

The Effects of Community Environment on Negotiations

THOMAS L. WATKINS, PH.D.

*Assistant Professor
School of Business Administration
Wayne State University*

ABSTRACT

Labor-management relations have traditionally been viewed as "closed systems," quite apart from the communities in which the parties exist. This study demonstrates that the relationships actually are in part a product of environmental influences over which the parties have little control. (The study excludes teachers.) This study pinpoints some of the specific factors that may affect public sector bargaining.

Practitioners and scholars alike have for many years attempted to determine those factors that cause collective negotiations to break down, to stalemate. In general, the conclusions have been related to characteristics of the parties themselves or to the situation immediately involved. For example, a bargaining impasse might be attributed to the tactics of one of the parties, the insecurity of one or both of them, a recent rise in the cost of living, or a refusal to concede the "pattern" established elsewhere.

This approach may be referred to as "internalism," i.e., explaining bargaining relationships, including impasses, as a unique combination of factors related to a single situation, involving the attitudes, beliefs, and power of the two parties. Significantly, these circumstances are largely within the control of the parties themselves. That these factors exist and do contribute to the experiences at the negotiating table is certain.

The appearance of Milton Derber's "Illini City" study originally suggested a second dimension.¹ Derber advanced the

proposition that labor-management relationships were products not only of the parties themselves, but also of the particular community environment in which the parties existed. More directly, the proposition held that the community itself affects and helps shape its labor relations.

Almost simultaneously, Chamberlain hypothesized that the community can and does influence its labor-management relationships when a bargaining impasse results in a strike which sharply affects the populace.² Chamberlain, however, concluded that most urban residents are inclined to be apathetic about most strikes, and certainly toward labor-management relations in general. Thus, for Chamberlain, in the absence of strikes the community has little concern for labor-management behavior and it exerts little influence on the relationships.

Form and Miller³ found a more dynamic association between the community and its labor-management relations. Like Derber, the factors in the community environment were felt to exert pressure on labor-management conflict, and presumably upon the relationships as a whole. A complex model was developed to show the variety of community influences. But like Chamberlain, Form and Miller concluded that community forces are most clearly manifested during periods of prolonged strikes.

To phrase it differently, the latter authors proposed that labor relations become relevant to the larger community only when difficulty is experienced in bargaining. Derber's findings would add that certain characteristics of the community itself, over which the parties have virtually no control, actually helped shape the relationship. This proposition is without significant support beyond "Illini City." As Derber noted, it is "a useful hypothesis for further study."

It would seem that the public sector is a natural arena for investigating the Derberian proposition. It can be assumed that environmental constraints, to the extent they exist, are at least as likely to affect labor-management relations in the public sector as they are to influence those relations in the private sector. Indeed, if the community environment does influence all such collective bargaining relationships, this impact should be most readily observable in the public sector. Therefore, an investigation was undertaken to examine the Derberian proposition of community influence on labor-management relationships as it may exist in the public sector and as evidenced by the degree of bargaining difficulty experienced.

Although the Derberian proposition was concerned with the entire labor-management relationship, Derber was able to specifically identify two implications of community influence that directly apply to the bargaining relationship: the degree of joint problem-solving, and the attitude toward the entrance of "third-party neutrals." On that basis, it is reasonable to relate this proposition directly to negotiating difficulty. In fact, this was held by both Chamberlain and Form and Miller to be the only circumstance in which community influences move to an operational level.

Thus, stated simply, the purpose of the instant study was to ascertain the possible effects of community environment upon public sector labor-management relations, specifically as manifested by the existence of negotiating difficulty.

Selection of the State

Michigan was felt to be a desirable laboratory for this investigation since most observers feel that the trend has been and will likely continue to be for the various states to enact complex public sector laws, particularly of the "comprehensive" type extant in Michigan and perhaps a dozen other states.

Much recent research has analyzed the results of various state laws governing public sector labor relations, but relatively little of this has been conducted within each state on a city-by-city basis. Yet, if it could be shown that under a particular state law bargaining difficulties may be in part a product of the communities' environments, such information would have significant implications not only for that particular state and others considering similar legislation, but also for the Derberian proposition of viewing labor-management relationships as "open systems."

The Michigan law relating to public sector employee relations is Act 379 of the Public Acts of 1965, "The Public Employment Relations Act" (PERA). Except for the strike prohibition, PERA is very similar to the National Labor Relations Act in terms of recognition, unit determination, and overall administration, and is an excellent example of "comprehensive" coverage and provisions.

The 36 cities included in the study constitute all incorporated cities in the state with a 1965 estimated population of 25,000 or more, except Detroit and two others. Within the cities, only

those employee organizations bargaining directly with city officials were included.*

Research Design

The municipalities were characterized through the use of fourteen *environmental factors* that were held to be representative of the "areas of influence" originally suggested by Derber:

A. *Demographic Characteristics*

1. population size
2. population density
3. growth rate

B. *Social Characteristics*

4. racial balance (percentage non-white)
5. educational level (median years of school completed)
6. age level (median of population)

C. *Economic Characteristics*

7. income level (average family)
8. unemployment level (average)

D. *Political Characteristics*

9. type of governmental structure (mayor or manager)
10. political party preference and dominance (whether Democratic or Republican)

E. *Industrial Characteristics*

11. degree of industrialization by residence (percentage of the residents of a city working in manufacturing industries)
12. manufacturing influence by work place (percentage of manufacturing employment in a city)

F. *Labor Relations Characteristics*

13. blue collar influence (percentage of city's labor force engaged in blue collar occupations)
14. union militance (both strike severity and strike frequency in the city's private sector)

*Detroit was omitted because the city negotiates with fifteen times as many units as any other city in the state, a factor which would cause the statistical analysis to be distorted. Two other cities were incorporated too recently to obtain necessary data. Teachers and sometimes nurses and transit workers were excluded since they bargain with "boards" rather than with city officials.

The effort was to determine whether any of these characteristics could be found related to "negotiating difficulty," the dependent variable. This particular aspect of the relationship, bargaining difficulty, was investigated due to the importance placed upon it by all of the prior research cited as well as its importance to the public at large. During the five-year period of the study, negotiating difficulty was presumed to have occurred if 1) a strike ensued, or 2) the parties required mediation assistance in bargaining.* These two phenomena are hereafter referred to as "measures" of the dependent variable.

In terms of impact on the public welfare, the first measure, Strike Incidence (SI), constitutes the most significant indication of a bargaining breakdown. A strike was defined as any concerted work stoppage of one day or longer, and included "mass resignations," "blue flu," "slowdowns," etc. Strike Incidence was measured in absolute terms; i.e., the cities were ranked on the basis of the number of strikes which occurred.

However, bargaining between employers and employee representatives frequently reaches impasse, yet a work stoppage does not occur. Instead, at the point of impasse a governmental agency is petitioned for mediation assistance. If a neutral third party was required when negotiating a particular labor agreement, this involvement of a mediator was held to be evidence of a breakdown in bargaining. Therefore, Mediation Dependency (MD), the reliance upon mediation expressed as a percentage of the total number of contracts negotiated, was the second measure of the dependent variable, negotiating difficulty.

The 36 cities were then ranked (1 to 36) on each of the 14 environmental characteristics, and on both measures of negotiating difficulty.

Statistical Approach

To support conclusions regarding the effects of environment, it was necessary to determine the statistical relationships between each of these environmental characteristics and each of the two measures of the dependent variable.

*Other possible indications of negotiating difficulty were not included. A request for fact-finding, for example, is evidence of bargaining table disharmony, yet information concerning fact-finding was omitted to avoid redundancy: The Michigan statute provides that fact-finding shall follow the exhaustion of mediation efforts. "Interest arbitration" would be still another indication of negotiating difficulty, but was also omitted because of its use only in disputes involving public safety organizations.

Both parametric and nonparametric approaches are available for analyzing such data sets, but parametric correlation techniques require that the observations be drawn from populations that are normally distributed. Such an assumption cannot be made in this study. Therefore, a nonparametric technique was more appropriate. With a nonparametric procedure, no assumptions about the distribution of the population need be made. That is, the accuracy of the probability statement does not depend on the shape of the population.

Two nonparametric techniques are commonly employed to test for significance of correlation of ranked data: the Kendall tau and the Spearman rho. Both utilize the same amount of information in the data and both have the same ability to detect the existence of association.⁴ However, the numerical scales of the two are different, and the Spearman rho (r') was selected because the correlation coefficients which result* are comparable to those which result from the technique used with the one dichotomous variable (type of government).**

The statistical tests were employed with each of the fourteen independent variables and each measure of negotiating difficulty,

*The Spearman rho is calculated as follows:

$$r' = 1 - \frac{6(\sum d^2)}{n(n^2 - 1)}$$

where n = the number of pairs (normally 36 in this study),

and

d = the difference between the ranks of the two variables (one independent, one dependent) for each pair (city).⁵

**Type of Government, as one of the independent variables, is dichotomous and, therefore, cannot be ranked. Thus, a separate technique was employed for this variable, the point-biserial correlation. This test enables detection of association between one variable that is continuous (e.g., Mediation Dependency) and one that is dichotomous. Since the procedure results in a correlation coefficient, r_{pb} , that is comparable to the Spearman rho, both can be checked for significance on a single standard.

The point-biserial correlation coefficient is calculated as follows:

$$r_{pb} = \frac{\bar{Y}_1 - \bar{Y}_2}{s_y} \sqrt{\frac{N_1 N_2}{N(N - 1)}}$$

Where \bar{Y}_1 = the mean of the values of the continuous variable for cities in dichotomous category 1 (e.g., Mayoral government),
 \bar{Y}_2 = the mean of the values of the continuous variable for all cities in dichotomous category 2 (e.g., Manager government),
 N_1 = the number of cities in dichotomous category 1,
 N_2 = the number of cities in dichotomous category 2,
 N = the total number of cities in the sample, and

Table 1. Rank Correlation Coefficients of Environmental Characteristics and the Two Measures of Negotiating Difficulty

	<i>Strike Incidence</i>	<i>Mediation Dependency</i>
Population size	.545**	.147
Population density	-.053	-.166
Growth rate	.016	-.410*
Racial balance	.635***	.308
Educational level	-.035	-.391*
Age level	.315	.505**
Income	-.201	-.519**
Unemployment	.209	.412*
Type of government	-.137	-.089
Political party preference	.061	-.053
Degree of industrialization	.033	.019
Manufacturing influence	.436*	.332
Blue collar influence	.318	.175
Union militance—Strike severity	-.203	-.171
—Strike frequency	-.145	-.142

*Significant at $\alpha = .05$ **Significant at $\alpha = .01$ ***Significant at $\alpha = .001$

with degrees of freedom equal to 30

Strike Incidence (SI) and Mediation Dependence (MD). This resulted in the coefficients of correlation appearing as Table 1.

Results

The data indicated that some cities experienced greater negotiating difficulty than others. More importantly, certain environmental characteristics could be identified as associated with bargaining breakdowns. In particular, 8 of the 14 tested characteristics were found to be statistically related to one of the two measures of the dependent variable.

s_y = the estimated standard deviation of the population of continuous-variable values from which the sample was taken, as determined by the formula:⁶

$$s_y = \sqrt{\frac{\sum Y^2}{N-1} - \frac{(\sum Y)^2}{N(N-1)}}$$

Clearly, strikes by public employees tended to occur in larger cities rather than smaller ($r' = .545$). Of the 11 cities which experienced a strike, nine were above the median population of 56,400. Generally, larger cities have more public employees, a larger number of bargaining units, and have been negotiating for a longer period of time than smaller cities. However, there was no indication that larger cities have any greater reliance upon third party intervention (MD).

The growth rate of municipal populations demonstrated a significant negative correlation with MD ($r' = -.410$); i.e., the lower the population growth rate, the greater the reliance on mediation assistance tended to be. Population density was found unrelated to either measure of negotiating difficulty.

Among the social characteristics, racial balance was found to be statistically related to Strike Incidence even at a significance level of $\alpha = .001$; i.e., the higher the percentage of non-white population, the more likely it was that the city experienced strikes by its public employees. In fact, this relationship ($r' = .635$) is the only one from all pairs tested which achieved relationship at this significance level.

Both of the other two social characteristics were found related to Mediation Dependency. Educational levels were found to have a significant negative relationship with mediation assistance ($r' = -.391$), while age levels correlated positively ($r' = .505$).

Both economic characteristics demonstrated significant relationships with MD: income levels corresponded negatively ($r' = -.519$), and unemployment corresponded positively ($r' = .412$). In other words, reliance upon mediation was greater in cities with lower income and/or higher unemployment levels.

The manufacturing influence, i.e., the percentage of a city's labor force (by work place) employed in manufacturing firms also demonstrated a significant correlation with Strike Incidence ($r' = .436$). That is, where a large percentage of the persons working in a city were employed by manufacturing firms, the city itself tended to experience a greater number of strikes among its public employees. However, a companion characteristic, the degree of industrialization (the percentage of the city residents employed by manufacturing firms), bore no statistical relationship to either measure of negotiating difficulty.

With regard to assistance from mediation efforts (MD), it was determined that greater reliance existed in those cities with

lower growth rates, lower educational and income levels, and higher age and unemployment levels. It was also determined that these five characteristics have a high degree of cross-correlation, causing some communities to be deemed "stable." These stable cities demonstrated a marked tendency to rely heavily on outsiders for the resolution of bargaining impasses. It could be speculated that the populations of these communities tend to elect city officials with less union orientation, and thus invite some difficulty in collective bargaining.

It is interesting to note that of the eight characteristics which demonstrated statistically significant relationships, the group of five traits correlating with Mediation Dependency is mutually exclusive of the three traits which correlated with Strike Incidence.

Finally, it is perhaps equally important that neither of the two "political" characteristics (type of government, political party preference), nor either of the two "labor relations" characteristics (blue collar influence, union militance) demonstrated any relation to public sector bargaining with the use of either measure of negotiating difficulty. Subjectively, there was reason to hold that these would be among the *most* likely to be associated with the dependent variable.

For example, with respect to one of the two political characteristics, type of government, Moskow et al.⁷ note that there are excellent bases for hypothesizing a relationship with negotiating difficulty due to the likelihood that the elected official will be more sensitive to the electorate than the appointed official. And Steiber⁸ has found a strong association between private and public sector relationships.

Implications

In general, it can be stated that where a Michigan-style law is enacted, some negotiating difficulty will occur, and that to some degree certain communities possessing identifiable characteristics will have more difficulty than others.

Beyond that, however, it may be hypothesized that other states which adopt a "comprehensive-type" law similar to that extant in Michigan may experience similar results in cities possessing characteristics comparable to those in this study. A state containing a large number of "stable" communities may expect to receive a heavier demand for mediation services, since

it was shown that such "stable" cities have greater difficulty in bargaining. It follows that where these cities are plentiful, the state may wish to consider the adoption of a less definitive public sector bargaining law, or prepare for the additional strain on mediation services by adding a significant number of staff mediators, either in a general status or designated specifically for public sector disputes. As an alternative, consideration might be given to two or more cities bargaining jointly. Although the constraints imposed by individual budgets are recognized, neighboring cities with different "critical" characteristics may be able to reduce the likelihood of negotiating difficulty through combined bargaining efforts.

Similarly, it may be advanced that states containing many large, racially balanced or highly industrialized cities may wish to examine other types of laws and different approaches to bargaining. Otherwise, this study indicated that such states should be prepared to cope with public employee work stoppages, particularly in those cities.

Beyond this, the study supports and extends the Derberian proposition under a particular set of circumstances, namely,

1. When tested in the public sector among several cities,
2. With the areas of influence defined by fourteen quantified characteristics, and
3. When negotiating difficulty is defined and employed as the device to measure the impact of the community on labor-management relationships.

Conclusion

Clearly, the parallel trends of more public employees, increased public sector bargaining, and additional regulatory legislation will continue. It is also likely that the number of bargainable issues will increase, adding another complex consideration. Beyond the need for protective legislation lies a need for greater expertise on the part of those at the bargaining table, and a greater awareness by the students of industrial relations, the labor relations literature, the negotiating parties, the legislatures, and the administrative agencies, of some of the factors contributing to public sector collective bargaining problems.

Hopefully, this research provides some insight into these latter areas by demonstrating support for the proposition that industrial relations systems are in fact "open systems," i.e., that the

relationships between labor organizations and management are shaped in part by a variety of outside influences.

REFERENCES

1. Milton Derber et al., *Labor-Management Relations in Illini City*, Institute of Labor and Industrial Relations, Champaign, 1953. Also: Milton Derber, "A Small Community's Impact on Labor Relations," *Industrial Relations*, 4(2), Feb., 1965.
2. Neil W. Chamberlain, *Social Responsibility and Strike*, Harper and Bros., N.Y., 1953.
3. William H. Form and Delbert C. Miller, *Industry, Labor and Community*, Harper and Bros., N.Y., 1960.
4. Sidney Siegel, *Nonparametric Statistics for the Behavioral Sciences*, McGraw-Hill, N.Y., 1956, p. 219.
5. James L. Bruning and B. L. Kintz, *Computational Handbook of Statistics*, Scott, Foresman and Co., Ill., 1968, p. 156.
6. *Ibid.*, p. 163.
7. Michael H. Moskow, J. Joseph Loewenberg, and E. C. Koziara, *Collective Bargaining in Public Employment*, Random House, N.Y., 1970, p. 213.
8. Jack Stieber, "The Nature and Extent of Public Sector Unionism," An address delivered to the Industrial Relations Research Association, Detroit Area Chapter, Nov. 5, 1970.

*

*

*

Thomas L. Watkins, Ph.D., is Assistant Professor of Management at Wayne State University, Detroit. As a specialist in labor-management relations, he regularly teaches courses in collective bargaining and related subjects. Dr. Watkins has also served as a consultant on employee relations to both labor and management groups in the public sector.