City Government Bargaining: A Path Analysis

BARGAINING IN THE PUBLIC SECTOR is frequently conceptualized as a multilateral process—one in which more than two distinct interests become involved so that a clear-cut dichotomy between employee and management organizations and union-management positions is not apparent.1 A key factor pushing public sector bargaining out of the bilateral—two-party—mode common in the private sector is interest conflict within management.2 Elected council members, mayors and/or city managers, public commissions (e.g., civil service), professional negotiators, and department or agency administrators tend to have or claim rights to negotiate, ratify, and implement bargaining agreements in the public sector.8

The dispersion of power within public sector management, with its accompanying confusion and conflict over collective bargaining policies and goals, provides public sector unions the opportunity to maneuver among and with segments of management in the furtherance of union interests.4 A number of political pressure and strike-like tactics used by public sector

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4 Kochan, City Employee Bargaining . . .
unions to influence various city government officials during the course of bargaining have been described and their importance in the process of negotiations documented. However, the way in which union tactics interact with managerial characteristics in furthering the development of multilateral bargaining and shaping its structure and process is not well known. In this article a model of the public sector bargaining process is developed and path analysis is employed in an effort to determine the direct and indirect effects of union tactics on internal management conflict and the emergence of multilateral bargaining.

The Model

One of the first systematic attempts to conceptualize the linkages between intraorganizational and interorganizational aspects of the collective bargaining process can be found in the work of Walton and McKersie. One dimension of their theory of the bargaining process centers on the development of intraorganizational conflicts and the bargaining that goes on within negotiating parties to resolve them. Likewise Dunlop has stressed the importance of intraorganizational decision making in collective bargaining:

A great deal of the complexity and beauty of collective bargaining involves the compromise and assessment of priorities within each side. In an important sense collective bargaining typically involves three coincidental bargains—the rejection of some claims and the assignment of priorities to others within the union, an analogous process of assessing priorities or trade-offs within a single management or association, and bargaining across the table.

Building on the above theoretical framework and utilizing the available public sector case study evidence, a two-stage model of the bargaining process was formulated. In the first stage, it is proposed that the degree of goal incompatibility and the degree to which decision-making power is dispersed among management officials lead to internal conflict. In turn, the central

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proposition in the second stage of the model is that internal management conflict leads to multilateral bargaining. Finally, in the initial formulation of the model it was proposed that union political and negotiations pressure tactics also directly affect the degree of multilateral bargaining. While this proposition was supported in the initial test of the multilateral bargaining stage of the model, these union tactics were also found to be correlated with internal conflict. These union tactics apparently act as external pressures on management officials and force them to take a position on the bargaining issues. This results in a higher degree of conflict over the appropriate policy to pursue on these issues. Thus, it appears that these union variables should be entered into both stages of the model and the direct and indirect paths through which their effects are felt carefully defined.

Sample and Methodology

The data for this study were collected by means of mailed questionnaires to management and union officials in approximately 380 cities in 42 states that were bargaining with locals of the International Association of Fire Fighters (IAFF) in 1971. Questionnaires were sent to: management labor negotiators; city managers or mayors; fire chiefs; a random sample of three city council members; members of the civil service commission with jurisdiction over the firefighters; and a representative of the local union. The data obtained from the management officials in each city were then aggregated in order to obtain a city score for each variable included in the analysis. Usable responses were obtained from 65 per cent of the management labor negotiators, 70 per cent of the fire chiefs, 27 per cent of the other city officials, and 59 per cent of the union representatives. From these responses enough data was obtained (responses from two or more city officials) to include 228 cities in the final analysis. Where responses from the management officials in a city were obtained but not from the union official, means were inserted on the union variables in the analysis. A comparison of the characteristics of respondent and nonrespondent cities showed that the respondents tended to be slightly smaller and pay slightly higher wages and fringe benefits than the nonrespondents. A comparison of the wages and working conditions of the IAFF locals in the sample with those reported by 667 IAFF locals around the country showed that the sample cities paid significantly

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\footnote{Space allows only a brief outline of the methodology and research design used in this study. For a complete discussion and for evidence concerning the reliability and validity of the measures used, see Thomas A. Kochan, \textit{Internal Conflicts and Multilateral Bargaining in City Governments} (unpublished Ph.D. dissertation, University of Wisconsin, 1973), Chap. 4 and Appendix.}
higher wages and benefits than found in the 667 cities. The measures of the concepts included in the model are outlined below.

**Goal incompatibility.** Differences in the goals of city officials were measured by asking city officials to rate on a seven-point scale the importance they assigned to 14 goals in making bargaining decisions. The ratings assigned to the goals by each official were then normalized to allow comparisons across the officials within each city. The standard deviation of these normalized scores for all management respondents within each city was then computed for each goal and summed over the 14 goals to provide a summary measure of the degree of goal incompatibility among officials within a city. Cronbach's alpha, a measure of the reliability of this type of index, is .36.

**Dispersion of power.** The city officials were asked to rate on a seven-point scale the relative amount of authority five sets of decision-making units have on five sets of bargaining issues. The responses of all the officials within a city were then averaged and the variance in the distribution of power on each of the issues was computed. An overall variance was then obtained by summing across the five issues and this serves as the measure of the dispersion of power. The higher the variance, the less dispersed the power within the city. Cronbach's alpha coefficient for this index is .36.

**Internal conflict.** Two measures of internal management conflict are used here. City officials were asked to rate on a seven-point scale: (1) the amount of conflict they experienced on five bargaining issues (wages and fringe benefits, departmental rules, management rights, discipline and discharge, and grievance procedure issues), and (2) the amount of conflict experienced with other city officials (mayor or city manager, city council members, fire chief, civil service commission, and labor negotiator). Overall indices of conflict across issues and across officials were obtained by summing the aggregated responses for each of the five items. Cronbach's alpha for the issue conflict index is .68 and for the official conflict index is .62.

**Perceived negotiations pressure tactics.** City officials were asked to rate on a seven-point scale the extent to which the Fire Fighters' local relied on threatening job actions in the formal negotiations process and using state

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10 These 667 locals were ones that responded to an IAFF survey of wages and working conditions in 1972. These data are the best source available for a comparison of our sample to the universe of IAFF locals.

dispute resolution procedures to resolve an impasse. These two items were summed to obtain an overall index of perceived negotiations pressure. Cronbach's alpha for this index is .40.

Union strike pressure tactics. Similarly the union representatives were asked whether the local had engaged in: a work slowdown, a sickout, and picketing. A score of one was again assigned for each tactic engaged in and an overall index was obtained by summing these values. Cronbach's alpha for this index is .50.

Political pressure tactics. To measure the extent to which the local union engaged in direct political pressure during bargaining, union respondents were asked which of these tactics their union had used in the past: appearances before city council meetings; private lobbying with council members; and public demonstrations at council meetings. Cronbach's alpha coefficient for the index obtained by summing these responses is .55.

Perceived political pressure. City officials were asked to rate on a seven-point scale the extent to which the Fire Fighters appealed directly to the mayor or city manager; appealed directly to city council members; and attempted to use publicity in the community in order to achieve their bargaining demands. An overall index of perceived political pressure was then obtained by summing the city scores on these three items. Cronbach's alpha for this index is .32.

Multilateral bargaining. City officials were asked to rate on a seven-point scale the extent to which five types of activities occurred in bargaining in the past with the Fire Fighters. These activities were derived from previous public sector bargaining studies and involve situations which are felt to characterize multilateral bargaining. They are: (1) city officials took action outside negotiations which affected the bargaining leverage of city negotiators; (2) employee representatives discussed bargaining demands with city officials who are not on the formal bargaining team; (3) interest groups in the community became involved in bargaining; (4) city officials overturned or failed to apply agreements reached in negotiations; and (5) elected officials intervened in an attempt to mediate the impasse. The average response of the city officials in each city for each of the five items was summed to obtain

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19 A more complete discussion of the conceptual and operational definitions and measures of the concept of multilateral bargaining is provided in Kochan, "A Theory of Multilateral Collective Bargaining. . . ." It is not repeated here to avoid redundancy.
an overall index of multilateral bargaining. Cronbach's alpha for this index is .79.

**Analytical approach.** A combination of path analysis and two-stage, least-squares regression analysis was used to test the propositions in the model. Path analysis is an appropriate variant of regression to use for testing the direct and indirect relationships among variables in a multiple stage model such as the one as proposed here. However, a central assumption of path analysis is that the system of equations that link the variables in the model must be recursive, i.e., the causal direction among the variables in the model must be one way with no feedback relationships. Since one might conceivably argue that the causal direction in the bargaining model presented here was reversed or, more realistically, was reciprocal in nature, this assumption should be tested before path analysis is applied to the data. The cross sectional nature of the data further necessitates that the model be tested for the possibility of reciprocal causation. Consequently, a two-stage, least-squares regression analysis was performed on the data to test the validity of the recursive assumption in the model. When this procedure was applied no evidence for reciprocal causation was found, and thus the path analysis can be validly applied.

**Management Structure and Goals**

Before presenting the results of the test of the model, the data showing the degree of dispersion of power within the management structures and the nature of the differences in goals of the various decision-making units in these cities will be presented. These data establish the validity of conceptualizing these management decision-making units as having dispersed power and incompatible goals.

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14 For a technical description of the logic of two-stage, least-squares, see J. Johnston, *Econometric Methods* (New York: McGraw-Hill, 1963). Space does not allow presentation of the results of this test. A further description of the procedure along with the data are available from the author upon request. I wish to thank Professor Dennis Aigner of the Social Systems Research Institute of the University of Wisconsin for his assistance in applying two-stage, least-squares to this problem.
Dispersion of power. The data collected for this study to measure the dispersion of power within management over collective bargaining issues clearly support the argument that a broad dispersion of power exists. The mean ratings of the power of each decision-making unit provided by the city labor negotiators and the relative rankings of the power of the units are shown in Table 1. It can be seen that the rankings of power change across the five issues; therefore, no unit dominates on all issues. While there does seem to be

<table>
<thead>
<tr>
<th>Issue</th>
<th>Wages and fringes</th>
<th>Department rules and regulations</th>
<th>Management rights</th>
<th>Grievance procedure</th>
<th>Discipline and discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayor (city manager)</td>
<td>5.94 (2)</td>
<td>5.57 (2)</td>
<td>6.12 (1)</td>
<td>5.38 (1)</td>
<td>5.30 (2)</td>
</tr>
<tr>
<td>City council</td>
<td>6.03 (1)</td>
<td>4.03 (3)</td>
<td>5.23 (2)</td>
<td>4.08 (4)</td>
<td>3.47 (5)</td>
</tr>
<tr>
<td>Fire chief</td>
<td>2.37 (4)</td>
<td>5.92 (1)</td>
<td>5.11 (3)</td>
<td>4.47 (3)</td>
<td>5.70 (1)</td>
</tr>
<tr>
<td>Civil service commission</td>
<td>2.07 (5)</td>
<td>3.27 (5)</td>
<td>2.79 (5)</td>
<td>3.76 (5)</td>
<td>4.82 (3)</td>
</tr>
<tr>
<td>Labor negotiator</td>
<td>4.41 (3)</td>
<td>3.65 (4)</td>
<td>4.37 (4)</td>
<td>4.41 (3)</td>
<td>3.64 (4)</td>
</tr>
</tbody>
</table>

*All ratings are the averages from the city labor negotiators. Ratings are based on a seven-point scale. The rankings for each issue are shown in the parentheses.

a relatively clear hierarchical ordering on the major resource allocation decisions of wages and economic benefits, the decisions involving grievance procedures, management rights, departmental rules, and discipline issues show a much more equal distribution of power. In addition, a closer examination of the raw data indicates great variation in the relative power of the various units exists across cities. Thus, while in the aggregate, the power of the chief executives seem to be the greatest, a number of cities in the sample reported their city councils hold greater power than the mayors or city managers. In addition, a wide degree of variation exists in the powers of the civil service commissions and the management labor negotiators.

Differences in goals. The dispersion of power among various management bodies takes on added importance in city government bargaining because the various units involved tend to represent different goals or interests in making bargaining decisions. Each official or city body listed in Table 1 was asked to rate the importance they assigned to 14 goals or criteria for making bargaining decisions. The criteria were derived from hypotheses suggested in earlier case studies of public sector bargaining and referred to both procedural and substantive considerations.15

The goal rankings (not shown here) provided by these officials clearly indi-
icate that each decision-making unit rates the need to protect its power to influence policy as the most important consideration. That is, the council members, mayors, commissioners, the fire chiefs all ranked the need to protect their power number one and the labor negotiator ranked the need to keep others out of the negotiations process number one. From this it can be clearly concluded that a good deal of incompatibility of goals exists among management decision-makers in city government collective bargaining.

Test of the Model

The technique of path analysis is used to test the hypothesized linkages among the variables in the internal conflict and multilateral bargaining stages of the model. Internal conflict and multilateral bargaining are the endogenous variables in the model. Since goal incompatibility and dispersion of power were keys to internal conflict, they enter the model as exogenous variables. In addition, the union characteristics enter the model as exogenous variables.

Results of the path analysis using the two separate measures of internal conflict are shown in Figures 1 and 2. The coefficients shown on the arrows connecting the variables with internal conflict and multilateral bargaining are the path coefficients. These path coefficients are the same as the standardized regression coefficients in regression analysis and can be interpreted

\[ \text{FIGURE 1} \]
\text{PATH MODEL OF INTERNAL CONFLICT ACROSS ISSUES AND MULTILATERAL BARGAINING}

\[ \text{Dispersion of power} \]
\[ \text{Normalized goal incompatibility} \]
\[ \text{Political pressure tactics} \]
\[ \text{Strike tactics} \]
\[ \text{Perceived political pressure} \]
\[ \text{Perceived negotiations pressure} \]
\[ \text{Issue conflict} \]
\[ \text{Multilateral bargaining} \]

\[ ^a \text{These numbers are interpreted as the coefficients for the residual paths not explained by the model. They are equal to one minus the multiple correlation coefficient in a regression equation.} \]
as the direct effects one variable has on another when controlling for all intercorrelations with other variables.

**Goal incompatibility and dispersion of power.** Examination of the path coefficients indicates neither goal incompatibility nor dispersion of power significantly affect multilateral bargaining. Thus, any observed zero order correlation between these two variables and multilateral bargaining can be attributed to their correlations with internal conflict. The finding that there is no direct relationship between dispersion of power and multilateral bargaining is especially important since much public sector bargaining literature has stressed this characteristic as the major explanation for the way bargaining occurs. Thus, the path analysis rejects the argument that dispersion of management power directly causes multilateral bargaining and provides support for viewing internal conflict as an important intervening variable in the causal sequence leading to multilateral bargaining. This finding suggests that the political relationships among the parties outweigh the effects of the management structure in shaping the nature of the city government bargaining process.

**Union characteristics.** The results shown in Figures 1 and 2 also support the view that union political pressure and union pressure in negotiations are direct determinants of multilateral bargaining and to a lesser extent of internal conflict. The total variance attributable to the union characteristics in the
model is spread among the four measures (two perceived pressure and two actual tactics measures), and thus the path coefficients are not all exceedingly high.

One question we wished to answer with path analysis is: to what extent do union characteristics in the model affect multilateral bargaining through their effects on internal conflict? A check on the strength of their indirect effects is provided by the correlations in Table 2. Here the zero order correlations between the union characteristics and multilateral bargaining are partitioned into their direct effects (the path coefficients) and their indirect effects through internal conflict. The general formula for this calculation is:

\[ r_{ij} = P_{ij} + \sum (r_{ik}P_{jk}) \]

where \( j \) = the independent variable of interest

\( i \) = the dependent variable of interest

\( k \) = all other exogenous and endogenous variables in the equation

On the basis of the correlations in Table 2, it can be concluded that there are no significant indirect effects of union characteristics operating through the path of internal conflict. Thus, we can conclude that we do not overestimate the impact of union characteristics in the model by discussing them as correlates of both internal conflict and multilateral bargaining.

Summary and findings. The essential conclusions derived from this analysis can be summarized as follows:

1. Goal incompatibility and dispersion of power within management lead to internal conflict; however, they have no independent effects on multilateral bargaining. Thus, the paths between multilateral bargaining and these two variables can be deleted from the overall model. Internal management conflict in turn is the most important direct determinant of multilateral bargaining.

2. Union political pressure and union negotiation pressure have direct
effects on both internal conflict and multilateral bargaining. Their indirect effects on multilateral bargaining through internal conflict are negligible.

3. The assumption that the essential causal flow of the variables in the model is from the intraorganizational conflict stage to the multilateral bargaining stage was supported. Thus, the revised model which emerges from this test of the theory is diagrammed in Figure 3.

FIGURE 3
Revised Two Stage Model of Collective Bargaining in City Governments

Discussion and Implications

The above analysis demonstrates the close interrelationships between the intraorganizational and interorganizational characteristics of collective bargaining in city governments. It provides empirical support for what others have argued are conceptually important characteristics of collective bargaining.

The central implication of these results is that if the political conflicts which develop within the management organization fail to get resolved internally, they tend to get carried over into the union-city bargaining process. This simply reinforces the view that collective bargaining requires the resolution of differences among a variety of interest groups and can better be conceptualized (at least in this context) as a multilateral rather than a bilateral process.

It is hoped that this analysis has shown that the multilateral features of public sector bargaining are legitimate expressions of the diversity of interests groups that have a stake in the process. Any bargaining system that evolves over time will have to resolve the conflicts that arise among these diverse interests at some point in the process. The real policy issue facing the parties is not whether these political conflicts or diverse preferences can be suppressed to allow negotiations to operate more smoothly. Rather, it is whether the conflicts are to be resolved within the intraorganizational or the interorganizational phases of bargaining. No structure imposed in the form
of a public policy is likely to resolve this issue. It is one the parties will have
to confront as their relationships develop and they evaluate their experiences
for themselves. Over time, direct participants in negotiations are likely to seek
to strengthen the negotiations process by buffering it somewhat from the
political process. This seems especially likely and perhaps even preferable for
those routine issues that fall within the traditional scope of collective bar-
gaining. However, it is unlikely that any volatile political issues that become
part of the bargaining process will, can, or should be buffered from the in-
volvement of multiple political interests.