What Do Unions Do?
Unionization, Work Innovations,
and Firm Performance in Jamaica

Gangaram Singh
San Diego State University

Noel Cowell
University of the West Indies

Abstract

To respond to competition emanating from globalization, many firms have adopted work innovations that are related to human resource management (job analysis, employment tests, performance appraisals, and internal promotions), high performance work systems (total quality management, quality circles, job rotation, and teams), training, and employee involvement (information sharing, attitude surveys, worker-management committees, and grievance procedures) (Huselid 1995; MacDuffie 1995; Osterman 1994; Kaufman 1991). Research has shown that work innovations have a positive impact on firm performance (Ichniowski et al. 1996). Our objective is to examine the impacts of the presence of a union on the adoption of work innovations and firm performance as well as the impacts of work innovations on firm performance. Our data are taken from a national survey conducted in 1995 in Jamaica. The results of a structural equation model (SEM) show that unions are neither an impediment nor an encouragement to work innovations and firm performance. Our data also show that work innovations are not a determinant of firm performance. Based on these results, we argue that unions cannot be demonized for impeding work innovations and firm performance. Work innovations, in addition, may not have universal applicability (Osterman 1994).

Author's address: Department of Management, College of Business Administration, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182

Theory and Research

An Orthodox View

Unions are conventionally viewed as a source of inefficiency because they create a monopoly (Hirsch and Addison 1986). Unions, from an allocative efficiency perspective, do not allow the market to determine the equilibrium for the supply of and demand for labor. They impose a wage rate that can result in the misallocation of resources away from high-quality workers and capital toward workers who perform at a sub-optimum level. Estimates of efficiency loss are very modest (Harberger 1954; Rees 1963; DeFina 1983). Rees (1963), for example, estimates that the output loss for 1957 in the United States was 0.14 percent of the GNP. Such estimates, though, do not include unemployment effects and the cost of creating and maintaining a cartel (Hirsch and Addison 1986).

In terms of technical efficiency, unions, it is alleged, impose restrictive practices. Restrictive practices can be imbedded in the "rule book" and can include the inflexible deployment of workers and the rate of work (Rees 1963; Flanders 1964). On the face, it seems as though these imbedded restrictions can lower productivity, but empirical evidence is scarce. Using the number of pages in a collective agreement as a proxy for restrictions, Ichniowski (1984) shows that productivity is inversely related to the number of work rules. Hirsch and Addison (1986) caution that such a lower level of productivity can be ameliorated if "rules" reduce the likelihood of a strike.

The final argument in favor of the negative impacts of unions relates to outputs and strikes. An average strike impedes productivity growth by 0.5 percentage point (Maki 1983). Neumann and Reder (1984), however, show that struck firms substitute production over time and non-struck firms pick up the slack, thereby reducing the effects of a strike on aggregate outputs. Without adjusting production substitution, therefore, it is very difficult to conclude that strikes impede productivity or performance.

H1a: Unionized firms are likely to perform worse than nonunionized firms.

H1b: Unionized firms are likely to have a lower level of work innovations than nonunionized firms.

An Alternative View

A whole new school of thought has emerged to show the positive impacts of unions. The exit-voice paradigm provides the foundation for this school of thought (Hirschman 1970), but it is Freeman and Medoff (1984) who are credited with popularizing this view. Union-induced improvements can be summarized into the following categories: X-efficiency and shock effects, collec-

tive voice, and idiosyncratic exchange (Hirsch and Addison 1986). X-efficiency exists in a workplace when capital and labor are not utilized to their full potential (Leibenstein 1966). The motivation of workers and organizational structure underlie X-efficiency. Unions can provide a source of motivation and can "shock" management into better organizational structure. The shock effect is only possible, however, if X-efficiency existed before the union enters into the picture (Hirsch and Addison 1986).

The concept of collective voice has emerged as the main argument in favor of union-induced improvements (Freeman 1976; Freeman and Medoff 1984). Workers get entrenched in their jobs and the workplace and this makes quitting very difficult. They then seek to improve their lives by voicing their views, which contributes to the prosperity of the firm. Looked at differently, workers' job security and livelihood are tied to their work and, as such, they make decisions that are consistent with the long-term prosperity of the firm. Voice can lead to autonomy, which can induce productivity. The union collects the common voice of the workforce, monitors individual effort, and enables the best utilization of limited resources. These potential gains are entirely contingent on management's response to collectivization and the union's views on work reorganization (Hirsch and Addison 1986).

Workers who have skills that cannot be easily transferred have an incentive to participate in the governance of the firm (Williamson et al. 1975). One immediate goal is to make the employment relationship regulated. Instead of the owner, the union monitors the managers of the firm. Such monitoring can lead managers to do a better job (Kuhn 1985). This is a very optimistic view since the union can also use such power to extract rents from the owner of the firm (Hirsch and Addison 1986).

H1c: Unionized firms are likely to perform better than nonunionized firms.

H1d: Unionized firms are likely to have a higher level of work innovations than nonunionized firms.

Work Innovations and Firm Performance

Theories of economics have been used to explain a positive relationship between work innovations and firm performance. From a human capital perspective (Becker 1964), investments in knowledge, skills, and abilities will yield higher productivity and better firm performance (Youndt et al. 1996). Ichniowski et al. (1996) proposed that focusing on work innovations helps to remove inefficiencies from the workplace and employees then respond with a greater degree of motivation and job satisfaction, which results in better performance. It is, however, the resource-based view that has been used the most to explain

a positive relationship between work innovations and firm performance (Wright and McMahan 1992). Organizational economists (Ricardo 1817; Schumpter 1934) have argued that it is the internal resources of an organization that form the basis of sustainable competitive advantage. Barney (1991) argued that the acquisition, development, and retention of human resources are important sources of competitive advantage. One root cause of such competitive advantage (with respect to work innovations) is inimitability, which is linked to the concepts of unique historical conditions, causal ambiguity, and social complexity (Wright et al. 1994). Each organization follows a unique path to its current state and the development of work innovations, provides its own explanation for the development of work innovations, and contains the social relationships that contribute to functionality (Pfeffer 1994). A large body of evidence supports a positive relationship between work innovations and firm performance (see Huselid 1995).

H2: Firms with higher levels of work innovations are likely to perform better than those with lower levels of work innovations.

Methods

The data for this paper are taken from a study designed to measure the adoption, diffusion, and impacts of work innovations in Jamaica. The study is the first of its kind to be conducted in that country. Hence, its design and administration received extensive support. The Workforce Development Consortium (a body jointly established by the Private Sector Organization of Jamaica and the Jamaican Confederation of Trade Unions) provided financial and administrative support. This included convening a group of top human resource management professionals drawn from the Jamaican Employers Federation and from academia to constitute an oversight committee to monitor the administration to ensure that the instrument was relevant to the Jamaican context and to improve the likely response rate.

Establishments were selected from a master list provided by the Statistical Institute of Jamaica. The list contained 2,196 establishments. After excluding not-for-profit and public sector establishments, the result was a sampling frame of 1,726 establishments. A non-proportional random sample of 562 establishments was selected. Two hundred one usable responses were returned (the response rate was 36 percent). This high level of response reflects the strategy to split the questionnaire into two parts. The first part contained questions that were deemed in the pre-test as "easy to answer" and could be gathered through a mailed survey. Questions with respect to work innovations, on the other hand, were classified as "difficult to understand." For these questions, a trained interviewer conducted the survey.

In the mailed part of the questionnaire, respondents were asked to report on firm performance. Seven perceptual measures of firm performance were gathered (1 = much worse and 5 = much better). Respondents were asked a slightly modified version of the question used earlier in the United States National Organizational Survey (Kallenberg and Moody 1996; Delaney and Huselid 1996): "Compared to other organizations in [NAME SECTOR], how would you rate [NAME ESTABLISHMENT'S] performance over the last 5 years in terms of [READ LIST]." The "sector" refers to the particular industrial sector in which the business falls, the "establishment" refers to the particular establishment sampled, and the "list" refers to one of seven dimensions of firm performance. The seven performance measures are marketing (MKTPERF), sales (SALPERF), profitability (PROPERF), market-share (SHRPERF), quality of output (QUAPERF), customer satisfaction (CUSPERF), and relations between workers and managers (RELPERF). As can be seen, these outcomes reflect dimensions of the balance scorecard (Kaplan and Norton 2001).

The obvious limitation of perceptual measures is their subjectivity. However, Delaney and Huselid (1996), who also used perceptual measures, pointed out that it is not unprecedented to use such measures and cite studies that have found moderate to strong positive correlation between objective and perceptual measures of firm performance. The most compelling argument for their use in our context, however, is the unavailability of an alternative. Even though the JNSWP included items seeking to measure actual performance, respondents were either unwilling or unable to provide such information. The option of searching the annual reports of publicly traded "single-establishment" corporations was foreclosed because of the fact that only a small percentage of the sampled establishments fell into this category. Finally, in the case of a number of subsidiaries or branches of larger corporations, no independent data were available on performance.

Thirteen work innovations are gathered from the literature (MacDuffie 1995; Bassi 1995; Pfeffer 1994; Ichniowski et al. 1995; Lawler et al. 1992; Arthur 1994; Osterman 1994). In the face-to-face interview, the respondents were asked to report what percentage of nonmanagerial employees have jobs that are subject to a formal job analysis process (ANALYSIS); are administered a formal employment test (besides being required to fill out an application) prior to hiring (EMPTEST); received formal performance appraisal (APPRAISE); in non-entry level jobs were recruited from within the organization (PROMOWITH); participate in Total Quality Management (TQM, ISO 9000, or similar quality oriented programs) (TQM); participate in quality circles or productivity councils (QC); participate in job enrichment, job enlargement, or job rotation programs (JOB); participate in autonomous or semi-

autonomous work teams (TEAMS); are regularly included in information sharing programs (e.g., a newsletter, regular meetings) (INFOSHARE); are regularly asked to complete attitude surveys (ATTITUDE); participate in consultative or co-decision-making worker-management committees (WMCOMM); and have access to formal grievance procedure or complaint resolution system (GRIEVANCE). The final innovation, training, is captured by asking the following question: about how much money was spent on training during the last twelve month period (TRAIN)?

Unionization is defined and measured as a dummy variable. Respondents were asked to indicate if their establishment was organized by one or more trade unions (1 = Yes and 0 = No).

Results

Table 1 shows the mean, standard deviation, and correlation of firm performance and work innovations. Average firm performance is highest for CUSPERF and lowest for PROPERF. Average adoption of work innovations was highest for INFOSHARE and lowest for QC. On average, firms spent just over J$1 million on training. The results show that the seven measures of firm performance are positively correlated with each other at $p < .05$. Several of the work innovations variables are also correlated (e.g., ANALYSIS, EMPTEST, APPRAISE, TRAIN, TQM, QC, JOB, TEAMS, INFOSHARE, WMCOMM, and GRIEVANCE). MKTPERF is positively correlated with ANALYSIS ($r = .16$, $p < .05$), TQM ($r = .26$, $p < .05$), and ATTITUDE ($r = .20$, $p < .05$). SALPERF is positively correlated with TQM ($r = .16$, $p < .05$). QUAPERF is positively correlated with TQM ($r = .17$, $p < .05$). CUSPERF is positively correlated with TQM ($r = .21$, $p < .05$) and QC ($r = .19$, $p < .05$), and negatively correlated with GRIEVANCE ($r = -.18$, $p < .05$). Results of correlation analysis, therefore, show that firm performance is positively related to ANALYSIS, ATTITUDE, TQM, and QC.

Table 2 shows results of the ANOVA of firm performance by union status. Almost 40 percent of the firms were unionized. However, the mean levels of firm performance for unionized and nonunionized firms are not statistically different at $p < .05$. The results of ANOVA, as such, do not support that unions impede firm performance.

In Table 3, we report the means of the thirteen work innovations by union status. None of the differences between the unionized and nonunionized firms is statistically significant at $p < .05$. ANOVA results, therefore, do not support the assertion that unions are an impediment to work innovations.

The preceding analyses, however, have two limitations. First, as we have seen in Table 1, the individual measures of firm performance and work innovations are correlated with each other, sometimes at very high levels. Second,

TABLE 1

Mean, Standard Deviation, and Correlation of Work Innovations and Firm Performance

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. MKTPERF	3.93	1.09																			
2. SALPERF	3.82	1.02	0.47																		
3. PROPERF	3.37	1.01	0.31	0.54																	
4. SHRPERF	3.61	0.88	0.43	0.52	0.46																
5. QUAPERF	4.3	0.83	0.44	0.3	0.28	0.49															
6. CUSPERF	4.31	0.8	0.44	0.33	0.37	0.38	0.59														
7. RELPERF	4.26	0.8	0.27	0.22	0.33	0.18	0.28	0.33													
8. ANALYSIS	39.69	44.82	0.16	0.07	0.09	0.09	-0.01	0.12	0.11												
9. EMPTEST	45.56	43.49	0.02	0.05	-0.01	-0.06	-0.12	-0.02	-0.07	0.25											
10. APPRAISE	58.02	44.01	-0.07	0.02	0.04	-0.01	-0.05	-0.09	-0.07	0.42	0.21										
11. PROMOWITH	36.53	39.08	0.13	0.03	0.06	0.03	0.1	0.05	0.08	0.13	0.22	0.11									
12. TRAIN	1E+06	3E+06	0.01	0.02	-0.02	0.04	0.02	-0.04	-0.14	0.21	0.08	0.05	0.15								
13. TQM	30.89	40.05	0.26	0.16	0.11	0.08	0.17	0.21	0.1	0.38	0.35	0.28	0.25	0.2							
14. QC	15.44	28.53	0.13	0.01	0.05	0.11	0.14	0.19	0.14	0.34	0.12	0.21	0.18	0.09	0.35						
15. JOB	25.53	34.39	0.12	-0.04	-0.06	0.1	-0.01	0.02	0.01	0.28	0.11	0.25	0.11	-0.06	0.16	0.16					
16. TEAMS	33.87	38.79	0.08	-0.08	-0.06	0.12	0.1	0.01	-0.02	0.18	0.15	0.16	0.03	0.06	0.19	0.31	0.31				
17. INFOSHARE	75.61	38.79	0.06	0.04	-0.06	0.05	-0.02	0.05	-0.09	0.25	0.2	0.37	0.26	0.1	0.27	0.15	0.22	0.21			
18. ATTITUDE	21.98	36.67	0.2	0.13	0.08	0.03	0.07	0.01	-0.02	0.14	0.18	0.18	0.27	0.17	0.37	0.32	0.13	0.04	0.18		
19. WMCOMM	22.5	33.37	0.14	0.01	-0.11	0.04	0.1	0.03	0.09	0.26	0.02	0.1	0.31	0.02	0.33	0.31	0.14	0.13	0.25	0.27	
20. GRIEVANCE	69.39	42.04	-0.06	-0.01	-0.1	0.02	-0.09	-0.18	-0.07	0.28	0.22	0.36	0.06	0.13	0.21	0.24	0.34	0.32	0.25	0.15	0.07

Notes: N = 201.

Correlations over .18 are statistically significant at $p < .05$.

TABLE 2

ANOVA of Firm Performance by Union Status

Firm Performance	Union Status		
	No	Yes	F-Value
MKTPERF	4.01	3.79	2
SALPERF	3.78	3.89	0.62
PROPERF	3.34	3.43	0.42
SHRPERF	3.61	3.62	0.01
QUAPERF	4.34	4.24	0.68
CUSPERF	4.32	4.29	0.04
RELPERF	4.26	4.25	0.01

Note: N = 201.

TABLE 3

ANOVA of Work Innovations by Union Status

Firm Performance	Union Status		
	No	Yes	F-Value
ANALYSIS	38.85	41	0.11
EMPTEST	41.72	51.56	2.46
APPRAISE	55.81	61.5	0.8
PROMOWITH	36.54	36.51	0.01
TRAIN	1098594	896432	0.23
TQM	29.01	33.84	0.69
QC	16.48	13.83	0.41
JOB	26.28	24.34	0.15
TEAMS	35.38	31.49	0.48
INFOSHARE	73.62	78.72	0.83
ATTITUDE	25	17.25	2.15
WMCOMM	24.09	20.01	0.71
GRIEVANCE	69.54	69.16	0.01

Note: N = 201.

in Table 1, we treat work innovations as exogenously determined. To address these methodological concerns, we estimate a SEM (Byrne 2001). Firm performance is treated as an unobserved variable composed of MKTPERF, SALPERF, PROPERF, SHRPERF, QUAPERF, CUSPERF, and RELPERF. Work innovations are also considered to be an unobserved variable that is made up of ANALYSIS, EMPTEST, APPRAISE, PROMOWITH, TRAIN, TQM, QC, JOB, TEAMS, INFOSHARE, ATTITUDE, WMCOMM, and GRIEVANCE. Union status is considered as an observed variable. The structural component

accounts for the relationship between union status and firm performance, union status and work innovations, and work innovations and firm performance.

The results of the SEM are reported in Figure 1. While the fit of the model is adequate (χ^2 = 320.14, DF = 187, and P = .001), none of the structural coefficients (standardized) is statistically significant at $p < .05$. Results of the SEM, therefore, show that unions do not impede work innovations and firm performance. Our results also indicate that work innovations do not determine firm performance.

Conclusion

None of the hypotheses (H1a, H1b, H1c, H1d, and H2) received support from the data we collected in Jamaica. We conclude, as such, that unionization has no effect on work innovations and firm performance. Neither the orthodox view (Hirsch and Addison 1986; Harberger 1954; Rees 1963; DeFina 1983; Flanders 1964; Ichniowski 1984; Maki 1983; Neumann and Reder 1984) nor the emerging view with respect to collective voice (Hirschman 1970; Freeman and Medoff 1984; Hirsch and Addison 1986; Leibenstein 1966; Freeman 1976; Williamson et al. 1975; Kuhn 1985) is supported by the data from Jamaica. Work innovations, in addition, do not determine firm performance as past research has indicated (Becker 1964; Youndt et al. 1996; Ichniowski et al. 1996; Wright and McMahan 1992; Ricardo 1817; Schumpter 1934; Barney 1991; Wright et al. 1994; Pfeffer 1994; Huselid 1995).

The competing effects of a union could be the explanation for our finding of a statistically insignificant relationship between union status and firm performance and union status and work innovations. However, work innovations

FIGURE 1
Results of the SEM Unionization, Work Innovations, and Firm Performance
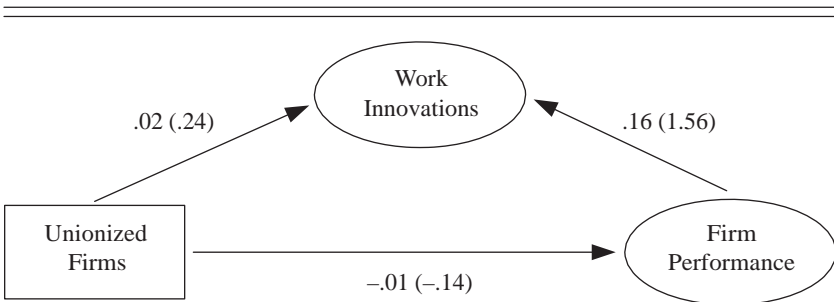
X^2 = 320.14, DF = 187, P = .001, GFI = .87, and RMSEA = .06

based on theory and past research should have positively affected firm performance. We offer methodological explanations for the difference. Our measures of firm performance and work innovations are not exactly the same as past research. Past research focused on productivity and profitability (e.g., Huselid 1995) and selected work innovations (e.g., employee participation [Osterman 1994]). We used self-reported measures reflecting elements of the balance scorecard (Kaplan and Norton 2001) and a list of work innovations based on past research (MacDuffie 1995; Bassi 1995; Pfeffer 1994; Ichniowski et al. 1995; Lawler et al. 1992; Arthur 1994; Osterman 1994). Our analytic technique, the SEM, is also different from past research. At a minimum, therefore, the hypothesized positive relationship between work innovations and firm performance is not robust across different definitions and specification.

Given the pervasive role of unions in a developing economy (Kuruvilla and Mundell 1999), it is surprising that unionization would have no impact on work innovations and firm performance. This is encouraging news for advocates of unions. Often branded as the bastion of inefficiency and a source of corporate downfall, we find no evidence of the ill effects of unions on work innovations and firm performance. At worst, they have no effect on the adoption of work innovations and the performance of the firm. But this is not the final word. We sincerely hope that our study will inspire more research on the effects of unionization on work innovations and firm performance in the developing world. Unions play an important role in the growth of such economies (Adams et al. 1999). It would be a real loss to relegate unions to the "inefficiency basket" without understanding their real effects on work innovations and firm performance.

References

Adams, R., N. Cowell, and G. Singh. 1999. "The Making of Industrial Relations in the Commonwealth Caribbean." In *Colonialism, Nationalism, and the Institutionalization of Industrial Relations in the Third World,* ed. Sarosh Kuruvilla and Brian Mundell. Greenwich, Conn.: JAI Press.

Arthur, J. 1994. "Effects of Human Resource Systems on Manufacturing Performance and Turnover." *Academy of Management Journal,* Vol. 37, pp. 670–87.

Barney, J. 1991. "Firm Resources and Sustained Competitive Advantage." *Journal of Management,* Vol. 17, pp. 99–120.

Bassi, L. 1995. "Upgrading the US Workforce: Do Reorganization, Education Help?" *Monthly Labor Review,* Vol. 118, pp. 37–47.

Becker, G. 1964. *Human Capital.* New York: National Bureau of Economic Research.

Byrne, B. 2001. *Structural Equation Modeling with AMOS.* Mahwah, N.J.: Lawrence Erlbaum Associates.

DeFina, R. 1983. "Unions, Relative Wages, and Economic Efficiency." *Journal of Labor Economics,* Vol. 1, pp. 408–29.

Delaney, J., and M. Huselid. 1996. "The Impact of Human Resource Management Prac-

tices on Perceptions of Organizational Performance." *Academy of Management Journal,* Vol. 39, pp. 949–64.

Flanders, A. 1964. *The Fawley Productivity Agreements*. London: Faber and Faber.

Freeman, R. 1976. "Individual Mobility and Union Voice in the Labor Market." *American Economic Review,* Vol. 66, pp. 361–68.

Freeman, R., and J. Medoff. 1984. *What Do Unions Do?* New York: Basic Books.

Harberger, A. 1954. "Monopoly and Resource Allocation." *American Economic Review,* Vol. 44, pp. 77–87.

Hirsch, B., and J. Addison. 1986. *The Economic Analysis of Unions: New Approaches and Evidence.* Boston: Allen and Unwin.

Hirschman, A. 1970. *Exit, Voice, and Loyalty*. Cambridge, Mass.: Harvard University Press.

Huselid, M. 1995. "The Impact of Human Resource Management on Turnover, Productivity, and Corporate Financial Performance." *Academy of Management Journal*, Vol. 38, pp. 635–60.

Ichniowski, C. 1984. "Ruling Our Productivity? Labor Contract Pages and Plant Performance." Working Paper No. 1368, National Bureau of Economic Research, Cambridge, Mass.

Ichniowski, C., T. Kochan, D. Levine, C. Olson, and G. Strauss. 1996. "What Works at Work: Overview and Assessment." *Industrial Relations,* Vol. 35, pp. 299–333.

Ichniowski, C., K. Shaw, and G. Prennushi. 1995. *The Impact of Human Resource Management Practices on Productivity*. Working Paper No. 5333, National Bureau of Economic Research, Cambridge, Mass.

Kallenberg, L., and J. Moody. 1996. *Organizations in America: Analyzing Their Structure and Human Resource Practices.* Thousand Oaks, Calif.: Sage.

Kaplan, R., and D. Norton. 2001. *The Strategy Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment.* Boston: Harvard Business School Press.

Kaufman, R. 1991. "The Effects of IMPROSHARE on Productivity." *Industrial and Labor Relations Review,* Vol. 45, pp. 311–22.

Kuhn, P. 1985. "Union Productivity Effects and Economic Efficiency." *Journal of Labor Research,* Vol. 6, pp. 229–48.

Kuruvilla, S., and B. Mundell. 1999. *Colonialism, Nationalism, and the Institutionalization of Industrial Relations in the Third World*. Greenwich, Conn.: JAI Press.

Lawler, E., S. Mohrman, and G. Ledford. 1992. *Employee Involvement and Total Quality Management: Practices and Results in Fortune 1000 Companies*. San Francisco: Jossey-Bass.

Leibenstein, H. 1966. "Allocative Efficiency v. X-Efficiency." *American Economic Review,* Vol. 56, pp. 392–415.

MacDuffie, J. 1995. "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry." *Industrial and Labor Relations Review,* Vol. 48, pp. 197–221.

Maki, D. 1983. "The Effects of Unions and Strikes on the Rate of Growth of Total Productivity of Canada." *Applied Economics,* Vol. 15, pp. 29–41.

Neumann, G., and M. Reder. 1984. "Output and Strike Activity in US Manufacturing: How Large Are the Losses?" *Industrial and Labor Relations Review,* Vol. 37, pp. 197–211.

Osterman, P. 1994. "How Common is Workplace Transformation and Who Adopts It?" *Industrial and Labor Relations Review,* Vol. 47, pp. 174–88.

Pfeffer, J. 1994. *Competitive Advantage Through People: Unleashing the Power of the Workforce*. Boston: Harvard Business School Press.

Rees, A. 1963. "The Effects of Unions on Resource Allocation." *Journal of Law and Economics,* Vol. 6, pp. 69–78.

Ricardo, D. 1817. *Principles of Political Economy and Taxation*. London: G. Bell.

Schumpter, J. 1934. *The Theory of Economic Development.* Cambridge, Mass.: Harvard University Press.

Williamson, O., M. Wachter, and J. Harris. 1975. "Understanding the Employment Relationship: The Analysis of Idiosyncratic Exchange." *Bell Journal of Economics,* Vol. 6, pp. 250–78.

Wright, P., and G. McMahan. 1992. "Theoretical Perspectives for Strategic Human Resource Management." *Journal of Management,* Vol. 18, pp. 295–320.

Wright, P., G. McMahan, and A. McWilliams. 1994. "Human Resources and Sustained Competitive Advantage: A Resource-Based Perspective." *International Journal of Human Resource Management,* Vol. 5, pp. 301–26.

Youndt, M., S. Snell, J. Dean, and D. Lepak. 1996. "Human Resource Management, Manufacturing Strategy, and Firm Performance." *Academy of Management Journal,* Vol. 39, pp. 836–66.