992). By focusing on members' involvement in the union (as opposed to membership in the union) as the stressor, we are able to investigate these within-group differences.

Second, research linking individual strain to union leadership has confounded participation and leadership. That is, it is not clear whether the increased stressors associated with union leadership are attributable to leadership *per se* or to the increased levels of union participation associated with union leadership. This question arises naturally from the observation that holding a leadership role in the union is the highest level of participation in the union and predicts other forms of participation (Kelloway and Barling 1993). Accordingly, we hypothesize that various indices of stress and strain will vary directly as a function of members' participation in local union activities.

Method

Subjects

Data for this study were taken from times 1 and 2 of a panel study of dual commitment (Fullagar and Barling 1991). Participants in the study were full-time employees and members of different unions at one of two large Ontario universities. Questionnaires were distributed to all members of the two unions (N = 1800). Members of the faculty union were older (M = 47.46) than members of the support services union (M = 38.08) and reported higher levels of education (M = 20.77 years vs. M = 15.01 years). Members of the faculty union also reported a greater number of years with the organization (M = 14.03 years) than did members of the support services union (M = 9.43 years). Finally, there were more males than females in the faculty union (72% vs. 28%) and more females than males in the support staff union (67% vs. 33%).

Procedure

All data were collected in a longitudinal design with six months separating the data collection periods. At time 1, questionnaires and a letter of support from the relevant union president were distributed to all members of both unions. Reminder cards were sent to all subjects ten days after the receipt of questionnaires. Of the 1800 questionnaires distributed, 461 (25.8%) were returned at time 1. A similar procedure at time 2 resulted in a response of 426 (22.2%) returned questionnaires.

Questionnaires

Outcomes. All respondents completed the *Industrial Relations Events Scale* developed by Bluen and Barling (1987). The scale provides three scores, negative industrial relations events, positive industrial relations events, and total occurrence of industrial relations events. Since the occurrence score is a function of the negative and positive events scores, it was not considered for these analyses. In developing the scale, Bluen and Barling (1987) provide evidence for the test-retest reliability, convergent, discriminant, and known-group validity of the scale.

Respondents also completed Rizzo, House, and Lirtzman's (1970) *role conflict* and *role ambiguity* scales. In the current study the scales demonstrated acceptable internal consistency (role conflict alpha = .87; role ambiguity alpha = .83).

Job satisfaction was assessed by the Warr, Cook, and Wall (1979) 16-item scale. The scale assesses both intrinsic and extrinsic job satisfaction. In the current study the two dimensions were highly correlated (r = .73), and the subscales were combined to form a single measure of overall job satisfaction (alpha = .88).

Predictors. Members' involvement in union activities was assessed by the Kelloway and Barling (1993) seven-item measure of members' participation in union activities. In developing the scale, Kelloway and Barling (1993) show that the scale conforms to a Guttman-scale model and provide evidence for the convergent and discriminant validity of the scale. For the current study the scale manifested a coefficient of reproducibility (Guttman 1947) of .91 and a coefficient of scalability (Green 1956) of .61, supporting the interpretation of the measure as a Guttman scale. To allow for an adequate representation of passive members, active members, and union leaders, scores on the scale were collapsed into three mutually exclusive groups. Passive members (N = 94) were those who indicated not participating in union activities or only participating in activities requiring low levels of involvement (e.g., reading union literature, voting in elections). Active members (N = 187) both participated in low-level activities *and* reported attending union meetings. Finally, union leaders (N = 107) reported engaging in all forms of union activity including holding union office and serving on committees.

Results

Given the significant demographic differences between the two unions participating in the study, we conducted a series of 2 (Union) * 3 (Participation) MANOVAs. Data were analyzed cross-sectionally at time 1. In order to establish the longitudinal stability of the effects, a second MANOVA was run predicting outcomes at time 2 from participation and union membership at time 1.

Cross-sectional Analysis

At time 1, a significant multivariate effect emerged for both union ($F[5, 378] = 5.41$, $p < .001$) and members' involvement in the union ($F[10, 756] = 2.59$, $p < .005$). The interaction between union and members' involvement was non-significant ($p > .05$). The meaning of these effects can be better understood from the univariate ANOVAs and subsequent post hoc contrasts.

Inspection of the univariate ANOVAs suggested that the multivariate effect for union was attributable to differences in job satisfaction ($F[1, 382] = 4.60$, $p < .05$) and role conflict ($F[1, 382] = 7.69$, $p < .01$). Members of the faculty union reported significantly more job satisfaction ($M = 81.97$) than members of the support services union ($M = 79.20$). Members of the faculty union also reported more role conflict ($M = 32.10$) than members of the support services union ($M = 28.33$).

For members' involvement in the union, the univariate ANOVAs were significant for each dependent measure. Thus significant differences emerged for negative ($F[2, 382] = 3.82$, $p < .05$) and positive ($F[2, 382] = 3.42$, $p < .001$) industrial relations stress, role conflict ($F[2, 382] = 3.52$, $p < .05$), role ambiguity ($F[2, 382] = 5.68$, $p < .001$), and job satisfaction ($F[2, 382] = 7.79$, $p < .001$). Table 1 presents the cell means and orthogonal contrasts for each of these five measures.

TABLE 1

Cell Means and Orthogonal Contrasts

	Inactive Members	Active Members	Leaders
Cross-Sectional Analyses			
1. Negative IR stress	5.38	8.97[a]	10.07[a]
2. Positive IR stress	1.36	1.69	2.95[a]
3. Job satisfaction	84.57	80.37[a]	76.35[a]
4. Role ambiguity	13.84	15.46	16.64[a]
5. Role conflict	27.35	30.51[a]	32.28[a]
Longitudinal Analyses			
1. Negative IR stress	7.06	6.18	9.05
2. Positive IR stress	1.95	2.07	3.38[ab]
3. Job satisfaction	82.04	77.41[a]	78.45[a]
4. Role ambiguity	14.55	15.86	17.29[a]
5. Role conflict	29.39	30.48	32.89

[a]Differs from passive members $p < .05$

[b]Differs from active members $p < .05$

Longitudinal Analysis

Significant multivariate effects were found for both union ($F[5, 254] = 4.77$, $p < .001$) and participation ($F[2, 258] = 2.59$, $p < .01$) at time 1. No significant effect was found for the interaction of participation and union. As was the case for the cross-sectional analyses, the significant effect of union was attributable to faculty members ($M = 82.17$) reporting more job satisfaction than support staff ($M = 76.01$, $F[1, 258] = 8.02$, $p < .001$).

Of the five dependent measures, three contributed to the significant multivariate effect for participation. Significant differences emerged on positive industrial relations stress ($F[2, 258] = 7.60$, $p < .01$), job satisfaction ($F[2, 258] = 7.60$, $p < .01$), and role ambiguity ($F[2, 258] = 3.89$, $p < .05$). The effect of members' involvement on negative industrial relations stress approached but did not achieve significance ($F[2, 258] = 2.95$, $p < .06$), while the effect on role conflict was nonsignificant ($p > .05$). Cell means and orthogonal contrasts are presented in Table 1.

Discussion

The results of the current study support the posited effects of union activism on both industrial relations and role stress as well as job satisfaction. At time 1, union leaders reported more positive industrial relations stress and role ambiguity than did passive members of the union but did not differ from active members on these variables. Both leaders and active union members reported more negative industrial relations stress, job dissatisfaction, and role conflict than did passive union members. At time 2, both active union members and leaders reported more job dissatisfaction than passive members. Union leaders reported more positive industrial relations stress than either active or passive members and more role ambiguity than passive members.

Our results identify strains associated with both participation in union activities and union leadership. At both time periods, union leaders reported more role ambiguity than passive members. Active members did not report significantly more role ambiguity than passive members, suggesting that this particular form of role stress may be directly associated with the leadership role (Bluen and Barling 1988). On the other hand, leaders also reported experiencing more positive industrial relations events, suggesting that the leadership role is not without its compensations. While union leadership is associated with increased role stress, it is also associated with the experience of more positive industrial relations events.

Increased involvement in the union was associated with increased levels of job dissatisfaction. Union leaders and active union members were more dissatisfied with their jobs than were passive union members. There are two hypotheses that potentially explain this effect. First, it may be that job satisfaction is a motivator for increased involvement as members become involved in the union in an attempt to resolve their dissatisfaction. While this assumption underlies much of the union literature, Kryl (1991) empirically demonstrated in a longitudinal design that the most appropriate causal ordering of these variables suggests that participation is a precursor to job dissatisfaction. Second, it is likely that through increased involvement in union activities members become more aware of the dissatisfying aspects of their work situation (Freeman and Medoff 1984). In this sense, participation in union activities results in the politicization of the work force and the expression of more job dissatisfaction.

Our results have implications for both future research and the practice of local union governance. First, to date, research into members' participation in local union activities has focused on the identification of predictors of participation (Kolchin and Hyclak 1984). Our results echo previous findings (Kelloway and Barling 1993; Kryl 1991) in suggesting that a focus on the consequences of participation would be useful to understanding why members chose not to become involved in union activities. In particular, the suggestion that active union members experience more stress as a consequence of their involvement suggests that members may actively avoid union activity in order to reduce the amount of stress they experience.

Second, the finding that union leaders experience greater role stress than either active members or passive members has several implications for research and practice. The lack of leader training has been frequently identified as a major cause of role stress for union leaders (e.g., Bluen and Barling 1988; Nicholson 1976). It is possible that greater investment in behavioral skills-based training by unions would assist leaders in adjusting to the stresses of their role. In turn, reduced role stress for union leaders may reduce both the turnover of incumbent officials and the perceived unattractiveness of a union leadership position (Barling et al. 1992).

Finally, our results move the study of industrial relations stress from a preoccupation with dramatic but comparatively infrequent stressors such as strikes (Barling and Milligan 1987) and collective bargaining (Bluen and Jubiler-Lurie 1990). While we do not deny that such events comprise salient aspects of industrial relations, our results suggest that there is much to be gained by increased attention to the stresses and strains emerging from the day-to-day involvement in industrial relations.

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New Member Socialization Programs: The Impact on Union Commitment and Participation

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The present study adopted a longitudinal design focusing on new union members in order to model the impact of early socialization practices on union commitment and to ascertain the effects of these practices on subsequent participation in union activities. The proposed path model and rationales for the hypothesized paths within the model are derived from the literatures on union commitment, union participation, and organizational socialization.

Background

Organizational socialization practices that communicate core values, norms, and roles have a positive impact on the organizational commitment of new members. Jones (1986) distinguished between two broad types of socialization practice, *institutional* versus *individual* socialization, each having different consequences. Using Van Maanen and Schein's (1979) typology, institutional socialization can be defined as "collective" and "formal" in terms of the context in which information is provided to the new member. Collective socialization practices provide newcomers with a common set of experiences that are more likely to elicit a standardized response. Furthermore,

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formal socialization practices may isolate newcomers from existing organizational members in order to teach them the responsibilities of their roles.

In contrast, individual socialization practices can be described as "individual" and "informal." Each individual newcomer is exposed to a different set of learning experiences that allow for greater variation and innovation in the new member's responses. Individual socialization is informal in that learning one's new role takes place on the job through interactions with other organizational members who foster more differentiated and innovative role orientations.

In general, institutional socialization practices are more likely to produce custodial role orientations in which newcomers accept the substantive requirements of their roles but do not go beyond those requirements (Jones 1986). Such behavior in a union context would be characteristic of Child, Loverage, and Warner's (1973) definition of the "card-holding" member who is committed to the union for instrumental reasons, feels a sense of responsibility to the union to the extent that it satisfies his/her individual goals, but who is not actively involved in union affairs. Individual socialization practices, on the other hand, are more predictive of innovative and active role orientations where individuals move beyond the boundaries of their role requirements. In a union setting, such behaviors would be characteristic of the union "stalwart" or activist who is committed to the union but who also actively participates in the functioning of the union at the local level.

Study

The present study investigated the impact of both institutional and individual practices on union commitment and union participation. Institutional socialization experiences consisted of formal orientation sessions conducted by a union official where groups of new members were collectively exposed to a common set of orientation experiences and materials. Consequently, the terms "formal" and "collective" could be used to describe this socialization practice. Individual socialization was measured in terms of the new members' exposure to several ad hoc experiences. Such socialization can be defined as "individual" and "informal" in that the member experienced socialization events in isolation, and orientation consisted of the learning of new roles through trial and error and through interactions with existing union members.

Allen and Meyer (1990) found both institutional and individual practices to be positively associated with organizational commitment. We hypothesized, therefore, that institutional, formal socialization tactics would be predictive of moderate levels of union commitment but that this type of socialization practice would not be predictive of active involvement and participation in union activities. In contrast, individual, informal socialization would predict both higher levels of commitment and active involvement in union affairs.

Kelloway et al.'s (1992) three-dimensional operationalization of union commitment was used. The three dimensions of commitment consisted of *union loyalty*, *responsibility to the union*, and *willingness to work for the union*. Union loyalty can be regarded as a form of affective or attitudinal commitment. Thacker, Fields, and Barclay (1990) described union loyalty as a more passive form of commitment compared to willingness to work for the union. As mentioned above, both institutional and individual socialization practices have been associated with this type of organizational commitment as well as being predictive of union attitudes and specifically union loyalty. Consequently, we hypothesized that both types of socialization practices would have a favorable impact on this dimension of union commitment.

Responsibility to the union and willingness to work for the union are regarded as behavioral components of a more active form of commitment. As such it can be seen as a custodial orientation toward one's role as a union member and more likely to be influenced by institutional socialization practices. Willingness to work for the union, on the other hand, is an indication of the individual's intent to become involved in union activities and go beyond the standard requirements of the membership role. As a result, this commitment factor can be regarded as more of an innovative role orientation that is more likely to be positively associated with individual socialization tactics. We hypothesized, therefore, that institutional socialization tactics would impact the new members' sense of responsibility and that individual socialization practices would affect the individual's intention to participate in union activities.

There is some research to suggest a causal ordering among these three components of commitment. Tetrick (1989) indicated that attitudinal components of union commitment, specifically union loyalty, were predictive of the behavioral components, responsibility to the union and willingness to work for the union. Furthermore, a sense of responsibility to the union was shown to be predictive of behavioral intent to participate in union activities.

The dimensionality of union participation has also been debated in the literature. One suggested typology of participation distinguishes between participation in "informal" and "formal" union activities. Informal participation refers to those frequently occurring behaviors that are not well structured but are ad hoc in nature and central to the spirit of membership involvement (e.g., seeking the advice of a union steward, helping a coworker with a grievance). Formal participation consists of less frequent behaviors that, nevertheless, are necessary for the union to operate effectively and democratically. In the proposed model we hypothesized that engagement in informal union activities would be predictive of formal participation. Although there is limited research on the issue, we believe that because informal participatory activities are more frequent, there is a greater likelihood that these activities will be engaged in first, prior to involvement in formal union affairs. Not only is the opportunity greater for informal union participation, but it often involves less personal cost.

Organizational research indicates that attitudes toward the organization predict active participation in organizational activities. Consequently, it was hypothesized in the present model that union commitment would be predictive of subsequent participation. Furthermore, social psychological theories suggest that behavioral intentions are the strongest predictors of behaviors (Fishbein and Ajzen 1975) compared to attitudes. Willingness to participate in union activities, therefore, was hypothesized to be the dimension of union commitment that would most strongly predict both formal and informal participation.

Research Design

Sample

The sample in the present study consisted of new members of the National Association of Letter Carriers (NALC). In cooperation with the NALC, 2000 members who had joined the union in the twelve months prior to the survey were mailed questionnaires. Of the 2000 questionnaires sent at time 1, 658 (33%) were returned. Of these, 628 surveys had usable responses. These 628 letter carriers were mailed a second survey 12 months later (time 2). Three hundred and sixty members (57.3%) responded, of which 305 (50%) had usable responses.

Measures

Time 1. Union commitment and recall of earlier socialization experiences were measured at time 1. Respondents at time 1 had been with the NALC for an average of 3.02 months and had experienced socialization tactics, at most, twelve months previously. *Institutional union socialization* experiences were operationalized in terms of the length of the formal orientation session, the amount of information that was disseminated during the session, and the number of topics discussed during the orientation. The length and materials and topics checklists were summed to yield a composite score which was used as a measure of the duration and intensity of the institutional orientation that the new members received. *Individual socialization* was assessed by a checklist of 14 informal experiences to which respondents may or may not have been exposed to during their early tenure as NALC members. The experiences were summed to give an overall individual socialization score.

While both institutional and individual union socialization were assessed using recent recall measures, *union commitment* was measured currently. Kelloway et al.'s (1992) 13-item union commitment scale was utilized. A confirmatory factor analysis on the present data indicated a satisfactory goodness-of-fit for the dimensionality proposed by Kelloway et al.

Time 2. Twelve months later, a second survey was sent out that assessed the extent of participation in union activities. Specifically, respondents were asked to indicate those activities in which they had engaged over the past year. The checklist consisted of 24 dichotomous items that had been generated on the basis of previous research on union participation and defines participation as multidimensional in nature and distinguishes between *formal* and *informal* participation.

Using the above operationalizations, the proposed path model depicted in Figure 1 was tested by linear structural relations modeling (LISREL) to ascertain its goodness of fit with the longitudinal data. Specifically, the proposed path model was compared to a null model where the path parameters between the study variables were constrained to zero.

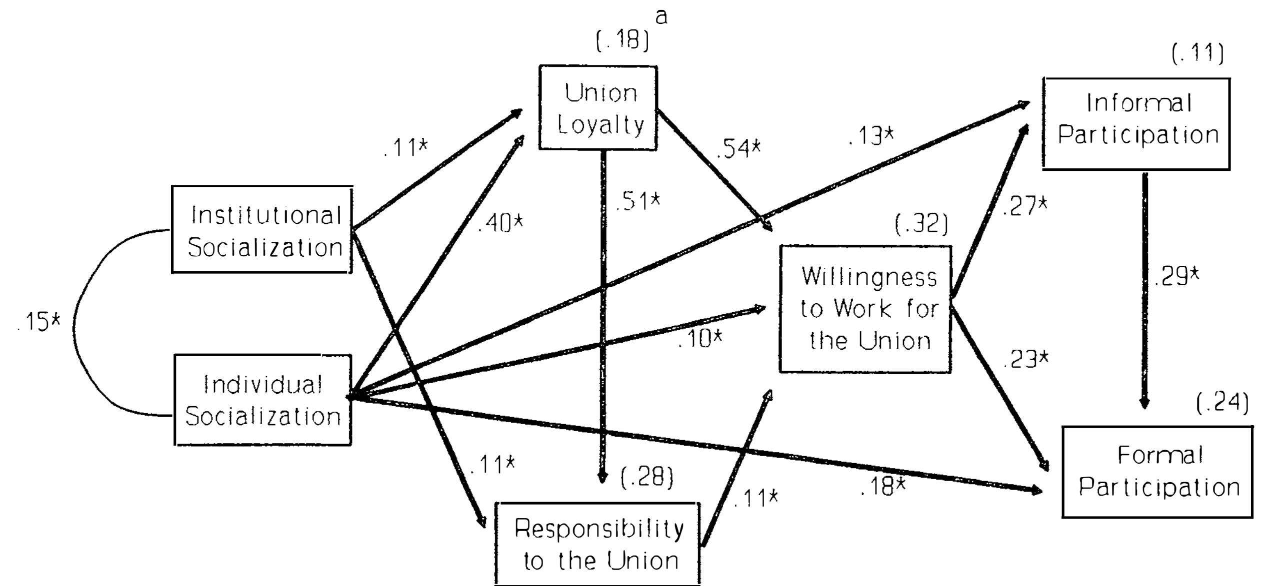
Results

Results of the hypothesized recursive model indicated a satisfactory fit on all goodness-of-fit indices ($\chi^2(7, N=305) = 10.29$, $p > .05$; AGFI = .99, RMSR = .04). The squared multiple correlations for each of the endogenous variables are presented in parentheses.

Compared to a null model that proposed that the relationships between variables studied were zero, the hypothesized model provided a better fit with the data ($\chi^2(20, N=305) = 425.54$, $p > .01$; AGFI = .68; RMSR = .24).

With regard to the specific performance of variables, the decomposition of path correlations into direct and indirect effects revealed that individual socialization had a direct effect on union loyalty. It also had a significant impact on both willingness to work for the union and responsibility to the union, but this effect was an indirect one mediated by union loyalty. Institutional socialization had a direct but very marginal impact on both union loyalty and responsibility to the union. Union loyalty had a strong

FIGURE 1
The Path and Squared Multiple Correlations for the Hypothesized Model



* p < .05
[a] Squared multiple correlations for structural equations

indirect effect on both formal and informal participation, but these effects were mediated by willingness to work for the union (behavioral intentions).

Discussion

Several substantive conclusions may be derived from the results of the path analysis. Perhaps most important, the present study found that institutional and individual socialization practices had differential consequences in terms of union commitment and participation. The present results suggest that, at best, institutional socialization is associated with custodial orientation toward the role requirements of union membership. More specifically, socialization that occurs in a collective and formal context is associated with the development of an affective attachment to the union and a sense of responsibility toward the routine requirements of union membership. The extent to which this relationship remains stable over time is less certain. Individual socialization practices, on the other hand, were not only associated with affective commitment to the union but were also predictive of willingness to engage in activities that go beyond the normal custodial orientation such as actual participation in formal and informal union activities.

The practical implications for labor organizations are that both individual and institutional socialization processes have different relative strength and consequences for the union. The results clearly suggest that unions should emphasize that the interactions that occur between union officials and new members are important in developing their affective attachment to the union and later participation in union activities. Unions should make the appropriate socializing agents (usually stewards or elected local officers) aware of the importance of their interaction with new members and possibly establish goals and agendas for these informal socialization activities. Training programs utilizing social learning theory have been demonstrated to be effective in improving interpersonal and related organizational skills, and these might suggest useful interactive behaviors that help stewards and officers to socialize new members in ways that engender commitment to the union and elicit appropriate role behaviors for active participation. Institutional and collective socialization tactics may also be important in terms of developing this process of attachment, specifically a sense of responsibility to the union. It would appear that information imparted in formal union orientation programs generates a sense of responsibility to the union among members, which in turn enables them to help other new members learn about the union or file a grievance. Furthermore and perhaps more likely, involvement in formal orientation by new members probably facilitates the implementation and development of individual and informal forms of socialization, especially as our study indicates a significant correlation between the two (r = .13, p < .05).

Finally, the relative magnitude of the effects of institutional and individualized union socialization efforts will need to be examined in the context of longer-term outcomes. More specifically, the question as to whether or not formal socialization programs have the long-term relationship attributed to informal socialization and union commitment has not been firmly resolved.

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XVI. LABOR MARKET RESTRUCTURING IN NEW ENGLAND: NATIONAL IMPLICATIONS

The Shift to Services in New England: What Does It Mean?

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Over the past 20 years, the share of New England employment in services industries has risen dramatically, while the share in manufacturing has fallen. The shift to services has been particularly pronounced since 1987—a period characterized by considerable economic distress in the region. The shift has generated much anxiety. The jobs generated in services are commonly seen as inferior to the lost manufacturing jobs. Additionally, manufacturing has traditionally been viewed as a regional engine of growth.

This paper briefly describes the shift from manufacturing to services, summarizes the good jobs/bad jobs debate, discusses some of the implications for regional growth, and finally concludes that we really do not know what the shift to services means for New England's future.

Extent of the Shift to Services

Between 1972 and 1992 the share of New England employment in services rose from 21% to 33%, while the share in manufacturing declined from 25% to 15% (Table 1). Government's share of employment also declined in the region, while the share in finance, insurance, and real estate increased. In addition, although the share of employment in retail trade changed relatively little, employment in that portion of retail trade comprising eating and drinking establishments grew rapidly.

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Both services and retail trade are part of the service-producing sector. Some of the more negative comments about the shift from manufacturing to services, specifically that the United States is becoming a nation of hamburger flippers, really pertain to retail trade. In the following discussion, services refers to the industry rather than to the entire service-producing sector.

TABLE 1

Composition of Employment in New England and United States 1972-92 (Percent)

	New England					United States				
				Change					Change	
	1972	1987	1992	1972-92	1987-92	1972	1987	1992	1972-92	1987-92
Wage & salary	89.4	85.9	83.6	-5.8	-2.3	86.3	85.0	84.4	-1.9	-.6
Proprietors-farm	.5	.4	.4	-.1	.0	2.8	1.8	1.6	-1.2	-.2
Proprietors-nonfarm	10.1	13.7	16.0	5.9	2.3	10.9	13.2	14.0	3.1	.8
Total	100.0	100.0	100.0			100.0	100.0	100.0		
Farm	.5	.4	.4	-.1	.0	4.0	2.5	2.2	-1.8	-.3
Ag, forestry, fisheries	.6	1.0	1.0	.4	.0	.6	1.0	1.1	.5	.1
Goods Producing Industries										
Mining	.1	.1	.1	.0	.0	.8	.9	.7	-.1	-.2
Construction	5.1	6.0	4.3	-.8	-1.7	5.0	5.3	4.7	-.3	-.6
Manufacturing	24.7	17.9	15.2	-9.5	-2.7	20.6	15.1	13.5	-7.1	-1.6
Service Producing Industries										
Transport, public utilities	4.4	3.8	3.8	-.6	.0	5.2	4.7	4.7	-.5	.0
Wholesale trade	4.3	4.9	4.9	.6	.0	4.6	4.9	4.8	.2	-.1
Retail trade	16.0	16.7	16.3	.3	-.4	15.3	16.6	16.5	1.2	-.1
Finance, insurance, real estate	6.9	8.6	8.5	1.6	-.1	7.1	7.9	7.6	.5	-.3
Services	21.1	28.1	32.6	11.5	4.5	19.1	25.8	28.7	9.6	2.9
Government	15.7	12.2	12.7	-3.0	.5	17.7	15.4	15.5	-2.2	.1

Source: U.S. Bureau of Economic Analysis

Accompanying these industry shifts has been an increase in nonfarm proprietors' employment, from 10% of total employment in New England in 1972 to 16% 20 years later. The composition of proprietors' employment at the regional level is not available, but national data indicate that among those who devote a majority of their working hours to their business, more than 40% are in services.[1] Both the shift from manufacturing to services and the growth in proprietors' employment mirror national trends, but these patterns have been more pronounced in New England since 1987.

To a large degree, the concern generated by the shift from manufacturing to services is driven by the absolute loss of manufacturing jobs rather than growth in services. Concerns run highest in recessions, when manufacturing and overall employment is declining. Services, while not recession proof, often continues to expand during recessions. Many services industries by their nature are less volatile than manufacturing. In addition, segments of the services industry appear to function as shock absorbers, with flexible work arrangements enabling them to expand to take in job losers from manufacturing and other industries.

In this regard, it is noteworthy that proprietors' employment also increases in recessions—in absolute terms as well as a share of total employment. Not only are proprietors less likely to lose their jobs than wage and salary workers, although they may experience a loss of income, but some job losers apparently go into business for themselves, often in services.

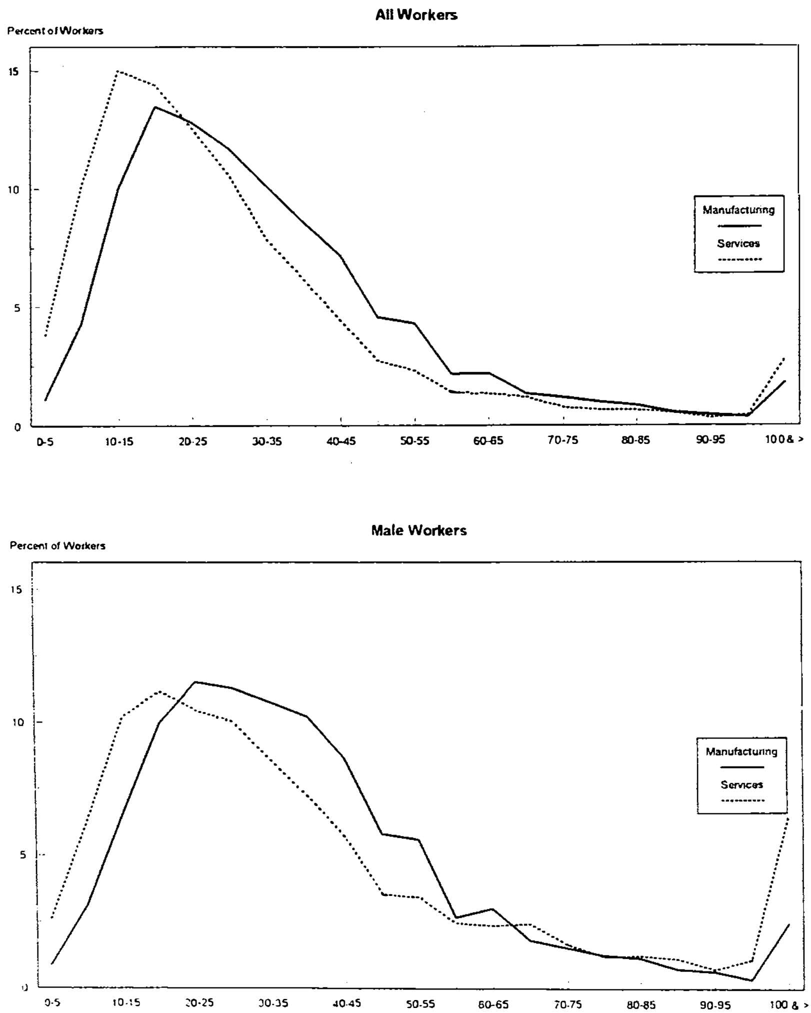
Why a Concern? Good Jobs and Bad Jobs

The shift from manufacturing to services is viewed as a problem for two reasons. First, services jobs are commonly considered inferior to manufacturing jobs. Second, manufacturing historically has been seen as an engine of growth, and many doubt that services can function in a similar manner.

The good jobs/bad jobs debate is basically about compensation. Wages are higher in manufacturing than in services; higher benefits usually go along with higher wages. Figure 1 shows the income distribution for U.S. manufacturing and services workers in 1992. Services workers are more concentrated at the lower end of the wage spectrum; and the median income for year-round services workers was $22,200, compared to $28,200 for those in manufacturing.

These distributions are partly a function of gender. More women work in services than in manufacturing, and women in both manufacturing and services earn less than their male coworkers. But looking at men and women separately, the disparities are still evident—especially for men. There are some very high-paying jobs in services. Almost 6% of men employed in services in 1992 had incomes in excess of $100,000—only 2% of men in manufacturing. But 19% of men in services had incomes of $10,000 or less, compared to only 11% of those in manufacturing.

FIGURE 1
Distribution of U.S. Workers According to
1992 Income; Manufacturing and Services



Horizontal axis shows Annual Total Personal Income (thousands of dollars)
a) Workers in private industry (including self-employed) who were over 15 years of age and worked full-time or part time for at least 50 weeks in the past year.

Source: U.S. Bureau of the Census, Current Population Survey, March 1993.

To achieve high wages in services, one is likely to need formal education and, frequently, good communications and interpersonal skills. Strength and manual dexterity are not rewarded except in the extreme. (Professional athletes and surgeons are in services.) Thus someone who has lost a high-wage manufacturing job may not be able to find comparably paid employment in services.

Although an issue in New England, the good jobs/bad jobs debate has not been as intense here as it was in the Great Lakes in the early 1980s. At that time, the combination of a cyclical downturn and intense import competition resulted in huge job losses in the auto, steel, and machinery industries of the Great Lakes, and the news was full of stories about the resulting dislocations. These were very high-wage industries, however; and the likelihood that those who lost their jobs would find comparable employment in any other industry was dim.

New England's manufacturing job losses have been as severe as those of the Great Lakes states, but they have been spread over a longer period. (Manufacturing in New England declined 25% over the seven years from 1985 to 1992, while manufacturing in the Great Lakes declined 22% over the four years 1979 to 1983.) And when manufacturing in New England first started to shrink, a construction and real estate boom was unfolding. In sharp contrast to the Great Lakes' experience, overall employment was still growing strongly. The regional unemployment rate was 4% and falling. Wages were rising relative to those in other regions. Thus manufacturing workers who lost their jobs could find satisfactory alternatives. Construction was a particularly easy transition for many men.

When overall employment in New England started to fall in 1989, the loss of manufacturing jobs was old news. The proximate cause of the downturn was the collapse of construction and real estate. Moreover, while services performed better than other industries, it was also affected by the severity of the downturn. Services employment in New England actually declined slightly in 1991. And retail trade and other service-producing industries fared worse. The dominant issue became not manufacturing jobs versus services jobs, but the generation of jobs—any jobs. But here is the crux of the problem. For manufacturing is seen as a generator of jobs, services as dependent upon the manufacturing engine of growth, as well as on population and other trends.

Job Generation

For New England, the manufacturing-as-engine model of growth worked fairly well for many years. Although the bulk of the job growth was in services and other service-producing industries, periods of prosperity and weakness were linked to the fortunes of the manufacturing sector. Thus slow growth and high unemployment in the early 1970s were attributed to cutbacks in defense and the pressures of import competition on traditional manufacturers, while the region's relatively vigorous recovery from the 1975 recession and strong performance during the 1980 and 1982 recessions were seen as due to the impetus provided by high-tech industries.

For a time in the mid-1980s, the model seemed to break down. As noted above, manufacturing employment began to decline in 1985; but total employment continued to expand as the region experienced a construction and real estate boom. When this boom finally collapsed, however, the resulting recession was very severe, and it could be argued that the prolonged loss of manufacturing jobs was a reason for this severity. In other words, the traditional model still worked, but the response to manufacturing's decline was postponed by the real estate boom.

But if the traditional model is still operative, the prognosis for New England's future is not encouraging. As of early 1994, manufacturing employment in New England was still declining, although total employment had started to recover. More and more, however, services and service-producing industries are included on lists of New England's future engines of growth. Software, management consulting, private educational services, and sometimes health care are frequently cited as being capable of playing the role once associated almost exclusively with manufacturing. The securities industry and insurance, which are in the finance, insurance, and real estate group, are also included on most lists.

Services as Engine

For an industry to function as an engine of growth, it must be able to expand independent of current local economic conditions. This can happen because a regional industry sells in national and international markets and, therefore, can grow by tapping into the demand of faster-growing economies or by increasing its share of these markets. It can happen through innovation, as the development of new and better products stimulates demand. Productivity gains permitting lower prices may also lead to expansion if demand is sufficiently elastic.

Most of the services and financial services industries proposed as engines of growth sell in national and international markets; most are innovative. But the characteristics that make these industries more like manufacturing also imply exposure to risk. Thus an industry that sells in national and international markets is vulnerable to competition from national and international competitors.

Moreover, an industry that is able to "grow itself" through development of new products faces the possibility of market saturation. This problem is usually associated with manufacturing, but the experience of Wall Street in the mid- to late 1980s shows that it can affect service-producing industries as well. Financial innovations in the early 1980s caused rapid growth, which led to expectations of further growth. Firms staffed accordingly. When business eventually faltered, the result was major layoffs.

The health services industry provides another illustration of the risks of being an engine of growth. As health services' share of employment and income has increased, the cost of health care has become burdensome to employers, governments, and the general public. This has generated pressures to contain health care costs, of which the Clinton administration's reform proposal is only the most dramatic example.

One implication, then, is that as services industries become more "manufacturing-like," they may become less "services-like." In particular, they may not continue to grow in the steady, reliable manner traditionally associated with services. But how will they behave? Will their growth be tied to certain economic variables? What is the nature of competition in these industries? How mobile are they? Such questions are routinely asked about manufacturing industries. The services industries proposed as candidate engines of growth have not received comparable scrutiny.

To some degree, the lack of scrutiny reflects the relative newness of the idea that services can play the engine role. To some degree, it lies in the nature of services. The industry comprises industries that differ considerably in character, wages, and growth rates (Table 2). Some, like health services, have been growing very rapidly; some, notably hotels and lodging places, have a cyclical pattern.

Moreover, business services, second largest of the services industries and one frequently mentioned in discussions of engines of growth, is a hodgepodge. It includes both the software industry, which pays high wages and which even the most vehement detractors of services would accept as an engine of growth, and such low-wage, locally oriented industries as personnel services and services to buildings. Because the detailed breakout of services employment is not readily available, it is easy to look at growth in business services and think of software, whereas the expansion may actually be in temporary help agencies and building maintenance.

A related issue is that the rapid growth in such business services as temporary personnel supply, services to buildings, and security services

TABLE 2
Composition of New England and United States Services Employment 1992 (Percent)

	New England	United States
Services	100.0	100.0
Share of total employment	32.6	28.7
Hotels and other lodging places	3.3	4.5
Personal services	5.4	5.9
Private households	2.2	3.5
Business services	19.4	20.9
Auto repair, services, and parking	2.8	3.5
Miscellaneous repair services	1.3	1.7
Amusement and recreation services	3.8	4.5
Motion pictures	.9	1.0
Health services	27.1	24.4
Legal services	3.5	3.5
Educational services	9.6	5.2
Social services	5.8	5.2
Museums, botanical, zoological gardens	.3	.3
Membership organizations	3.7	5.2
Engineering and management services	10.4	10.5
Miscellaneous services	.4	.3

Source: U.S. Bureau of Economic Analysis

makes it difficult to know the underlying source of expansion. If manufacturers are contracting out activities formerly performed by their own employees, manufacturing's contribution to job growth is not well measured by changes in the manufacturing employment figures. And to the degree that some of the expansion in services is manufacturing in disguise, that portion of the shift from manufacturing to services is an accounting change only and carries no implications for job generation. Good jobs/bad jobs concerns may remain, however. While contracting out may be a more flexible and efficient way of conducting business, it may also be simply a way of cutting wages or benefits.

All of this makes it difficult to assess New England's future prospects. One possibility is that growth in New England will be driven by a few key engines, such as securities, software, and certain high-tech manufacturing; but that the diversity of the sources of growth plus these industries' reliance on contract services to do what previous engines of growth did with their own labor will make identifying the sources of the impetus difficult. Another possibility is that growth will be propelled across a much broader front, with many small-scale entities functioning as mini-engines alongside the more obvious candidates. With computers and satellites and FAX machines, one does not have to be large to operate globally.

Growth of the latter form would be an extreme version of the old adage that New England lives by its wits. It carries several implications. First, as noted, it will be very difficult to discern what is driving the regional economy. The traditional focus on employment in key industries will not be adequate, but alternative indicators are not obvious.

Growth of such a form also has implications for the distribution of income. To the degree that services industries, like manufacturing, contribute to higher productivity, the potential exists for higher wages. But the wage gains may be distributed differently in services than in manufacturing. In particular, because service companies tend to be small and their primary asset is the talents of their people, the most talented and well-connected workers may be able to appropriate more of the returns to themselves. The "rainmaker" in the law or consulting firm, the eminent surgeon, the sports superstar can all move on to greener fields if they feel their employers or colleagues are not giving them their due. Those less fortunate have little leverage in trying to claim a share in the rewards.

Increased self-employment, more use of personnel supply agencies, and small-scale enterprises also imply that individuals must take more responsibility for planning for their future. Workers cannot always look to their employers for health insurance or pension plans. For the "rainmakers," this is of little moment. But for the vast majority of ordinary workers, the risks associated with bearing responsibility for health insurance and retirement financing may be onerous and may bring pressure for more government intervention, as is already occurring with respect to health care.

Not all the implications of increased self-employment or greater use of temporary contract workers are negative. Such work arrangements can give people more ability to set their own schedules and control their environments. It is interesting to observe that while the fraction of employment classified as proprietors goes up in recessions, it generally does not fall in subsequent recoveries—it just grows more slowly. People do not seem to go back to being wage and salary workers. Some may view this as evidence of "scarring," implying that these individuals are no longer attractive employees. Another possibility is that people who have been their own boss like it—at least better than the alternatives.

Summary

New England has seen a pronounced employment shift from manufacturing to services. The shift has been going on for many years but has been particularly striking since the mid-1980s. The shift is a source of concern, but the anxiety ebbs and flows with the state of economy. It is most pronounced in recessions, when manufacturing and overall jobs are falling in absolute numbers. The growth in services has implications for the good jobs/bad jobs debate, but the issue is far more complicated than the simple fact that wages, on average, are higher in manufacturing. The shift to services challenges traditional notions about the sources of regional growth and leaves economists nonplussed and the public anxious about New England's path to future prosperity.

Endnote

[1]In contrast to employment, the share of earnings attributed to proprietors' income has not increased; nonfarm proprietors' income accounted for only 10% of earnings in New England in 1992, about the same as in 1972. Interpreting proprietors' income is difficult, however. It is a net concept; and real estate earnings in particular, which have been negative since the early 1980s, are influenced by tax considerations. Thus the lack of growth in proprietors' income, as compared to employment, could indicate that the quality of proprietors' jobs has declined, or it could indicate the use of proprietorships and partnerships for tax shelter purposes.

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Available on request from author.

Restructuring the Defense Economy in New England

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> Planned reductions in the Department of Defense (DoD) budget will disrupt the lives of millions of Americans. In fact, reductions have been under way for several years, and their effects are evident today. Defense companies facing declines in DoD purchases are shrinking to adjust to a smaller market, struggling to find new markets, and merging with other companies to remain competitive. Communities affected by the drawdown are striving to attract new businesses. People leaving military service, DoD civilian employees, and defense workers in the private sector are seeking work in nondefense businesses. (Bertau 1992:1)

Nowhere do these words of the federal Defense Conversion Commission ring truer than in New England. The most defense-dependent region in the country, New England began the 1990s as home to 6% of the defense-related work force and the recipient of roughly 11% of the Pentagon's contract awards. Therefore, actual and planned cuts in defense spending are themselves changing the region's economic base while accelerating the restructuring that was already underway.

How did this defense dependence begin? How are companies, workers, and communities being affected? What public and private adjustments are underway? What are the implications of these changes? This paper attempts to provide at least preliminary insights to address these key questions.

Background of New England's Defense Dependence

Since the 18th-century firing of "the shot heard round the world," New England has been a major actor in the country's defense. During the Civil War, the region's textile industry was the major supplier of cloth for tents, uniforms, and blankets for Union soldiers, while foundries cast cannon, and

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other companies manufactured breech-loading rifles and bayonets. World War II saw the coastal portion of New England become a vital war-support center, producing Quonset huts and uniforms, building ships and torpedoes, staffing antisubmarine nets, and training enlistees and volunteers.

The end of World War II and the beginning of the Cold War brought a major restructuring of the national economy. Direct defense industry employment fell from 30% of the country's private employed labor force to roughly 2% in 1946; it has never since topped 9%, not even during the height of the Korean War in 1953. The *nature* of that employment also changed as the cold war required increasingly sophisticated weaponry and intelligence. While parts of the country reverted to consumer production, New England became a major segment of the permanent defense establishment.

Central to the change was the Massachusetts Institute of Technology, which was the largest academic contractor during World War II and continues to be one of the country's leading contractors, receiving about $400 million a year in Pentagon awards. Another regional attraction was the network of precision metalworking shops in the Connecticut River Valley. Added to the area's port capacity, this lured shipbuilders, while aerospace firms seeking more space moved north as well. Space, ports, and an experienced manufacturing work force helped attract defense firms to Rhode Island.

In other words, New England could have attempted to return to civilian production after World War II as did much of the rest of the country. However, the industrial preeminence the region had known at the turn of the century had long been dissipating as other areas developed their own resources or lured New England firms away. The economic opportunities of defense work in science, engineering, metalworking, and other fields proved irresistible.

Changes in Defense Spending

Determining the exact scope of the region's defense ties is difficult for a variety of reasons. First, awards may be made well in advance of any expenditure, and national security often causes exact expenditure data to be obscured. Also, awards are attributed to the state of the prime contractor regardless of where the work is performed. For example, contracts to build the Seawolf submarine are reflected in DoD reports as being awarded to General Dynamics in Groton, Connecticut. Yet much of the money is spent through the firm's electric boat division at Quonset Point, Rhode Island; the federally published records, however, do not reflect this tie or other indicators of the permeability of borders (Disney 1991).

Another limitation is the paucity of data on the ripple effect of defense spending. Federal sources can provide accurate information on the number of people in military service, the number of civilians employed by the Department of Defense, and the number of prime contractors, that is, those who deal directly with DoD. Financial information can be retrieved from public sources, as so many prime contractors are publicly traded firms. Much less information is available on the employment and revenues of the primes' subcontractors. But the information gap becomes pronounced with the next tiers: defense suppliers and the firms that do business with DoD and prime contractors' employees.

In an attempt to begin closing that gap, DoD's Office of Economic Adjustment provided support to a Rhode Island effort to collect accurate data in 1991. Prior to this study, the most widely accepted estimate of the state's defense employment was that gleaned by the Defense Budget Project from DoD and Department of Labor data. For 1990, that figure was 21,084 people working for defense firms as civilian DoD employees or as active members of the military (Schmidt and Kosiak 1991). By going beyond the first tier, however, the research found that more than a tenth of the state's employers had a documented tie to the defense industry and that, collectively, these entities employed a third of the state's work force, eight times more than the previous estimate (Disney 1993). Granted, many of these people were not involved in making obviously "military" products; but the defense sector also needs food, stationery, lawn care, gasoline, and all the other goods and services required by nondefense consumers. Granted, also, that DoD funds did not provide the sole financial support for all of their employers; still, without DoD revenues, some of those suppliers would not be able to survive. An accurate assessment of the ripple effect, therefore, would reflect the economic activity of the second, third, and fourth tiers of defense dependence. Because such data are not yet available for most communities, however, the balance of this paper will reflect the more conservative figures provided by federal and state sources.

Given those caveats, Table 1 shows that in federal fiscal year (FFY) 1992 (the latest year for which complete figures are available), the Department of Defense spent more than $14 billion in New England on payroll and on contract awards of more than $25,000 each. The payroll funds (21.3% of the total) went to active duty military, retired military, reserve and national guard, and civilian DoD employees. Two-thirds of the prime awards were supply contracts. A fifth (19.3%) addressed research and development needs; not surprisingly, the overwhelming majority of these funds (84.7%) went to Massachusetts recipients. Service contracts accounted for 16.4% of the prime contract awards, while lesser amounts were directed toward construction (0.7%) and civilian functions (1.0%).

TABLE 1
Department of Defense Payroll Outlays and Prime Contracts Over $25,000 Awarded to New England Recipients in FFY 1992 (Dollars in Thousands)

Area	Amount	Percent	
Total	$14,021,394	100.0	
Payroll expenditures	2,988,602	21.3	
Prime contracts over $25,000	11,032,446	78.7	100.0
Supply contracts	6,906,076		62.6
R&D contracts	2,126,902		19.3
Service contracts	1,813,661		16.4
Construction contracts	75,160		0.7
Civilian function contracts	110,993		1.0

Source: Author's calculations of data from FFY 1992 report by U.S. Department of Defense, Washington Headquarters Services, Directorate for Information, Operations, and Reports.

These differing types of expenditures suggest diversity in the types of industries and occupations relying on DoD business. An examination of the major areas of work for each state's five largest prime contractors makes the diversity more pronounced. These contractors variously provide aircraft rotary wings, gas turbine and jet engines, radar equipment, destroyers, guns, family housing facilities, tableware, guided missiles, telephone and telegraph equipment, electrical and communication equipment, cable and wire assemblies, fire control systems, safety and rescue equipment, systems engineering services, logistics support services, equipment and materials testing, flow and motion measuring instruments, tuition and registration fees, and submarines. Each large prime contractor, in turn, supports a network of subcontractors and suppliers.[1]

The 1992 awards, however, were 21.6% below those for 1991, and 32.2% below those for 1989, when such expenditures reached their peak in recent years. Table 2 shows that, overall, the Department of Defense spent more than $84 billion in New England from 1988 through 1992. As might be expected, the bulk of the funds went to the two most populous states: Massachusetts (49.6%) and Connecticut (31.5%). Despite year-to-year fluctuations by state, expenditures in the region as a whole have been showing a steady decline since 1989, falling from $19.3 billion to $14 billion in 1992; they will no doubt fall below $11 billion in 1994.

As the number of active duty, retired, and civilian employees fell only 5.5%, the annual payroll outlays did not drop much over those years. The base closures announced in 1993, however, will cause more pronounced reductions. The bulk of the drop to date has come in prime contract awards.

TABLE 2
Department of Defense Payroll Outlays and Prime Contracts Over $25,000 Awarded to New England Recipients, 1988-1992 (Dollars in Thousands)

Total by Year		Total by State	
Year	Total	State	Total
1988	$16,564,313	Connecticut	$26,471,272
1989	19,330,812	Maine	7,291,044
1990	17,278,903	Massachusetts	41,764,792
1991	16,952,783	New Hampshire	3,443,147
1992	14,021,394	Rhode Island	4,307,145
		Vermont	870,805
Total	$84,148,205		

Source: Author's calculations of data from reports by U.S. Department of Defense, Washington Headquarters Services, Directorate for Information, Operations and Reports, various years.

Effects of Defense Spending Reductions

During the 1980s, manufacturing employment fell by nearly 23% in Massachusetts. By mid-1993, manufacturing was at its lowest point in the century, with more than 100,000 jobs lost since 1989 ("Massachusetts' Industrialization Modernization Strategy" 1993). Vermont has seen manufacturing employment decline 9% during the 1980s, and an additional 5.6% from 1990 to 1992 ("State of Vermont" 1993). For another example, manufacturing employment in Rhode Island fell 16.5% between 1985 and 1990 (Division of Planning 1992); it has fallen even more in the intervening years. Further, between the end of 1984 and the second quarter of 1993, Connecticut lost 125,700 manufacturing jobs, with large employers and even whole industries disappearing (Deak 1993).

Given that each manufacturing job supports one to seven nonmanufacturing jobs, it is necessary to ask what the public and private sectors have done to cope with changes of such magnitude.

Responses to Defense Spending Reductions

Both public- and private-sector officials have expended considerable energy trying to forestall defense spending reductions. At the same time, though, there have been actions taken throughout the region in recognition of the inevitability of change.

Governmental Actions

The federal government is offering communities technical assistance, planning grants, and some money for economic development help. The New England states have worked particularly closely with DoD's Office of Economic Adjustment and the Economic Development Administration. Actions include the following:

1. Reducing costs of doing business. As the 1990s began, of the top ten states in industrial electricity costs, five were in New England; of the five states with the highest personal health spending per capita, three were in New England. Similarly, the region contained four of the top ten states in weighted workers' compensation costs and three of the top ten in state corporate income taxes per capita (Task Force on Defense Industry and Technology 1992). Not all of these rankings are amenable to rapid change.

2. Creating or expanding manufacturing extension services. In early 1993, the federal government announced the Technology Reinvestment Project (TRP), a multiagency venture designed in part to foster services that could help small and mid-sized manufacturers involved in defense adjustment. New England officials recognized that many existing programs offered valuable services but that they were often narrowly focused, disjointed, and poorly funded. Since then, Massachusetts and Connecticut have supplemented TRP funds for developing their manufacturing extension services; and Rhode Island has joined them to create the Southern New England Engineering Academy. The three other states have variants of these services.

3. Encouraging economic diversification. Tax policy is one instrument here; another is the stimulation of technology development and transfer.

4. Conducting job training for dislocated workers. DoD provides special programs for military personnel and its own civilian employees, and each state has received some Department of Labor money to provide transitional services for workers being dislocated from defense firms. Generally, though, very little is being done systematically by governmental agencies in the region to help those workers being dislocated from defense subcontractors and suppliers. Part of the problem is that these individuals do not belong to a readily recognizable group; they work for small and mid-sized firms which are not obviously connected to the defense industry even though they may in fact be highly dependent on defense spending.

5. Developing regional approaches. Taken together, these activities indicate that the state and local governments have been taking steps to halt their economies' decline and ease the wrenching adjustment. Arguments could be advanced that a heightened emphasis on regional approaches would speed the recovery, but it must be noted that much collaboration has already begun. Ultimately, however, because it is the private sector that creates jobs, it is important to consider what steps are being taken privately.

Private-Sector Actions

Defense-related employers are not the same as other types of employers. In her multistate research on this topic, Marianne K. Clarke (1992) of the National Governors' Association has identified as major barriers to diversification

> the lack of commercially oriented marketing expertise, inability to obtain capital for new product development, inexperience with commercial production processes, lack of access to technical resources, need for worker retraining, and in some cases, DoD regulations that impede or prevent companies from exploring technology transfer opportunities (p. 7).

Faced with such difficulties, some private employers have closed or have left the region; some have moved to consolidate their operations; and others have divested themselves of a few activities to permit concentrating on those they believe will grow. Other adjustment strategies have included the following:

1. Developing new products, services, and markets. Between 1988 and 1992, a third of Rhode Island's defense-related employers developed a new product, a third developed a new service, and 41% installed some new type of equipment (Disney 1993). Sandler (1992), Campbell (1992), and others have described very innovative adaptations made by defense-related employers in other parts of the region. As mentioned above, however, the transitions are seldom obvious or easy.

2. Collaborating and seeking federal support. In 1993 the Advanced Research Project Agency's Technology Reinvestment Project fostered numerous alliances of defense and nondefense employers seeking matching funds for technology development and deployment. A particularly fruitful venue for subcontractors and suppliers is the Small Business Innovative Research program, especially the portion focused on dual use applications.

3. Expanding use of alternative use committees. In mid-1993, labor unions in the region's defense-related firms held a "call to action" conference

in Connecticut. One of the central themes was the importance of involving labor in defense conversion decisions, as through a legislative requirement for the creation of alternative use committees. Such labor initiatives have illustrated a major dichotomy among defense-related firms: while large prime contractors engaged in manufacturing are likely to be unionized, the networks of smaller subcontractors and suppliers are not, so worker protection is uneven. Further, even though large prime contractors have relied heavily (if not exclusively) on public revenues, they are private entities with a responsibility to stockholders; as such, they cannot be forced to produce items they choose not to produce regardless of a perceived need to keep people employed.

It is with dislocated employees that the situation becomes particularly poignant. Coupled with the continuing erosion of New England's manufacturing sector, the decreases in defense spending mean that many people now losing blue-collar jobs paying $17 to $20 an hour will not be able to find positions at similar levels in the region. They will be faced with the need to take lower-paying positions, to accept retraining for new positions, to move, or to leave the labor force; the cumulative effects of thousands of workers making such choices will have wrenching effects on the region over the next few years.

Without doubt, the New England economy at the end of this century will be very different from what it was at the beginning of the century, primarily because of the absolute and relative decline of manufacturing in the region. The defense reliance of the second half of this century has the potential to stimulate a high-technology economy that will again make the region one of the country's economic engines. The likelihood of this result depends on the actions taken by employees, employers, and government within the next two to three years. Inaction, while defense contracts expire, workers lose their jobs, and employers close or move will only doom the region to decline or mediocrity.

Endnote

[1]Building on the work of Rutledge Vining by studying two industries in Connecticut (aircraft and aircraft parts, and ship and boat building), Bruce Wundt (1991) has demonstrated that "local industries produce for a 'key' industry, and this industry pulls the related industries into the pattern of its own cyclical behavior" (p. 13). Thus the ripple effect can indeed be substantial.

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The Field of Dreams and Labor Market Outcomes in the 1990s

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This essay is based on six years of activity as a political economist, largely on labor-related issues in Rhode Island. I focus here on the belief, common in liberal circles both in Rhode Island and nationally, that our primary labor market problem is a shortage of skilled workers. The corollary to this belief is that improvements in education and training are the key to solving our labor market problems.

I have not been alone in calling this the "field of dreams" interpretation and strategy. In the movie of that name, a disembodied voice tells the Kevin Costner character to "build it and he will come." The "it" is a baseball field in the middle of Costner's corn crop. "He" turns out to be Costner's father.

In the policy wonk version of this story, the disembodied voice, now the conventional wisdom, is saying "train it and they will come." Here "it" is something called "the work force" and "they" are the global corporations who presumably control all capital and can only be convinced to locate in states, regions, or countries that have well-trained "work forces."

Increased funding for and more efficient operation of educational and training institutions are certainly desirable. There is clear evidence that training in particular was underfunded in the 1980s and that the distribution of training is socially inequitable. But training and education cannot bear the weight that their champions want them to. Both the lack of jobs and the incentives employers have to follow a low-skill, low-wage strategy must also be addressed if we hope to see broad improvement in labor market outcomes.[1]

The Roots of Rhode Island's Low-Wage Economy

The Legacy of Early Industrialization

The Rhode Island case is interesting, I believe, because it presents carefully studied and sometimes extreme and clear examples of problems

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debated at the national level and because some of the key players in Rhode Island have or have had national policy influence.[2]

Rhode Island was the birthplace of the American Industrial Revolution. It was a peculiar kind of industrial capitalism that developed in the Blackstone River Valley and surrounding areas. Plantation-type agriculture, based partly on slave labor, coexisted with the nascent capitalist economy in the 18th century. Sizable funds for industrialization were obtained from the profits of the slave trade, whose American home was in nearby Bristol. The slave trade, in turn, encouraged the production of staple goods including rum, for sale in Africa and the Caribbean, creating the demand for labor that stimulated the formation of the early industrial working class.

Well into the 19th century, capitalism—defined simply as a system of commodity production for profit utilizing wage labor—was a minority tendency alongside a more informal but dominant household economy. Most important, industrial capitalism, as it was practiced at Slater's mill and other nearby factories, took the form of the "Rhode Island system." This notorious model of industrial wage labor impressed whole families into the mills. Large families were preferred, as children's labor was cheaper.

A full explanation of why Rhode Island has consistently remained a low-wage area is beyond our scope here. One possibility is a political-economic vicious cycle. Dependence on low-wage labor may create an environment in which employers import labor during booms and are virulent opponents of collective bargaining and other cooperative means for mediating economic conflict. This may, in turn, create a series of labor defeats, keeping wages low and work effort high. In other words, dependence on low-wage labor can create a vicious cycle by which its own conditions of existence are reproduced.

A case could be made that this has happened in Rhode Island. If so, and startlingly contrary to popular belief, labor is too weak in Rhode Island. The key to understanding this seeming paradox is to recall the precise settlement of the political-economic conflicts of the 1930s. Nationally, industrial workers achieved union recognition and higher wages that paved the way for the massive post-World War II boom. But textile unions in Rhode Island suffered a series of defeats, leaving industrial workers a relatively weak force next to the crafts and public-sector unions after the mid-1960s. The organized part of the private sector faded further with the rise to dominance of the largely nonunion jewelry industry after the war.

The other part of the "settlement of the depression" in Rhode Island was the takeover of state governmental machinery by the Democratic party. Combined with the protective legislative environment of the New

Deal, this created a political situation in which labor could win more through political action than through organizing. This pattern also tends to reproduce itself, as legislative successes encourage ever more energy and money put into politics, while organizing failures in the private sector discourage organizing. The rise of the public-sector unions since the 1960s has only encouraged this "politics first" strategy.

The story of labor being economically too weak and politically (perhaps) too strong helps us to understand the slow growth (relative to the nation) that Rhode Island has experienced during the working lives of those now preparing for retirement. While a more cooperative "high-wage, high-skill" economy might be better for all, it has historically been possible and in the interest of Rhode Island employers to pursue a low-wage, low-skill strategy, while labor depends on redistribution through the state. There is no persuasive evidence that this has changed.

Continuing Incentives to Embrace Low Wage, Low Skill

Rhode Island employment is concentrated in the secondary sector relative to the national economy. These jobs are characterized by low wages, negligible job security, poor working conditions, and little advancement opportunity or on-the-job training. They are the legacy of Rhode Island employers' low-wage strategy. This has produced a corresponding attitude in the population toward the importance of education and training. Interviews indicate that students' attitude in Providence is that if you graduate from high school, you can get a job in a jewelry factory, and if you drop out of high school, you can get a job in a jewelry factory.

This is not entirely true, but the perception that it *is* true is important. One employer who was interviewed twice in the course of these projects did not require a high-school degree for entry-level workers in 1988 but did require such a degree in 1991 after the regional crash. The degree was used as a simple screening device: the employer viewed factory work as boring and surviving high school as a good sign that a worker would last in the plant. When asked what he especially liked about his location, another employee said, "the labor supply." People in his town did not care about education and never would, and so he felt that he would have an ample supply of high-school dropouts for the forseeable future.

A survey of Rhode Island employers, along with comparable federal data, indicates that the increase in necessary skill requirements in the 1990s will be slower than what occurred in the 1980s. Perhaps more important, basic work habits and communications abilities appear to be a greater problem than job-specific skills.

This kind of information makes it difficult to buy into the "field of dreams" gospel. A low-wage, low-skill cycle is unlikely to be broken from the supply side alone. There is a large proportion of Rhode Island's employers for whom low-wage, low-skill works, and any attempt to change that strategy will be resisted. Perhaps the most graphic example is a story told to me by a nursing home owner quite early in my research. After informing this individual that I was from the government and was there to help, he told me that if the effect of our research was to lower the high school dropout rate, he could not support us, since he was dependent on dropouts for his low-wage labor supply.

Embracing the Field of Dreams: The Folly of the 1980s Boom

The Boom and Its Aftermath

It is well known that the U.S. and world economies changed dramatically in the early 1970s (Armstrong, Glyn, and Harrison 1991). The past two decades have seen a considerable slowdown in the rate of economic growth, an historically remarkable shift in the distribution of income away from labor and toward capital, and rapidly rising inequality of labor incomes. Rhode Island, based on its peculiar political-economic heritage, has differed and continues to differ from the national economy in important ways.

Between 1973, the end of the long postwar boom, and 1988, the end of the 1980s expansion in Rhode Island, job creation in the state was slower than in the U.S. as a whole. The boom conditions of the late 1980s were "imported" in the sense that it was the aftershocks of the expansion of manufacturing in New England *outside* Rhode Island, the financial boom in New York, and the expansion of Pentagon demand in the Newport area (as well as continued demand for submarines) that combined with especially slow labor force growth to create a moment of full employment in 1987 and 1988 (McIntyre 1990).

Temporary full employment caused a rethinking of labor and economic development policy along "field of dreams" lines. In other words, a conventional wisdom developed around the notion that training and education were the keys to competitive success for the regional economy. Along with this shift and given a presumed "globalization" of economic life, a new era of cooperative industrial relations is seen as necessary to create a high-wage, high-productivity society.

The original justification for Rhode Island's bureaucratically independent and employer-funded "Workforce 2000" training program was that a long-term labor shortage appeared imminent in the late 1980s in the face of a widely perceived "upskilling" of jobs and a slowly growing labor pool. As indicated above, employment projections in research carried out for Workforce 2000 did not support the widely held view that technical change will increase necessary job skills dramatically in the 1990s. The best evidence available indicates that required skills will increase at a moderate pace, with the rate of increase slowing significantly from what it has been both nationally and locally (McIntyre 1991).

If education is the first prong of the field of dreams strategy, training is clearly the second. Such training involves both technical skills training and training in the development of total quality management and high-performance work organizations. These training tactics are wrapped in an overarching story of what is necessary for "competitiveness" in the "emerging global economy." Workforce 2000's grants program explicitly encourages prospective grantees to submit their applications within such ideological guidelines.

Despite the findings of its own research team, Rhode Island's Workforce 2000 agency continued to pursue the field of dreams after the end of the great boom. At the same time, it was folded into the Department of Employment *Security* which significantly, for at least symbolic reasons, was renamed the Department of Employment and *Training*.

The agency's relationship with the university-based research team deteriorated for a number of reasons including political and personality conflicts. But one of the reasons was certainly agency staff's resistance to giving up the field of dreams and clear resentment at the researchers for calling it into question. Ultimately, the grant was not renewed.

It seems bizarre to ask hard-pressed educational institutions to dramatically increase students' math, science, and reading skills when employers are neither demanding nor are likely to demand such skills and when new resources are likely to be had only through decreased funding for other domestic programs. If the majority of Rhode Island and U.S. employers were to follow the lead of the few "best practice" firms who compete through high skills and high wages, then a dramatic change in the educational system would make sense. Unless public policy is oriented toward encouraging or forcing employers to choose the high-wage, high-skill path, there is no reason to restructure the schools to conform more closely to short-run labor market demands.[3]

Training in the Field of Dreams

The typical research strategy of the field of dreams proponent is the "levered" case study. Here a particular firm or state program is held out as a shining example of how to "compete" in the "new global economy." Such programs generally have in common a commitment to security, quality, participation, and high skill.

This research strategy neglects the systemic determinants of economic outcomes. In other words, what works for an individual company should not immediately be seen as generalizable. Focus on the individual rather than on the systemic determinants of individual success is not surprising given dominant discourses in American academia and public life. However, recent work in economic theory provides a different approach.

When labor markets are tight, labor costs do not rise significantly in primary-sector firms (those with long-term employment relationships), since these workers' wages and effort are relatively insulated from market forces. Secondary-sector firms without such relationships see their profits disappear with tight labor markets, since their wages rise and work effort slacks off. On the other hand, secondary firms do better in slack periods, since high unemployment rates significantly reduce their labor costs compared to primary firms (Rebitzer 1988).

An economy dominated by primary firms is socially superior to an economy dominated by secondary firms. However, recent economic changes have favored the latter. With the secular climb in unemployment, employers who had previously offered secure and participative employment have been searching for a variety of ways to subject their workers to more labor market pressure. This is part of a move to what Paul Osterman has called the "core-periphery model," in which formerly primary-sector jobs take on secondary-sector characteristics (Osterman 1988).[4]

In other words, the kind of world the field of dreams strategy envisions can only come about with sustained full employment. But this is not politically possible given the pressures full employment puts on secondary employers. Short-term periods of near full employment force employers to alter the nature of work and worry about the social process through which "the work force" is produced. Given the prevalence of secondary labor market employment in Rhode Island in the late 1980s, these pressures were particularly severe. Relief from such short-term pressure means a return to business as usual, given the prevalent low-wage, low-skill option.

It is not surprising that the famed German and Swedish industrial relations systems—the favorites of many of the dreamers—seem to be breaking down. In the presence of sustained high unemployment rates and the opening up of cheap labor pools in Eastern Europe (and the United States!) the German model especially is in crisis. This further underlines the importance of the institutional and social conditions necessary for high-wage, high-skill success.

But surely more (and hopefully better) education and training programs are good in and of themselves, even if they are not the magic bullet that the dreamers claim them to be. This is true. But if retraining, apprenticeship, and college loans are to be the centerpiece of labor policy, and if labor market work is to be the crux of welfare reform, then other issues will be pushed off center stage. In other words, focus on supply-side solutions to labor market problems will likely absorb the limited attention of the media, the public, and politicians to the exclusion of demand side, institutional, and social problems. Only what is talked about is possible.

Rising Competitiveness with Falling Living Standards

Rhode Island is perhaps best characterized as a "mature third-world economy." The state is dependent on tourism and low-wage assembly manufacturing for a disproportionate share of its livelihood. Interview evidence indicates that Rhode Island manufacturers are concentrated in the low-end of the value-adding chain, with critical marketing, financial, and product development decision making occurring largely outside the state.

Rhode Island has its peculiarities, but I believe that the experience with employment and training policy here has serious national implications. In a state where demand side, institutional, and social factors have clearly played a key role in determining labor market outcomes, policy has focused on the supply side of the labor market. If such a choice has been made where the issues are so stark, what is likely at the national level where the evidence on the relative importance of the supply side is more mixed?

At best, the field of dreams and related progressive reforms can work to ameliorate some of the social destruction caused by the extreme policies of the Reagan-Bush era. At worst though, it will distract researchers and policy makers from attending to the variety of other problems facing working people in the U.S. today. The crises of stressed and impoverished families are treated as separate from the strategies employers have used to reduce costs, and employers' "competitiveness" problems are then blamed on inadequate "skills" in the very workers who have been forced to work harder and longer for less money amidst a crumbling social and physical infrastructure.

The U.S. was the only industrialized country in which production workers' wages fell in the 1980s. More hours of work, more workers per family unit, and higher debt levels were the antidotes to declining wages, with predictable effects on family life. We have become more competitive as people's lives have deteriorated.

The field of dreams strategy in and of itself will probably generate technically trained and adequately socialized workers from a select group within the working class, while leaving a larger group to languish in poverty and social decay. In other words, capital may be able to solve *its* "skills" problem, while leaving a "jobs problem" and a broader *social crisis* for a sizable segment of the U.S. population unsolved. The image that comes to mind is one that Robert Reich (1991), the most articulate proponent of the field of dreams strategy, has discussed eloquently. The 1990s may be a decade which continues the "secession of the upper fifth" of the U.S. economy.

Acknowledgments

The author thanks Elaine Bernard, Mathew Bodah, Michael Hillard, Elton and Wendy Ruyack, and Ted Schmidt. The usual absolutions apply.

Endnotes

[1]I draw on a series of technical reports authored for the U.S. Department of Commerce, Citizens for Tax Justice, and the State of Rhode Island. Research support is gratefully acknowledged.

[2]Ira Magaziner, who is now senior policy advisor to the President, was the chair of the task force that produced the influential *America's Choice* report. Magaziner was also the driving force behind the Rhode Island Skills Commission, which wrote a similar report with detailed policy recommendations in Rhode Island (Rhode Island Skills Commission 1992). Peter McWalters, currently Commissioner of Primary and Secondary Education, played a key role in the early stages of the schools restructuring debate when he was superintendent of schools in Rochester, New York. See Marshall and Tucker (1992), chapter 8.

[3]The most sophisticated supporters of enhanced employment and training policy recognize this (e.g., Marshall and Tucker 1992, especially chapters 5, 7). This caveat is often lost in the translation into legislation and implementation.

[4]For a particularly vivid account of this process in one firm, see Randall Richard, "Breaking of the Covenant: IBM Layoffs Tell Workers: No Job Is Safe Anymore," *Providence Sunday Journal*, November 21, 1993, p. 1.

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DISCUSSION

MICHAEL HILLARD
University of Southern Maine

Browne's paper asks if services can play the key role of "engine for growth" that historically was filled by manufacturing industries such as electronics or defense. I share her skepticism regarding the ability of "export-oriented" services to play this role. However, I think she paints a more optimistic picture of the region's current situation than is warranted. As Disney's paper points out, New England is currently facing several more years of sharp contraction in defense manufacturing, with as many as 50,000 more high-wage jobs likely to disappear in the process.

Browne points to the growing importance of contingent labor and self-employment. It is very hard to draw inferences from the general data she examines regarding these two phenomena. Some argue that these forms of employment indicate a welcome shift to greater flexibility and independence. Others point to the extremely low wages or incomes earned by many "temp" workers and the self-employed. To answer these questions, Browne's analysis could be strengthened by a review of the recent literature that debates the "quality" of these types of employment.

Turning to McIntyre, one of his paper's strengths is that it provides a historical context to understanding current circumstances. His recounting of Rhode Island's historic commitment to a "low-wage, low-skill strategy" gives greater force to his contention that a "high-wage, high-skill strategy" will founder in his state.

McIntyre's central task is to take on one of the great policy juggernauts of the 1990s, what he calls the "field of dreams" strategy. To add another metaphor, McIntyre's review of the Rhode Island experience helps us to see through the "emperor's clothes"—the supposed robustness of a labor-supply strategy—by demonstrating the utter irrelevance of high-quality labor to his state's employers, for whom the presumptions of low wages and low skills are deeply ingrained. Moreover, we learn from McIntyre how state and local policy makers misinterpreted the cyclical labor shortage of

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the late 1980s—falsely seeing it as evidence of a secular trend and inappropriately using it as a justification for major policy commitments which were not warranted. In sum, McIntyre gleans important lessons from Rhode Island's experience which offer important cautionary notes to the Clinton administration and its supporters who wish to put most, if not all, eggs in the education and training "basket."

The lessons of Rhode Island add to a substantial body of existing criticism of the "field of dreams" strategy. In citing Rebitzer's work, McIntyre reminds us that the "high-wage, high-skill" strategy has worked best in economies enjoying full employment, a luxury that the U.S. has certainly not experienced for any length of time since the 1960s. He also reminds us of the institutionalist's longstanding criticism of human capital strategies, which can be summed up in the phrase, "It's the demand side, stupid!" Taking Rhode Island's case with its continuing decline of defense employment, the idea of relying on employment and training to overcome, as McIntyre puts it, "both the *lack of jobs* and the incentives employees have to follow a *low-skill, low-wage strategy* seems naive, at best.

Finally, McIntyre raises broader questions about the implications of the "field of dreams" strategy:

> ". . . focus on supply-side solutions to labor market problems will likely absorb the limited attention of the media, the public, and politicians, to the exclusion of demand side, institutional and social problems."

While I agree with McIntyre here, I don't think he goes far enough. Indeed, I believe that the narrow focus of current labor market policy carries with it a distinct danger. This danger can best be seen by drawing an analogy to the 1960s "War on Poverty," a policy effort handicapped by both limited funding and, to an extent, flawed design. The failure of that half-hearted effort ruined the political environment for prudent, activist policies for a generation. By putting such emphasis on "field of dreams," an approach with distinctly limited potential, the Clinton administration may again ruin the chances for any consideration of other activist solutions to fundamental problems which fall squarely on the demand side of the labor market.

XVII. POSTER SESSION I

Demographic and Economic Variables Affecting Unemployment in Stable Households

EMILY P. HOFFMAN
Western Michigan University

The demographic and economic characteristics of the heads of stable households and wives (if present) in the Panel Study of Income Dynamics data set from 1975 to 1987 were investigated to determine their effect on the number of spells of unemployment. This was determined as a function of the number of years in the labor force for the six race, gender, and marital status subgroups. The heads of households and wives subgroups were studied by Tobit analysis, using race, gender, age, years of education, years in the labor force, and total family income as independent variables to predict the number of spells of unemployment.

Recruitment Strategies for Registered Nurses: Time for a Change?

CHRIS BROWN MAHONY AND DEBORAH UNRUH
University of Minnesota

This study tested eight hypotheses regarding both perceived difficulty recruiting registered nurses and objectively measured difficulty recruiting. Several important findings can be emphasized from the results of the study. Wages paid at entry-level RN positions in the hospital are the most significant determinant in *decreasing* the length of time to fill an RN vacancy in these analyses. Use of only traditional recruitment strategies greatly decreases the perceived success of the recruiting function. Presence of benefits for full-time RNs decreases the perceived difficulty of recruitment, while part-time benefits increase this perception. As the RN-to-patient ratio increases, so does the perception that RNs are difficult to recruit.

The most useful information from this study may be the difference between the determinants of perceived difficulty recruiting RNs and length of time to fill RN vacancies. These functions have very different determinants: the impact of this fact may be great. Recruiting budgets must be scrutinized so as to gain optimal results for each dollar spent. This study suggests that money should be spent trying aggressive recruitment strategies, something different from the traditional newspaper advertising alone.

Compensation Systems and the Job Search: An Application of Signaling Theory

DANIEL M. CABLE AND TIMOTHY A. JUDGE
Cornell University

Individuals must make job choice decisions based on the information available to them prior to actually joining organizations. They are therefore forced to rely on overt indicators or signals of organizations and general impressions of organizational attractiveness. Compensation policies are an ideal organizational attribute for applicants to consider because they are stable, salient, and can be directly communicated. They also convey important information about organizations, including expectations, values, and profitability. However, while the effect of pay level on job choice has been examined, other pay policies have been virtually ignored. Using several research methods and a sample of individuals currently involved in the interviewing process, this study examines the effects of various pay system attributes on job search through the lens of signaling theory. Resulting analyses primarily supported the hypotheses, suggesting that many facets of pay systems may have important effects on job seekers.

Arbitration and Discrimination: The Case of Major League Baseball

JOHN L. FIZEL
Penn State University

This study analyzes all baseball arbitration cases from 1985-90 to determine if decisions differ among racial groups. Unlike earlier arbitration analyses, extensive controls for individual and team performance are used. The results indicate a strong decision-making bias against Latin American players, but no bias against either white or black players. Also, the results

indicate a salary bias against most players, with only about 20% receiving salaries commensurate with their competitive market value.

Bargaining Law Provisions and Teacher Bargaining Outcomes

MICHAEL A. ZIGARELLI
Rutgers University

This study investigates the impact of dispute resolution mechanisms on the wages and hours of public school teachers. The 43-state analysis presents evidence that (1) a permissible right to strike increases teacher wages by 11.6% and reduces class hours by 33 minutes per day, (2) a de facto right to strike increases salaries by 5.6% and reduces class hours by 38 minutes per day, (3) arbitration availability is associated with a wage effect of 4.9% and 70 fewer class minutes per day, and (4) factfinding and voluntary arbitration have no significant influences on outcomes. In its direct comparison to the right to strike and the right to arbitrate, it concludes that a legal right to strike affords teachers greater power to increase the dollar value of their work.

Factors Distinguishing Expedited and Conventional Arbitration: Preliminary Evidence from Ontario

HEATHER A. STREET-ROMILLY
Dalhousie University

TERRY H. WAGAR
St. Mary's University

This study, which is based on an analysis of 569 Ontario cases, investigates the factors distinguishing the use of conventional and expedited arbitration. The use of conventional and expedited arbitration was more common in the private sector, more likely to be employed in suspension and seniority cases, and less likely to be used in dismissal decisions. The use of legal counsel by employers was less frequent in expedited cases, and as expected, the time from the date of the grievance to the rendering of the award was more than twice as long when conventional arbitration was used.

The Quality of the Relationship Between Union and Management: Consequences and Implications for the Organization

Terry H. Wagar
St. Mary's University

Based on responses from 752 unionized organizations in Canada, this study examined the association between the quality of labor-management relations and aspects of organizational performance and effectiveness. The average relationship between an employer and its major bargaining unit was moderately cooperative, with 28% of respondents reporting adversarial relations and 5% indicating a highly cooperative relationship. The OLS regression results indicated that decreased conflict and increases in innovative activity, productivity, and product quality were associated with more cooperative union-management relations.

Predictors of Expatriate Adjustment

Linda K. Stroh, Leslie E. Dennis, and Tim Cramer
Loyola University

This study used a sample of 190 expatriates in five multinational corporations to test a limited part of a model of expatriate adjustment developed by Black, Mendenhall, and Oddou (1991). The model was based on the theory that high levels of uncertainty lead to lower levels of expatriate adjustment. The study found that premove attitudes toward an international move, job satisfaction, role novelty, management views of the effect of an international assignment on one's career, assurance of a job upon repatriation, cultural toughness of the host country, and spouse adjustment were significant predictors of expatriate general adjustment, showing support for the Black et al. (1991) model. Implications from the study suggested that organizations may have a positive impact on assignment completion and expatriate adjustment by assessing their organizations' position and policies related to these variables.

Female Top-Level Executives: Turnover, Career Limitations, and Attitudes Toward the Workplace

LINDA K. STROH AND JASON R. SENNER
Loyola University

Seventy-six top-level women managers in the financial industry in the Chicago area were studied to explore the reasons top-level female managers would leave their current organizations. The study also examined factors that may limit their career, their attitudes toward their workplace, and satisfaction with their career. Three primary reasons women would consider leaving their organizations included corporate culture, lack of appropriate compensation, and glass ceiling effects in their organization. Two chief factors limiting their careers were their gender and upper management.

Fear and Loathing (and Bribery) in the Workplace: Worker Perceptions of Employer Responses to Union Organizing

JACK FIORITO
Florida State University

This exploratory paper examines the antecedents of worker perceptions of employer responses to union organizing drives. Although previous research has cited employer opposition as a critical factor in union organizing, almost no research has focused on worker perceptions of employer opposition. Using data from the 1984 Union Image Survey, this paper presents evidence on worker perceptions and tests preliminary hypotheses on their causes.

Union Decertification: Process and Outcomes

FRANK BORGERS
University of Alabama at Birmingham

An exploratory and explanatory analysis of survey results on the role of decertification petitioners in the decertification process is presented. The results indicate that the majority of decertification election losses are genuine employee rejections of unions perceived as not providing effective servicing. Most decertification petitioners were once active union members and, in many cases, union activists and leaders. Most petitioners exhibited leadership behaviors and characteristics. However, the major hypothesis of interest—that petitioner leadership behaviors and characteristics would have a statistically significant impact on the percentage of antiunion votes in the decertification election—was not supported.

Job Applicant Screening by a Japanese Transplant: A Union-Avoidance Tactic

GREGORY M. SALTZMAN
Albion College and University of Michigan

A senior manager at a Japanese-owned auto parts plant told me (in confidence) that he was attempting to avoid hiring union sympathizers. I analyzed this effort with an extraordinary data set obtained with management's cooperation. Job applicants completed confidential questionnaires stating whether they would vote for union representation in their current or most recent job. I matched the responses with outcome data provided by management. Prounion applicants were much more likely to withdraw their applications or quit during the probationary period. There was only weak evidence, however, that management favored antiunion job applicants in making job offers.

How U.S. Steel Companies Are Addressing the Skill Shortage

SLIMANE HADDADJ
University of Lille

Since 1980 there has been an increased awareness in the rapid changes that are occurring in the production and manufacturing systems of industrialized countries, where underinvestment in training and human resources as well as underinvestment in R&D are a major problem. The results show that firms in the same industry do not use the same approach in order to solve the skill shortage. Defining these approaches by factor analysis, most firms tend to be oriented toward one of them—"contingent action," "active action," or "passive action." These orientations are partly explained by the difficulty met by firms doing their business.

Litigation of Employer Control of Off-the-Job Behavior: The Case of Drug Testing

HELEN LEVAN
DePaul University

MARSHA KATZ
Governors State University

Litigated drug testing cases (N=67) were analyzed and the following results were obtained: (1) Two-thirds of the cases involved off-the-job drug use, although the extent of on-the-job impairment was not determined, and most involved public-sector employees (who theoretically have a diminished expectation of privacy). (2) Alertness and danger on the job were prevalent. (3) 94% of the tests were urine tests and more than half of the tests (58%) were random. (4) Confirmatory tests were used in only 43% of the cases. (5) Post-accident testing was involved in 22% of the cases. (6) Most drug testing cases are lost (or split) by the employer. (7) Approximately 25% of the cases resulted in discipline or discharge.

Work Organization and Training Systems for Technical Employees: A Comparison of Japan, the U.K., and Germany

MOTOHIRO MORISHIMA
Keio University

KENJI OKUMURA AND DEBORAH TURENNE-TANAMURA
Fujitsu Research Institute

Using a unique comparative survey of Japanese, German, and U.K. firms, this paper examines the pattern of work organization and training systems for software development engineers. The results indicate that Japanese firms tend to work in teams to organize software development and are less apt to use specialists on development projects than German or U.K. firms. Also, task assignment is based less on technical considerations. With regard to training systems, Japanese firms place more emphasis on within-firm training and actually train a higher proportion of their software development engineers. Japanese firms' work organization and training patterns for technical white-collar workers follow what has been described for production workers.

A Test of the Safety-Valve Theory of Strikes

ROBERT HEBDON
Cornell University

The safety-valve hypothesis suggests that public-sector laws banning strikes redirect conflict away from strikes to other conflict forms. Using a cross-sectional data set in Ontario in 1988, the author tests this hypothesis by comparing grievance arbitration rates between strike and no-strike units. Results support the hypothesis by indicating significantly higher grievance arbitration rates under the no-strike laws. Thus in assessing the costs of strike substitute laws, researchers and policymakers ought to take into account their adverse impact on other conflict forms, such as grievances, grievance arbitrations, working to rule, absenteeism, and turnover.

Managerial Actions, Ideologies, and Outcomes: A Preliminary Test of the Strategic Choice Model

JOHN GODARD
The University of Manitoba

Two sets of constructs can be viewed as central to the strategic choice model as advanced by Kochan, Katz, and McKersie: (1) managerial strategies, policies, and practices; and (2) managerial values, beliefs, and philosophies. This paper draws upon a survey of 269 Canadian firms to examine the relationships between these two sets of constructs after controlling for industrial relations context variables. It then examines the implications of both sets of constructs for selected IR outcomes. The general finding is that while there are a number of associations between these sets of constructs, and while these constructs bear a number of associations with IR outcomes, these associations are weaker and less stable than the strategic choice model implies.

The Influence of Environmental Pressures, Diversification Strategy, and Setting on Employee Participation

IRENE GOLL
University of Scranton

NANCY BROWN JOHNSON
University of Kentucky

This study tests the hypotheses that environment, diversification strategy, and union/nonunion setting affect the number and variety of employee participation programs. A survey of large U.S. manufacturing firms measured the implementation of employee participation programs. Regression results suggest that environmental pressures exert a direct effect on participation in union settings. However, in nonunion settings, environment and diversification strategy both correlated directly with participation. These results suggest that union strategy may play an important role in the implementation of participative programs.

XVIII. POSTER SESSION II

The Impacts of Workplace Substance Use on Personal Injury

Gail Mitchell Hoyt
University of Richmond

Substance use in the workplace has become an issue of growing concern in recent years. Numerous economic studies focus on the productivity effects of substance use; however, other effects of workplace substance use such as personal injury are an important consideration for employers due to the related costs of health insurance and potential litigation. Using the 1988 wave of the National Longitudinal Survey of Youths, I study the impact of alcohol, marijuana, and cocaine use on personal injury in the workplace. While cocaine use appears to have no positive impact on injury, both alcohol and marijuana use positively influence personal injury in the workplace.

Union Organizing: An Experiential Exercise

Karen E. Boroff
Seton Hall University

The author puts forth an experiential exercise on union organizing, thereby closing a gap in the repertoire of teaching tools on union recognition. By requesting that students wear the "Union Yes" button for a day, students begin to appreciate the difficulties, risks, stereotypes, and prejudices that union sympathizers regularly confront. Both by the introduction of the exercise in class and by the wearing of the button after class, the learning from this simple exercise is robust.

Union Grievance Procedures and Nonunion Complaint Procedures— Is Collective Voice Really Superior?

KAREN E. BOROFF
Seton Hall University

Union (collective) voice procedures have been argued to be inherently superior to nonunion (individual) voice procedures. This, however, has not been tested empirically from the perspective of the users of either process. Relying on three unique data sets, the author compares dimensions of grievance and complaint procedures as rated by those who have filed complaints and by those who opted otherwise. She finds preliminary evidence suggesting that filers in either environment appear motivated to secure individual (and not collective) justice. Nonfilers in either environment fear reprisal for filing complaints. She suggests further conceptualization about the substantive differences in the two forms of voice.

Impacts of Conflicting Industrial Relations on Corporate Management in the Korean Machine Tool Industry

JOOYEON JEONG
University of Wisconsin-Madison

This study intends to measure impacts of conflicting firm-level industrial relations during the late 1980s on both the product strategy and labor management policies in the Korean machine tool industry. On the basis of the fieldwork study in six Korean machine tool firms during June of 1992 and 1993, major findings of this study were as follows: (1) Despite a rapid rise in labor cost due to conflicting industrial relations during the late 1980s, the industry still maintained its price comparative advantage in its major products. (2) Conflicting industrial relations commonly generated several challenges in labor management policy, including the decline in the work motivation of blue-collar employees.

Attitudes Toward Unions and Professional Associations as Determinants of Support for a Union of Professional Employees

HUGH D. HINDMAN
Appalachian State University

CHARLES G. SMITH
Niagara University

General attitudes toward unions are important in determining employee support for unionization. But professional employees may prefer representation through professional associations. What happens, then, when professional employees petition for exclusive bargaining rights? Are attitudes toward unions still important? What about attitudes toward professional associations? Which are more important? Professional employees organizing a local independent union were surveyed. Both attitude toward unions and attitude toward professional associations were found to predict support for the union, but attitude toward professional associations had the strongest effects.

The Relationship Between Students' Attitudes Toward Unions and Attitudes Toward Employment Rights Issues

DANE M. PARTRIDGE
University of Southern Indiana

KAREN ANN TARNOFF
Virginia Polytechnic Institute and State University

In a sample of 265 students at four universities located in the southeastern U.S., partial support is found for the proposition of a relationship between students' attitudes toward unions and their attitudes toward employment rights issues. The expected negative relationship was found between students' attitudes toward unions and their attitudes toward "private" activities (the collection and use by the employer of non-job-related information, e.g., intended pregnancy plans) and "normative" activities (generally accepted employer activities, e.g., scheduling work). The relationship between students' attitudes toward unions and "polydrug" activities (e.g., drug testing) was not statistically significant.

The Influence of Referents on Attitudes in a Multi-Tier Wage Structure: Preliminary Results

Dane M. Partridge
University of Southern Indiana

Anthony M. Townsend
Virginia Polytechnic Institute and State University

This study examines the relationship between the referents used by workers to evaluate pay fairness and their work-related attitudes in an organization in the retail food industry with a multi-tier wage structure. The more important the referent of the pay of friends and family, the more positive was the worker's pay satisfaction, pay equity, company commitment, union instrumentality, and union commitment. The other referent factors were negatively related to particular attitudes. The findings suggest that pay satisfaction is influenced by certain social referents in both a positive and negative direction, while self-referents have a negative effect.

Retroactive Benefits in Income Replacement Programs: Results from a Modified Natural Experiment

William P. Curington and W. David Allen
University of Arkansas

Amy Farmer Curry
University of Tennessee

When workers are displaced due to an injury or layoff, there is a waiting period (usually three to seven days) before workers' compensation or unemployment insurance income replacement benefits may be received. In some jurisdictions if the work absence lasts longer than the time period specified as the retroactive period, benefits are paid retroactively for the waiting period. Retroactive benefits create a "notch" in workers' lifetime budget constraint which brings about an incentive for workers who fall within this notch to increase their work absence duration. From an analysis of one policy alternative—a reduction in the retroactive period—we find that certain workers have an incentive to increase their duration because they now fall within the notch; other workers have an incentive to decrease their work absence durations, since they need not stay out as long to receive retroactive benefits as compensation for the waiting period. In an empirical test of these hypotheses, we use individual-level workers' compensation data from the state of New York to compare the durations of work absence of a treatment group of workers affected by a legislated shortening of the retroactive period and a control group of workers unaffected by that policy action. Results from difference-in-means and regressions analyses lend consistent support to these hypotheses, showing a change in work absence duration ranging from 1.8 to 3.2%.

The Structural Determinants of Union Wage Uniformity and Pattern Bargaining

STEPHEN B. BLUMENFELD
Simon Fraser University

MARK D. PARTRIDGE
Georgia Southern University

One mission of labor unions is to take wages out of competition. While industrywide agreements are rare, pattern setting has traditionally affected *informal* centralization and uniformity of bargaining outcomes. This study departs from most previous research by assessing the determinants of wage uniformity *other than unionization*. This study offers a comprehensive analysis of the relationship between various market and institutional factors with union patterns. The results indicate that union wage dispersion is positively related to increased foreign trade and union heterogeneity. Union wage dispersion is negatively related to ability to pay, technology-based quasi-rents, and union bargaining strength.

Workplace Substance Abuse and Organizational Education Efforts

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University of Cincinnati

NANCY E. WALDECK
Ohio State University

This paper assesses the determinants of the type and frequency of organizational drug education. Survey results show that education appears to be widespread but variable and more reactive than proactive. Regression analyses

show that educational efforts. are more intense where drug use and costly consequences are likely, particularly where the work force is young and works with heavy machinery and when organizational size and profitability are greater. Meetings are used more often when a large proportion of workers can affect safety or national security, when the number of personnel staff per employee is greater, and when unions are positive toward education.

The Determination of Employee Participation in 401(k) Plans: The Effects of Other Pensions, and Firm and Family Characteristics

GREG HUNDLEY AND CAROL K. JACOBSON
University of Oregon

This study analyzes the factors that determine the degree to which private-sector employees participate in a 401(k) savings plan offered by their employer and assesses how these mechanisms might contribute to differences among employees in their access to retirement benefits. The data confirm that individuals with higher incomes and greater earnings potential (i.e., those with more human capital) are more likely to participate in 401(k) plans and that this effect is due significantly to the greater probability that these employees will be offered the chance to participate in a 401(k) plan by their employer. Employees of small firms and those covered by union contracts are less likely to be offered a 401(k) plan. Coverage by a defined benefit plan increases the probability of 401(k) eligibility and the probability that an eligible employee will participate. Employee eligibility and participation appears to be independent of pension plan coverage of their spouses.

Flexible Work Hours and Labor Productivity: New Findings from the Pharmaceutical Industry

EDWARD SHEPARD AND THOMAS CLIFTON
LeMoyne College

DOUGLAS KRUSE
Rutgers University

During the past decade there has been an increase in the use of flexible work schedules and other types of alternative work schedules, including part-time positions, work sharing, work at home, and family leave contingencies. Flexible work hours potentially influence productivity through effects on absenteeism and turnover, organized attachment, job attitudes, off-job satisfaction, work-related stress, and other possible areas. The results from prior studies suggest there may be positive effects on productivity in some circumstances but are largely inconclusive.

To investigate the productivity effect of flexible work schedules we develop and estimate an econometric production function model using firm-level panel data for a test industry within U.S. manufacturing. The empirical results suggest that flexible work schedules and, in particular, the degree of flexibility provided can contribute to improvements in productivity.

The Pay Game: A Simulation Model of Alternative Pay-Setting Schemes

ROBERT CAROW
Loyola University

This paper reports preliminary results from a large project to design and test a simulation model that can be used to characterize the conditions favoring a variety of pay-setting schemes including pure time rates, pure piece rates, and time rates with a linear bonus. The study shows that piece-rate pay-setting schemes are preferable to time-rate pay-setting schemes when design and monitoring costs of piece rates are low and when worker risk aversion is low. These results conform to theory. However, as transactions costs rise and worker risk aversion rises, time rates become preferable to firms. The simulation provides a versatile tool for testing various pay-setting schemes under a variety of state variable values and shows the sensitivity of pay scheme choice to state variable values.

Cognitive Heuristics and Performance Unit: Implications for Ignoring the Cognitions of Others

MEGAN MOWREY, STEVEN L. POPEJOY,
AND CHOCKLINGHAM VISWESVARAN
University of Iowa

Prior research demonstrates that individuals make cognitive errors during the course of negotiations. Failing to consider the cognitions of one's opponent in a negotiation is one type of cognitive error committed by individuals. This study addressed whether negotiators persist in ignoring their opponents' cognitions in a group negotiations context. Information from the negotiation and group literatures was reviewed and hypotheses integrating these two disciplines were drawn. As expected, the results of an experiment in which 144 subjects participated suggest that groups ignore the cognitions of their opponents in a manner similar to that of individuals.

Labor-Management Climate: A Canada-U.S. Comparison

NEALIA S. BRUNING, MARIE B. SICKMEIER, CHRISTINE L. COOPER
University of Manitoba

The decade of the 1990s finds both the U.S. and Canada struggling for a position in the head-to-head economic game of the coming century. The general consensus is that neither country is fully prepared to compete in the new world economy where the game has changed from one of niche competition (a win-win scenario) to one of head-to-head competition (a win-lose scenario) (Thurow 1992). In both countries there has been significant debate regarding the direction to be taken to ensure each nation a position in the new game. This has resulted in an understanding that there is a need to closely examine the components of each economy in order to develop an equation that will allow each nation to compete.

This study investigates an important component of this equation—labor-management climate. We report the results of a survey of three groups (unionized employers, nonunion employers, local union leaders) in both the U.S. and Canada. These groups were surveyed regarding their perceptions of workplace climate and organizational performance. Overall, the relationships demonstrate higher assessments of labor-management climate in Canada, but lower reported performance on the performance measure in Canada.

Business Strategy, High-Involvement Management and Firm Performance in South Korean Corporations

MICHAEL BYUNGNAM LEE
Michigan State University

YONG HEE CHEE
Sogang University

Empirical research on strategic human resource management is in its infancy. Little is known on approaches companies use to link their strategic choices with human resource practices to achieve superior financial performance. Moreover, the studies conducted to date have used data from U.S. companies, raising a question about the generalizability of these findings to other countries. In contrast, the current study examines the association of competitive strategy-human resource practices (especially emphasis on employee participation and involvement) in South Korean manufacturing firms. Certain competitive strategy-employee participation matches are associated with company financial performance.

Employee Benefit Satisfaction Under Flexible Benefits: An Analysis of Employee Choice Patterns, Demographics, and Communication Usage

BONNIE R. RABIN
Ithaca College

This study examines employee benefit satisfaction under flexible benefits. Flexible benefits satisfaction includes satisfaction with a flexible approach, benefits variety, and coverage levels. Using field data, a number of hypotheses are supported, including the impact of employee benefit choice and change patterns, demographics, and benefit communication on satisfaction. As a group, a large statistically significant portion of benefit satisfaction is explained by the proposed determinants. In particular, employees with lower levels of medical coverage, those using medical reimbursement accounts, and those who are younger and less tenured were more satisfied. Moreover, users of the organizations's benefit communication materials and employees reporting fewer unmet benefit needs are more satisfied.

An Investigation of Intention to Stay or Leave: The Issue of Gender

EDWARD J. INDERRIEDEN AND TIMOTHY J. KEAVENY
Marquette University

This study investigated the importance of workplace values and rewards on the intentions of 690 male and female professionals to change organizations. The results of this study indicated that the women were more likely to consider leaving their organization than the men surveyed. Consistent with earlier studies of intention to stay or leave, pay level played an important role. Importance of interesting work, satisfaction with one's work, and perceived opportunity for advancement were significant predictors of intention to stay or leave.

May Labor Arbitrators Fraternize With Union and Management Advocates?

JOHN B. LAROCCO
California State University, Sacramento

The paper explores a recent Ninth Circuit decision which vacated and reversed an arbitration award due to the arbitrator's bias because the arbitrator had a friendly, professional relationship with the union advocate.

The arbitrator went to dinner with the union advocate on the evening before the hearing. The court ignored the fact that the company had invited the arbitrator to dinner (the arbitrator declined because he had already made plans to go out with the union representative). The company represented to the court that had the arbitrator accepted, the company would have asked the union representative to accompany them!

The court adopted a loose definition of fraud which could forever bar arbitrators from forming casual relationships with union or management advocates through, for example, local IRRA meetings.

XIX. ANNUAL REPORTS

IRRA EXECUTIVE BOARD MEETING
April 30, 1993
Executive Inn—Seattle, WA

The meeting was called to order at 5:45 p.m. by President George Strauss. Present were Past President Ernie Savoie and Board members Mark C. Endresen, Daniel G. Gallagher, Walter J. Gershenfeld, Jack Golodner, Randolph M. Hale, Maggie Jacobsen, and John R. Stepp. Also present were IRRA Administrator Kay B. Hutchison, Secretary-Treasurer David R. Zimmerman, newly appointed Editor-in-Chief Paula A. Voos, Newsletter Editor Rachel Grenier Hendrickson, Chapter Advisory Chair James F. Power, and Lynn Case of the national office. Absent were Board members Francis X. Burkhardt, Thomas R. Colosi, John A. Fossum, Marlene K. Heyser, Harry C. Katz, Donna Sockell, Lamont Stallworth, and President-Elect Lynn Williams.

Guests at the meeting were Ben Youtsey of the host Northwest/Seattle IRRA Chapter; Charles J. Coleman, President of the Philadelphia Chapter (host for the 1994 spring meeting); and Sheldon Friedman, Program Committee.

Approval of Minutes. Minutes of the January 1993 Executive Board meeting were approved as distributed.

Report of the Program Committee. Chair George Strauss reviewed the program planned for the 46th Annual Meeting in Boston, January 3-5, 1994. The full three-day program will include nine symposia sessions, four competitive paper sessions, the doctoral consortium, five public policy workshops and four or five sessions organized by various New England chapters. The chair and members of President Clinton's Commission on the Future of Worker-Management Relations have been invited to participate on a distinguished panel.

Walt Gershenfeld reported on the Philadelphia spring program, April 23-25, 1994. The program will offer a variety of sessions simultaneously. Topics will include labor law reform, work force skills, health care cost containment, workers' compensation, union-management cooperation, union trusteeships, interest arbitration, privatization, and international labor. Gershenfeld requested permission, subject to national office approval, for the Philadelphia Chapter to develop an accredited joint session with the AAA on ethics for attorneys. The Board approved the request. Savoie suggested the chapter consider a session on diversity. Coleman reported that the Philadelphia Chapter is working on arrangements for various social functions. The meeting site will be the Hilton Hotel and Towers. Gershenfeld will keep the Program Committee and President-Elect Lynn Williams informed as plans progress.

Endresen suggested that IRRA standing committees not be scheduled to meet at the same time as program sessions. Savoie and Voos raised the possibility of holding an all-day Executive Board meeting once a year, possibly at the spring meeting. The national office will poll Board members on the suggestion.

Report of the Committee on Future Spring Meetings. Gershenfeld chaired the ad hoc committee that included Richard Block, David Zimmerman, and Kay Hutchison. It is the recommendation of the committee that:

1. As in the past, the 1994 spring meeting program be planned by the local hosting chapter with Program Committee approval;

2. In 1995 the IRRA not hold a separate spring meeting but participate as a sponsor of the 10th World Congress of the IIRA in Washington, May 31-June 4, 1995. Several sessions of special interest to IRRA members will be arranged. The IRRA will assist in planning those sessions and publish papers from those sessions in the 1995 Spring *Proceedings*; and

3. Beginning in 1996 or 1997, a biennial conference on labor and public policy be held, conceivably in Washington D.C. Since both the 1995 IRRA annual and spring meeting will be held in Washington, an alternate site is suggested for 1996. Under the proposal, chapters would be encouraged to hold regional conferences in alternate years.

Gershenfeld moved that the 1995 spring meeting be held in conjunction with the IIRA 10th World Congress in Washington and that plans for the 1996 spring meeting be put on hold until the Chapter Advisory Committee and local chapters are consulted. Motion carried. Gershenfeld will meet with the representatives of the Washington D.C. Chapter to discuss plans for the 1995 meetings.

Ben Youtsey and Mark Endresen, Northwest/Seattle IRRA Chapter, were given a round of applause for their work on the 1993 spring meeting.

Report on the 1995 10th World Congress of the IIRA. David Zimmerman reported on behalf of IIRA President Tom Kochan. Site hotels for the

Congress are the Hyatt Regency, Washington Court, and Quality Inn. Attendance is estimated to be between 800 and 1,000 participants. The budget for the Congress is anticipated to run $250,000 to $400,000. The Clinton administration has been approached for funding, and plans are underway to establish a nonprofit entity to administer the Congress. Zimmerman reported that a planning committee of interested IRRA members is working with Kochan on Congress arrangements.

(Meeting adjourned for dinner and reconvened at 6:55 p.m.)

Administrator's Report. Kay Hutchison reviewed recent financial and membership statistics. She reported a net income for 1992 of $5,153 compared to a loss of $11,048 in 1991. She thanked chapters and individual members for their contributions to the one-time fund drive initiated in 1992 by then President Savoie. She also cited the role of organizational memberships in the Association's improved financial condition. (A list of organizational members is attached.) Revenues from annual membership categories will be used for operations. Revenues from other organizational categories will be used to establish an endowment for the Association. Names of potential organizational members should be submitted to the national office.

Strauss indicated that an analysis of membership statistics indicates that two-thirds of the Association's members are practitioners while one-third are academics. Membership has declined by approximately 400 over the past two years.

Membership and Finance Committee Reports. Membership Committee Chair Savoie reported that the committees met jointly earlier and continued to discuss issues of membership and finance. He described several national membership promotions that have been targeted at specific local chapters. Organizational memberships have helped offset revenue losses from declining membership. Endresen moved that the Finance Committee and the Membership Committee be combined into one committee. The motion was carried on a voice vote.

Chapter Affiliation. Hutchison presented the request of the Oregon IRRA Chapter for national affiliation. Having been advised that the chapter's bylaws are in conformance with Association requirements, the Board approved affiliation of the Oregon IRRA Chapter as the 62nd IRRA chapter.

Chapter Advisory Committee Report. Jim Power, Chapter Advisory Committee Chair, reported that the committee is undertaking strategic discussions to review the structure of the Chapter Advisory Committee and its relationship to the Board. Chapters are being encouraged to send a representative to the meeting in Boston to continue such discussions.

Strauss conveyed a suggestion made during the Chapter Advisory Committee that the IRRA develop a grant proposal to facilitate chapter discussion of the questions to be addressed by the Dunlop Commission appointed by the Clinton administration. Following lengthy discussion, the Board agreed by consensus to establish a committee to explore the possibility of developing a proposal. Sheldon Friedman will chair the committee. Board members Power, Gallagher, and Jacobsen volunteered to serve.

Chapter Fees. Following some discussion, the Board approved by voice vote the following chapter fees for 1993:

Chapter Membership	*1993 Fees*
25 members or less	$ 65
26-50 members	105
51-100 members	200
101-200 members	225
201 + members	300

The Board retained the current rebate structure according to percentage of chapter members who are national members.

Editorial Committee Report. Paula Voos reported in the absence of Editor-in-Chief John Burton Jr. The Editorial Committee has recommended acceptance of an international volume entitled *The Comparative Political Economy of Industrial Relations*, to be edited by Kirsten Wever and Lowell Turner for the 1995 research volume. The publication of the volume in 1995 will coincide with the IIRA 10th World Congress in Washington.

Voos, editor of the 1994 research volume, *Contemporary Collective Bargaining in the Private Sector*, indicated that the volume is on schedule. Chaper authors participated in a PIERS/IRRA conference in Detroit in February and were able to receive feedback on their work from attendees. Hutchison reported that all chapters of the 1993 volume, *Employee Representation: Alternatives and Future Directions*, Bruce Kaufman and Morris Kleiner, eds., have been received by the national office.

Hutchison estimated that 11 or 12 papers will be published in the 1993 Spring *Proceedings*. With increasing publication costs, the Editorial Committee continues to look at more timely and less costly options for disseminating presented papers. Issues concerning the scope and format of IRRA publications were referred back to the Editorial Committee.

Hutchison described a proposal under consideration between IRRA and the ILR Press for distribution of the annual research volume. In sum, the ILR would assume responsibility for marketing and distribution (other than to IRRA members) for current and past volumes in exchange for a percentage of net sales. The IRRA would continue to select, edit, produce, and hold the copyright for each volume. The Board authorized Hutchison to pursue agreeable terms with ILR Press on a two-year trial period.

President Strauss, with the advice of Burton and Voos, recommended the appointment of Jay Siegal to a three-year term on the Editorial Committee.

Newsletter Editor's Report. Rachel Grenier Hendrickson described the Association's new publication, *Dialogues*, a four-page *Newsletter* supplement which will be published at least twice a year. The first issue will be included with the May *Newsletter*. It will summarize papers presented at IRRA meetings and offer short articles on timely topics. A membership application will appear in each issue. Additional copies of *Dialogues* will be made available to local chapters for distribution to their membership. Hendrickson indicated that changes in the *Newsletter* format are under consideration.

Professional Liaison Committee Report. Gershenfeld related that the purpose of this committee, appointed by Past President Jim Stern, was to improve and preserve the teaching of industrial relations and to build relations with other interested organizations. Gershenfeld recommended that the committee be disbanded because such concerns are being taken up by the IR center directors, sociologists, and others. Communications with the various groups should continue. Strauss asked Savoie to develop a brief report for the next board meeting on the future of industrial/labor education and the role of the IRRA.

Old Business: Diversity Committee. Previous correspondence to the Board from a member requested that the IRRA canvass its membership for information on ethnic background and then seek ways to improve diversity within the organization. President Strauss has consulted Board member Lamont Stallworth, who offered several proposals. The Board agreed by consensus that Strauss should convey to Stallworth the importance of the issues he raised and suggest that future program proposals and a possible research volume on the topic of diversity would be welcome. Such proposals could be pursued through the Program and Editorial Committees respectively. The Association will continue to consult with other organizations about how they deal with the issue of diversity.

New Business: 1994 Nominating Committee. Strauss advised the Board of his selections for the Nominating Committee, including Noah Meltz as chair. The committee will convene in Boston. The Board approved Strauss's proposed committee and directed that future nominees for Board office be advised of their obligations and time commitments if they agree to accept nomination.

Constitution and Bylaws Committee. President Strauss recommended appointment of a committee to review the IRRA constitution and bylaws for outdated, inconsistent, or sexist language and to make recommendations at the Boston Board meeting. The Board agreed by consensus and Strauss appointed Maggie Jacobsen, Rachel Grenier Hendrickson, John Fossum, David Zimmerman, and Kay Hutchison (ex officio).

The Board reviewed correspondence from several members regarding the name, structure, and activities of the Association. President Strauss is developing a proposal on the issues which will be discussed at the Boston meeting in January.

The meeting adjourned at 9:50 p.m.

The next meeting of the IRRA Executive Board is Sunday, January 2, 1994, 6:30 p.m., Boston Park Plaza Hotel.

IRRA EXECUTIVE BOARD MEETING
January 2, 1994
Park Plaza Hotel—Boston, MA

The meeting was called to order at 8:10 P.M. by President George Strauss. Present were Past President Ernie Savoie, President-Elect Lynn Williams, Board members: Peter H. Cappelli, Mark C. Endresen, John A. Fossum, Daniel G. Gallagher, Walter Gershenfeld, Randolph M. Hale, Marlene K. Heyser, Maggie Jacobsen, Harry Katz, and John R. Stepp and incoming Board members: Rachel Hendrickson (also Newsletter Editor), Joan Ilivicky, and Jay S. Siegel. Also present were: IRRA Administrator Kay B. Hutchison, Secretary-Treasurer David R. Zimmerman, Editor-in-Chief Paula B. Voos, Past Editor John F. Burton, Jr., Chapter Advisory Chair James F. Power, and Lynn Case from the national office. Absent were Board members: Francis X. Burkhardt, Thomas R. Colosi, Jack Golodner, Donna Sockell, Lamont Stallworth, and Board Member-Elect Ruth Milkman.

Guests at the meeting were Noah Meltz, Chair of the Nominating Committee, Hoyt Wheeler, Chair of the Administrative Oversite Committee, Boston IRRA Chapter President Helen Moreschi and Greater Rhode Island IRRA Chapter President John J. Mark.

President Strauss welcomed newly elected Board members and reminded them that since their term had not yet begun, they were not eligible to vote at this meeting. Strauss thanked retiring Board members Burkhardt, Gershenfeld, Katz, Jacobsen, and Stallworth.

Approval of minutes. Minutes of the April 1993 Executive Board Meeting in Seattle were approved as printed and distributed.

Report of the Nominating Committee. Chair Noah Meltz announced that Hoyt Wheeler from the University of South Carolina had been recommended as candidate for 1995 President-Elect. Candidates for the Executive Board will be listed in the May *Newsletter*. A motion by Lynn Williams to accept the Nominating Committee report was seconded and passed.

Report on the Philadelphia Spring Meeting. Walt Gershenfeld reported that the 1994 Spring Meeting would begin on Wednesday, April 20 with a joint session of the American Aribitration Association on ethics for attorneys. Thursday's IRRA sessions will celebrate the 50th anniversay of the Declaration of Philadelphia with participation from the ILO President and Secretary of Labor Robert Reich as luncheon speaker. Other sessions include a reprise of George Taylor by friends and colleagues and a review of new labor relations films. Registration for the spring meeting, held at the Doubletree Hotel, will be $130.

Report of the Progam Committee. Lynn Williams, Program Committee Chair, reported on the next annual meeting to be held in Washington D.C. January 6-8, 1995. Ten symposia proposals and five workshops have tentatively been accepted for presentation. Additionally, a full afternoon session will be devoted to a review of the Dunlop Commission by commentators from three perspectives (labor, management, and neutral) followed by breakout sessions.

Strauss stated that a continuing problem for the association is selecting which papers to publish in the *Proceedings* given the larger number of sessions and increasing costs of publication.

Walt Gershenfeld presented the following resolution for Board consideration:

> The Program Committee shall have two Vice Chairs, one a practitioner and the other an academician. Each will be appointed by the Program Committee Chair (President-Elect). Subject to the overall direction of the Program Committee Chair, each will be responsible for assisting the Program Chair in encouraging submissions to the Program Committee and in following up the development of programs after the Program Committee makes its selections. The initial academic Vice Chair shall serve a one-year term and the initial practitioner Vice Chair shall serve two years. Each subsequent Vice Chair shall serve two years. Vice Chairs shall be voting members of the Program Committee.

A motion to accept the resolution as printed was seconded and passed by a unanimous voice vote.

IRRA Strategic Planning Meeting. President Strauss stated that past Board discussions have suggested a need for the Executive Board to discuss long-range planning about the mission, activities, and future of the national Association. The national office polled the Board and the decision was made to hold the session at the time of the Philadelphia meeting. A show of hands by members present indicated preference for the regular Executive Board meeting to be held on Friday night and the strategic planning session on Saturday, April 23. Strauss suggested incoming President Lynn Williams form a small committee of the past president, president-elect and a few others to develop a structure and focus for the meeting. Lengthy discussion produced a variety of ideas for consideration. Board members were encouraged to read John Dunlop's commentary on the discipline of industrial relations and Bruce Kaufman's recent book prior to the planning meeting. Members and local chapters will be encouraged through the *Newsletter* to send in written ideas and suggestions for topics of discussion to the national office.

Report of the Constitution Review Committee. Maggie Jacobsen reported that the committee will meet to review by-law changes and report back at the spring meeting in Philadelphia. President Strauss defined the task as two-fold: (1) to change language that is confusing, out of date, or unconstitutional and (2) to consider other changes such as the nomination of officers.

Report on the IIRA World Congress. David Zimmerman, reporting for IIRA President Tom Kochan, said a planning meeting would be held on January 4 and a written report would be given to the Executive Board prior to the Philadelphia meeting. Zimmerman cited two issues to be addressed: (1) the publication of IIRA proceedings prior to the May 31-June 4, 1995 meeting in Washington D.C. and (2) the formation of a nonprofit organization to handle the logistics of the conference. Kochan has been pursuing a variety of funding sources for the 10th World Congress.

Report of the Chapter Advisory Committee. Chair Jim Power said the committee would meet January 3 for a two-part meeting. After reporting on the business of the national and chapters, the committee will meet with chapter representatives to discuss possible restructuring of the chapter organization and committee. Topics include terms of office and selection process for the chair and committee members, regionalization of chapters, sponsorship of the spring meeting and involvement in the national meeting, the mutuality of roles between the national and chapters, and services chapters desire of the national. Power will report on these discussions at the Philadelphia Spring Meeting.

Report of the Membership and Finance Committee. Chair Ernie Savoie reported the recommendation of the committee that there be no increase in national or chapter dues for 1995. Savoie recommended continuing the development of organizational memberships for the association and urged committee and Executive Board members to become more committed in their roles as leaders of the national. The committee discussed the role of the computer hookup network for publications and the possibility of obtaining sponsors for national receptions. Savoie announced his retirement from the committee but agreed to stay on for a transition period prior to the Philadelphia meeting. A round of applause was given to Savoie for his dedication and service.

Report of the Secretary/Treasurer and Administrator. Hutchison reported an anticipated surplus of income over expenditures of $27,000 for 1993. A decline in income from mailing list rental, subscriptions, and the ASSA refund was offset by the $2.00 dues increase, the initiation of organizational memberships, and the remainder of the 1992 grant fund from Ford Motor Company. The IRRA currently has 22 organizational memberships of which seven are lifetime (contributions of $5,000 or more) and 15 are annual renewed memberships. Eight of the 15 annual memberships have renewed their membership for 1994. Hutchison said that $40,000 in income from the lifetime memberships is considered endowment money and that the $8,500 generated from renewable organizational memberships is listed as operating income.

Hutchison reported a decline in expenditures due to a reduction in staff hours and decreased publication and meeting costs. Two issues of *Dialogues* have been produced with only a $500 increase in *Newsletter* publication costs. She recognized the Orange County IRRA Chapter's financial support for the 1993 winter meeting and the Northwest IRRA Chapter's well-attended and low-cost spring meeting as contributing to the lower meeting costs. Administrator Hutchison said the national office has realized further cost-savings through the upgrade of its computer system with the assistance of the IR Institute of the University of Wisconsin and the sharing of photocopying and fax equipment.

Hutchison reported that the overall number of 1993 individual memberships had remained basically constant with a decline in regular memberships offset some by an increase in student, retired, and foreign members. Of the professional categories, academics and government have declined, while the legal and business categories have slightly increased. In

1993 the IRRA recruited 600 new members, 100 of those through the special promotion of joint chapter and national membership by the reactivated Oregon IRRA Chapter and a special membership promotion at the Seattle conference. Additional new members have joined as a result of promotions through chapter lists and better tracking of chapter officers who are required to be national members.

President Strauss reviewed membership figures and reported that despite a gain of 600 new members for 1993 the IRRA lost 80 regular members and, with increases in other categories, had a total net loss of 14 members. He suggested that nonrenewals are a major problem with 60% of new members renewing after one year and 40% remaining for three years. The greatest retention problem is with students and practitioners. On the academic side, the problem is one of recruitment rather than retention.

Hutchison reported that the 1994 research volume is on schedule and that copy is being edited on computer disk for the first time. She expressed concern that postal rates will increase by 3% for nonprofits next year and that nonprofit mailing rates are scheduled to be phased out over the next six years.

Hutchison reported that at the Seattle Spring Meeting, the Board created an Ad Hoc Committee on the future of Worker/Management Relations with Sheldon Friedman as chair. The purpose of the committee was to encourage local IRRA chapters to become knowledgeable and involved in the work of the Commission on the Future of Worker/Management Relations created by the Clinton administration and chaired by John Dunlop, former IRRA President. The committee was unable to obtain funding for a speaker's bureau on the topic, but the national office was able to arrange Commission speakers for eight chapters. Tom Kochan's speech to the Washington D.C. IRRA Chapter was videotaped and copies were made available through the national office. Four chapters requested loan of the tape. Nine chapters will report on their chapter deliberations to members of the Dunlop Commission at a special session during the 46th Annual IRRA Meeting.

Ernie Savoie recommended that a letter from the Board be sent to the IR Institute at the University of Wisconsin thanking them for their support of the IRRA.

Report of the Administrative Oversight Committee. Hoyt Wheeler, Chair of the Administrative Oversight Committee, reported the committee's recommendation that the national office remain at the University of Wisconsin at this time. The committee recommended that the Secretary-Treasurer and the Administrator be authorized to negotiate a successor contract with the UW when the current contract expires in 1995, and that

18 months prior to the expiration of that successor agreement, an announcement be made in the *Newsletter* inviting proposals to relocate the national office. The committee also recommended that Kay Hutchison's title be changed from Administrator to Administrator and Managing Editor to reflect her current duties. The committee further recommended that the Administrative Oversight Committee be disbanded having fulfilled its charge to review the operation of the national office in Madison and make recommendations to the Board. The Board approved these recommendations on a voice vote.

Administrator Kay Hutchison and staff person Lynn Case were excused while the Board discussed salaries.

Report of the Editorial Committee. Editor-in-Chief Paula Voos reported that the Editorial Committee had narrowed its selection for the 1996 research volume to two proposals. Upon receiving further input from the volume proposers, the committee will make its recommendation to the Board at its next meeting in Philadelphia.

Report of the Newsletter Editor. Rachel Hendrickson reported that in addition to four *Newsletters* two issues of *Dialogues* had been produced in 1993. Each issue of *Dialogues* presents condensed versions of papers presented at IRRA meetings or in other forums. Perspectives of academics, management, and unions are sought as well as a diversity in authors. The next issue topic will be health care.

Report of the Statistics Committee. Administrator Hutchison reported that IRRA dues for the Council of Professional Associations on Federal Statistics (COPFAS) had increased substantially in recent years to $1,277 for the period October 1993 to October 1994. Following discussion, the Board approved the recommendation that a Board member be appointed to the Statistics Committee and that person report back at the spring meeting with regard to IRRA's continued participation in COPFAS. The decision to pay 1994 dues was tabled until that time.

Old Business: Report on the IRRA and Diversity. Administrator Hutchison reported that she contacted several organizations regarding their practice of collecting statistics on the ethnicity and gender of their membership. The IRRA previously published information on age and sex in the 1979 *Membership Directory* but discontinued the practice in 1991. Hutchison reported wide variation among the organizations polled. Following discussion, the Board tabled any decision on collecting these statistics.

New Business. None reported. A round of applause was given to George Strauss for his work as President of the Association in 1993.

Adjournment. The meeting adjourned at 10:50 PM.

IRRA GENERAL MEMBERSHIP MEETING
January 3, 1994
Boston, MA

President George Strauss called the meeting to order at 4:58 P.M.

Report of the Editorial Committee. Paula Voos, Editor-in-Chief, reported that the Editorial Committee had met to review proposals for the 1996 research volume. The 1993 volume, *Employee Representation: Alternatives and Future Directions*, edited by Bruce Kaufman and Morris Kleiner, went out on schedule. The 1994 volume, *Contemporary Collective Bargaining in the Private Sector*, edited by Voos, will be an update of the 1980 Somers volume on collective bargaining in the United States. The 1995 volume on international and comparative issues in industrial relations, edited by Kirsten Wever and Lowell Turner, is proceeding on schedule.

Voos reported receiving positive comments from members on the new *Dialogues* publication. Newsletter Editor Rachel Hendrickson published two issues of *Dialogues* in 1993.

Report of the Administrator. Kay Hutchison reported the financial status of the Association improved in 1993. She projected a surplus of $21-25,000 compared to a break-even year in 1992 and deficits in several previous years. Income remained at about the same level as the previous year but expenses were lowered through shared services with the Industrial Relations Research Institute at the University of Wisconsin and improved efficiency through greater utilization of computers.

Hutchison reported a net decline of 14 members in 1993 compared to 200+ per year over several previous years. A loss of 80 regular members was offset by increases in student and retired memberships. In 1993 the Association gained 600 new members, 100 as a result of two special promotions. Eighty of the 100 were generated through the new Oregon Chapter introductory offer, and 20 were generated from the spring meeting promotion in Seattle.

Hutchison reported that the IRRA will again publish the *Membership Directory* in 1994. Members who have paid dues and sent in questionnaires will be included in the *Directory*. Hutchison said the *Directory* will recognize IRRA's 22 organizational members acquired during 1993 through the efforts of Ernie Savoie, Past-President and Chair of the Finance-Membership Committee. Organizational memberships generated $48,000 income in 1993. Of that amount, $8,000 was used as operational income and $40,000 will be set aside for future use. Hutchison thanked chapters for their response to the one-time call for contributions to the national Association.

Attention was called to future IRRA meetings: 1994 IRRA Spring Meeting—Philadelphia, PA—April 20-23; 1995 IRRA Annual Meeting—Washington D.C.—January 6-8; 1995 IIRA 10th World Congress/IRRA Spring Meeting—Washington D.C.—May 31-June 4.

Hutchison reported on the Ad Hoc Committee on the Future of Worker-Management Relations at the Seattle Spring Meeting. The purpose of the committee was to encourage local IRRA chapters to become knowledgeable and involved in the work of the Commission on the Future of Worker/Management Relations, created by the Clinton administration and chaired by John T. Dunlop, former IRRA President. The committee wrote a grant proposal but was unable to obtain funding for a speaker's bureau. However, the national office did arrange Commission speakers for eight local chapters. Chapter representatives will report on their chapter deliberations before four members of the Commission at a special session scheduled during the 46th Annual Meeting.

Report of the IIRA Meeting. IIRA President Tom Kochan reported that the 10th World Congress of the IIRA, May 31-June 4, 1995 in Washington D.C., would blend the interests of the IRRA spring meeting with those of the international congress. The meetings will continue the traditional structure of five-tract topic areas, plenary sessions, and workshops, but Kochan hopes to encourage industry labor-management groups, research networks, etc. to conduct their own seminars during the congress. A local arrangements committee in Washington is working on publicity, and Kochan is seeking funding from the public and private sector. A preliminary announcement brochure should be available by mid-summer.

Report of the IRRA President. Strauss announced the Nominating Committee's selection of Hoyt Wheeler, University of South Carolina, as the Association President in 1996. Walter Gershenfeld will serve as President in 1995.

Strauss presented a "State of the Association" report to the membership. Strauss said that while the Association had gone through turbulent times of membership decline and financial deficits, it had also made progress in the areas of improving finances, opening meeting sessions to a greater range of membership interest, making access to meetings more competitive, and improving relations with local chapters.

Strauss highlighted recent efforts to address past criticism of the Association. The Association has established the position of Administrator for the Association; stemmed the loss of memberships; introduced a new category of organizational member; cut back heavily on expenses which in 1993 reduced IRRA expenditures by approximately $27,000; expanded the annual meeting into the afternoon of the third day, allowing greater variety of programs; increased the number of refereed, competitive sessions from two in 1990 to a planned five in 1995; appealed to a broader range of disciplines with sessions organized by sociologists, labor historians, and labor educators; increased diversity by conducting public-policy sessions and special workshops for practitioners; worked to support the 62 local chapters by establishing a Chapter Advisory Committee, giving local chapters a voice in the national Association; in 1993 began a new publication called *Dialogues*, directed chiefly toward practitioners and chapters; held a series of excellent spring meetings and continued study of future meetings; and established a strong Publications Committee with its chair serving as Editor-in-Chief, who now selects volume topics and editors on a competitive basis.

President Strauss reported two additional new activities of the Association: the appointment of a Constitution Review Committee under the leadership of Maggie Jacobsen and the planned all-day workshop of the Executive Board at the spring meeting in Philadelphia.

The meeting adjourned at 6:05 P.M.

AUDITED FINANCIAL STATEMENTS
December 31, 1993 and 1992

We have audited the balance sheets of the Industrial Relations Research Association, as of December 31, 1993 and 1992, and the related statements of support and revenue and expenses, statements of changes in fund balances, statements of changes in financial position, and supporting schedules for the years then ended. These financial statements are the responsibility of the Association's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Industrial Relations Research Association, as of December 31, 1993 and 1992, and the results of its operations and the changes in its financial position for the years then ended, in conformity with generally accepted accounting principles.

Stotlar & Stotlar, S.C.

February 23, 1994

INDUSTRIAL RELATIONS RESEARCH ASSOCIATION
Madison, Wisconsin

Balance Sheets
December 31,

	1993	*1992*
ASSETS		
Current assets:		
Petty cash	$ 50	$ 50
Cash-checking	127,941	105,438
Cash-certificates of deposit	21,085	60,473
Other investments	68,937	66,871
Accounts receivable (less allowance for doubtful accounts)	5,378	3,701
Accrued interest receivable	0	401
Prepaid expenses	16,316	17,798
Inventory	22,430	23,619
Total current assets	$262,147	$278,351
Property, plant and equipment:		
Equipment	$ 29,206	$ 21,934
Accumulated depreciation	18,835	15,653
Net property, plant and equipment	$ 10,371	$ 6,281
Total Assets	$272,518	$284,632
LIABILITIES AND FUND BALANCE		
Current liabilities:		
Accounts payable	$ 21,693	$ 91,404
Payroll taxes payable	1	4
Dues collected in advance	109,134	99,850
Subscriptions collected in advance	13,216	10,262
Deferred grant income	20,000	27,500
Payable to IIRA	10,000	10,000
Total Liabilities	$174,044	$239,020
Endowment fund	$ 40,000	$ 15,000
Unrestricted fund balance	58,474	30,612
Total fund balances	$ 98,474	$ 45,612
Total Liabilities and Fund Balance	$272,518	$284,632

(The accompanying notes are an integral part of the statements.)

INDUSTRIAL RELATIONS RESEARCH ASSOCIATION
Madison, Wisconsin

Income Statements
For the Years Ended December 31,

	1993	*1992*
Income		
Income from operations		
Membership dues	$173,164	$153,035
Subscriptions	16,273	18,707
Chapter fees	8,280	7,561
Book sales, net of refunds	10,372	9,307
Royalties	640	1,199
Newsletter advertising	2,250	1,884
Mailing list rental	4,514	10,190
Meetings	27,445	26,071
ASSA refunds	5,823	9,160
Grant income	7,548	7,491
Contributions	400	10,805
Total operating income	$257,069	$255,410
Expenses		
Compensation		
Salaries	$ 71,552	$ 75,968
Fringes and taxes	19,354	20,321
Contract services	3,213	3,584
Total compensation expense	$ 94,119	$ 99,873
Publications		
Proceedings	$ 31,736	$ 38,372
Spring proceedings	4,670	6,044
Research volume	23,671	24,970
Newsletter	11,104	9,412
Directory	5,461	8,469
Total publication expense	$ 76,642	$ 87,267
Meetings		
General expenses		
Spring		
Meals	$ 8,052	$ 10,714
Travel	2,234	860
Miscellaneous	4,571	8,335
Profit reimbursement	4,269	995
Total spring meeting	$ 19,126	$ 20,904
Annual		
Meals	$ 3,865	$ 3,498
Travel	125	733
Miscellaneous	2,614	1,432
Total annual meeting	$ 6,604	$ 5,663
Total general expenses	$ 25,730	$ 26,567
National expenses		
Spring		
General	$ 1,581	$ 1,793
Hospitality	0	777
Total spring meeting	$ 1,581	$ 2,570
Annual		
General	$ 2,691	$ 3,130
Hospitality	2,000	3,913
Total annual meeting	$ 4,691	$ 7,043
Total national expenses	$ 6,272	$ 9,613
Total meetings expense	$ 32,002	$ 36,180
Membership promotions	$ 7,665	$ 8,195
Chapter expenses	$ 2,204	$ 2,215
Editorial committee	$ 256	$ 0
Committee expenses	$ 20	$ 0

Office and general expenses		
Computer and label costs	$ 134	$ 410
Office supplies	2,466	1,439
Postage and freight	4,818	3,568
Telephone	988	820
Accounting and auditing	2,952	2,683
Bank charges	12	(5)
Insurance	786	772
Depreciation	3,182	2,127
Duplication	3,195	5,089
Miscellaneous	232	527
Storage	240	300
Donations	0	1,010
Dues	185	1,401
Equipment leasing	1,807	1,498
Education	297	0
Total office and general expense	$ 21,294	$ 21,639
Total expenses	$234,202	$255,369
Income from operations	$ 22,867	$ 41
Other income		
Other income	$ 15	$ 457
Interest income	5,064	4,743
(Loss on securities)	(59)	0
Business taxes	(25)	(25)
Other expenses	0	(63)
Total other income	$ 4,995	$ 5,112
Net income	$ 27,862	$ 5,153

(The accompanying notes are an integral part of the statement.)

INDUSTRIAL RELATIONS RESEARCH ASSOCIATION
Madison, Wisconsin

Statements of Changes in Fund Balance
For t e Years Ended December 31,

	1993	1992
Unrestricted fund balance, beginning balance	$ 30,612	$ 23,918
Prior period adjustment	0	1,531
Net income	27,862	5,153
Unrestricted fund balance, ending balance	$ 58,474	$ 30,612

(The accompanying notes are an integral part of the statement.)

INDUSTRIAL RELATIONS RESEARCH ASSOCIATION
Madison, Wisconsin

Statements of Changes in Financial Position
For the Years Ended December 31,

	1993	1992
Financial resources provided by:		
Operations:		
Net income	$ 27,862	$ 5,153
Item not affecting cash and short term investments: Depreciation	3,182	2,127
Decrease in prepaid expenses	1,482	0
Increase in dues paid in advance	9,284	5,693
Decrease in inventory	1,189	0
Increase in accounts payable	0	40,050
Decrease in accounts receivable	0	980
Increase in deferred grant income	0	27,500
Increase in endowment fund	25,000	15,000
Increase in subscriptions collected in advance	2,954	0
Total funds provided	$ 70,953	$ 96,503

Uses of funds:		
Decrease in accounts payable	$ 69,714	$ 0
Increase in accounts receivable	1,276	0
Increase in prepaid expenses	0	2,199
Increase in inventory	0	3,289
Purchase of equipment	7,272	285
Decrease in subscriptions collected in advance	0	3,459
Decrease in deferred grant income	7,500	0
Total uses of funds	$ 85,762	$ 9,232
Increase (decrease) in cash and short term investments	$(14,809)	$ 87,271
Cash and short term investments		
Beginning of year	$232,832	$145,561
End of year	$218,023	$232,832

(The accompanying notes are an integral part of the statement.)

INDUSTRIAL RELATIONS RESEARCH ASSOCIATION
Madison, Wisconsin

Notes to Financial Statements

NOTE 1—SUMMARY OF SIGNIFICANT ACCOUNTING PROCEDURES

The summary of significant accounting policies of the Industrial Relations Research Association is presented to assist in understanding the Associat on's financial statements.

Organization
The Association is a not-for-profit organization. Its purpose is to provide publ ca ions and services to its members in the professional field of industrial relations.

The Association is exempt from income tax under Section 501(c)3 of the Internal Revenue Code. However, net income from the sale of membership mail ng lists and newsletter advertising is unrelated business income, and is taxable as such.

Investments
Investments include balances held in the Kemper Government Securities Fund and the Kemper Money Market account. Shares in the Government Securit es Fund were traded at $9.16 p r sh re at year end. Funds are stated at lower of cost or market.

Inventory
The Association's inventory of research volumes, proceedings and prior newsletters is carried at the lower of cost or market value.

Property, Plant and Equipment
Property, plant and e uipment are carr ed at cost. Depreciation is provided using the straight l ne method over an estimated five to seven year useful life.

Membership Dues—Advance Subscriptions Collected
Membership dues and subscriptions are assessed on a calendar year basis and are recognized on an accrual basis. Funds received for the upcoming 1994 and 1993 calendar years are reflected as deferred income on the balance sheet.

ALPHABETIC LIST OF AUTHORS

You are invited to become a member of

THE INDUSTRIAL RELATIONS RESEARCH ASSOCIATION

The Industrial Relations Research Association (IRRA) was founded in 1947 by a group who felt that the growing field of industrial relations required an association in which professionally minded people from different organizations could meet. It was intended to enable all who were professionally interested in industrial relations to become better acquainted and to keep up to date with the practices and ideas at work in the field. To our knowledge there is no other organization that affords the multi-party exchange of ideas we have experienced over the years—a unique and invaluable forum. The word "Research" in our name reflects the conviction of the founders that the encouragement, reporting, and critical discussion of research is essential if our professional field is to advance.

Our membership of 4,500 includes representatives of management, unions, and government; practitioners in consulting, arbitration, mediation, and law; and scholars and teachers representing many disciplines in colleges and universities in the United States and Canada, as well as abroad. Among the disciplines represented in the Association are administrative sciences, anthropology, economics, history, law, political science, psychology and sociology, as well as industrial relations. Libraries and institutions who are interested in the publications of the Association are also invited to become members and, thereby, subscribers to the publications. Organizational memberships in the Association are also available.

Membership dues cover publications for the calendar year from January 1 through December 31 and entitle members to the *Proceedings of the Annual Meeting*, *Proceedings of the Spring Meeting*, a special research volume, a membership *Directory* every four years, quarterly issues of the *Newsletter*, and semi-annual issues of *Dialogues*.

Dues for the 1994 calendar year membership are listed below.

Canadian and foreign payments must be made in U.S. dollars by cashier's check or international money order—plus $8.00 to cover postage.

Regular Membership	$ 52.00
Family Membership (at same address, no additional publications)	5.00
Contributing Membership	100.00
Retired Membership (must be a member for at least 10 years and not now gainfully employed)	22.00
Student Membership (Full-time)	22.00
Institutional or Library Subscription	52.00

Some members also make additional tax deductible financial contributions to the Association.

If you are not already a member, we invite you to join the IRRA by sending your membership application and dues payment. Inquiries regarding membership, meetings, and publications should be addressed to the IRRA office.

INDUSTRIAL RELATIONS RESEARCH ASSOCIATION (phone: 608/262-2762; fax: 608/265-4591) 7226 Social Science Building, University of Wisconsin, 1180 Observatory Drive, Madison, WI 53706-1393.

Sincerely yours,

Lynn R. Williams

Lynn R. Williams
IRRA President 1994

ISBN 0-913447-59-5

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