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An Interorganizational Analysis of Power, Conflict, and Settlements in Public Sector Collective Bargaining

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The dramatic growth of unionism and collective bargaining in the public sector signifies a drastic departure from previous conceptions of the public employment relationship and previous patterns of public employee activity. Concomitant with the rise of public sector unionism has been the increased interest social scientists have exhibited in the determinants of power, conflict, and outcomes in public sector collective bargaining. Despite increased scholarly interest, however, attempts at theory construction have fallen short because there has been a tendency to use conventional language consistent with the common discourse that occurs in the actual collective bargaining process; many scholars in the field have viewed idiographic orientations as the only means of validly approaching the subject; and the field has been dominated by scholars seeking melioristic solutions to employee relations problems in their research rather than focusing on theory building.1


2 Scholars have adopted a number of approaches in their efforts to describe and explain conflict and outcomes in public sector collective bargaining. Liston, for example, attempts to explain the causes of public employee strikes merely by asserting that government workers in the lower classifications want higher salaries. See Robert A. Liston, The Limits of Defiance: Strikes, Rights and Government (New York: Franklin Watts, 1971). Wellington and Winter, in The Unions and the Cities (Washington, D.C.: The Brookings Institution, 1971), Chapter 1, employ a conceptual framework which assumes "a municipality with an elected city council and an elected mayor who bargains with unions representing the employees of the city." The conceptual framework is for the most part undefined and unaccompanied by indicators or constructs for its operationalization. Drotning, Lipsky, and Foster take a broad positivist approach to public sector collective bargaining. The outcome of interest to Drotning et al. is the mode of conflict resolution—mediation, fact-finding or conciliation. Although the authors fail to operationalize their approach, a more fundamental problem is the absence of any formal explication of the theoretical relationships underlying the variables. See John Drotning, David Lipsky, and Howard Foster, "The Analysis of Impasse Procedures in Public Sector Negotiations," Management of Personnel Quarterly, 9 (Summer, 1971), 21-30. For one of the more promising recent attempts to explain conflict see Thomas A. Kochan, "A Theory of Multilateral Collective Bargaining in City Governments," Industrial and Labor Relations Review, 27 (July, 1974), 525-542.

In order to better understand public sector collective bargaining and to build theory about the phenomena, we need to develop a theoretical framework that allows for the systematic testing of propositions. Interorganizational theory, one approach that appears fruitful for constructing such a theory, is used in this study to capture major properties of the structure of public sector collective bargaining and to present and test some derived hypotheses. These hypotheses are tested with data gathered from a sample of 60 case studies of public sector collective bargaining in New York City from 1968 to 1972.

Theoretical Considerations

A public organization may be viewed as a coalition of individuals, "some of them organized into subcoalitions," whose "members include administrators, workers, appointive officials, elective officials, legislators, judges, clientele, interest group leaders, etc." Drawing boundaries around the organizational coalition is difficult because organization members play a variety of roles. Nevertheless, the concept of organizational coalition can be simplified by...
identifying coalition members for certain classes of decisions and for specified periods of time. An organizational coalition may be distinguished from its various subcoalitions by the degree of autonomy it exercises in decision making and goal setting. A subcoalition’s decisions are influenced by legitimated authority within a hierarchical structure of which the subcoalition is an integral part. In interorganizational relationships, on the other hand, “the individual decisions of two or more units are made on a more inclusive systemic level which includes these units.”

The establishment and perpetuation of an organizational coalition rests on an equilibrium between member contributions and organizational inducements. For individual workers the inducements/contributions contract has both short-term and long-term implications. Thompson writes:

Clearly there is a quid pro quo theme to the inducements/contributions contract, for it defines what is expected of individuals in terms of jobs needing to be done, and it defines the rewards which the organization pledges for the appropriate performance of such jobs. . . . As a unit in his career, the job provides the individual with an arena or sphere of action in which to seek solutions to his career problems, and thus to meet the demands placed on him by the social system.

March and Simon note that each participant will continue his participation in an organization only so long as the inducements offered are as great or greater than the contributions he is asked to make. They assert: “Where the contract is viewed as unchangeable, the only options are ‘accept’ or ‘reject.’” In cases where the contract is viewed as changeable, however, the motivation of individuals to protect or enhance their “sphere of action” is reflected in the negotiation of inducements/contributions contracts.

Since the action spheres presented by jobs differ, they require different strategies for the negotiation of the inducements/contributions contract. Collective bargaining may be viewed as a special (though not uncommon) strategy for the negotiation of the inducements/contributions contract. Thompson emphasizes that “the content of the inducements/contributions contract is determined through power (political) processes.” Conceived as the dependence of the parties relative to one another, the power of the individual in “routinized technologies” and “early-ceiling occupations” is severely limited in negotiation of the inducements/contributions contract. Nonetheless, when there exist large numbers of individuals in similar occupational roles, opportunities develop for collective action as a strategy of negotiation. Under these conditions, the problems of defining and enforcing the employment contract become a matter of concern for all organizational participants:

“...The higher wages, shorter hours, and better working conditions that unions demand are collective goods to the workers.”

Collective bargaining involves a transformation of the basic structure of the public organizational coalition. Rather than the individual negotiating for the protection and enhancement of his job, negotiation is pursued through the formation of a new and distinct organization. For purposes of analyzing collective bargaining the employee union can be considered an autonomous organization, free from the decision-making constraints of an overarching organization, and sharing in the formation of policies that determine the public employment relationship. The operation of neither organization, however, can be understood merely as an aggregation of the goals of its members. Coleman writes: “The actions of a trade union and other mass-based collectives are not always toward goals collectively held, but the very existence of the collectivity is based upon action toward collective goals.”

To account for collective goals, Thompson suggests conceptualizing goals as the “future domains intended by those in the dominant
coalition." An organization's domain may be viewed as the claims which an organization stakes out for itself in terms of (1) range of products, (2) population served, and (3) services rendered. The dominant coalition is conceived by Thompson as a subgroup of "interdependent individuals who collectively have sufficient control of the organization's resources to commit them in certain directions and withhold them from others." In collective bargaining, two dominant coalitions each act to preserve or expand their domains through negotiation over the content of the inducements/contributions contract.

From this interorganizational relationship comes conflict and contractual change, and these are related to the nature of goal divergences, dependencies, and the degree of stability in the relationship between the two organizations.

Following Cyert and March, the amount of goal divergence in the collective bargaining relationship can be understood in terms of the dimensions of each organization's goals (the future domains they view as important) and the strength of their preference for a particular outcome on a goal dimension. The strength of an organization's preferences represents its "aspiration level" on any particular goal dimension. The organization's past goals, its past performance, and the past performance of other "comparable" organizations contribute to the organization's goal dimensions and aspiration levels.

In interorganizational relationships, power resides implicitly in the dependencies of organizations on one another. Pugh et al. focus on organizational dependence in the following manner: "The dependence of an organization reflects its relationships with other organizations in its social environment, such as suppliers, customers, competitors, labor unions, management organizations, and political and social organizations." Within the environment of the union and the public organization exist a set of power-dependence relations—what Dill terms "task environment"—those actors in the environment which are relevant to goal attainment.

Net power then results from a set of relationships between the organization and the elements of its pluralistic task environment. This admits the possibility that in collective bargaining the public organization may be powerful in relation to the union but dependent on other actors in its task environment to enforce its claims to domain. Thus, it becomes important for the organization to judge the amount and sources of support that can be mobilized for its goals, and to arrive at a strategy for their mobilization.

Although the public organization and the union organization negotiate a contract periodically, they must deal with each other continuously in handling disputes arising during the administration and interpretation of the contract. Walton and McKersie contend that the pattern of interaction between the organizations during contract administration directly influences the attitudes between the units that later affect contract negotiations. Confined to the dyadic relationship between the union and public organization, stability refers to the degree to which prior structural features of the relationship expand or contract the capacity for joint decision making during collective bargaining.

In light of this distinction, the degree of stability in the relationship between the union and the public organization may be viewed as a product of the interactions between the two organizations prior to the initiation of contract negotiations. The interactions between the organizations during contract administration affect the development of the capacity for collaboration during contract negotiation by influencing the pattern and quality of information exchanged between the parties. Also, the interactions prior to collective bargaining, directly influence attitudes between the parties which in turn determine how the organizations

18 Thompson, Organizations in Action, p. 128.
20 Thompson, Organizations in Action, p. 128.
view the continuity of the contract administration and contract negotiation phases of the relationship.26

These situational phenomena—goal divergence, stability, and organizational dependence—are conceptually distinct from the behaviors of the individual members of the union and public organization and affect the degree to which interorganizational behavior is oppositional, that is, the extent to which conflict takes passive or aggressive forms. This conceptualization of conflictual behavior is intended to encompass the whole range of oppositional behavior from manifest forms of "strategic maneuvering" to covert forms of passive resistance.27 Within the interorganizational decision-making process, oppositional behavior may be triggered by either acts of the other organization or changes in situational contexts.

The collective agreement that terminates negotiations between the public and union organizations comprises the inducements/contributions contract agreed to during the collective bargaining process. The inducements/contributions contract represents a set of decisions of two individual organizations at a more inclusive systemic level because the organizations jointly establish their domains with regard to the public employment relationship until the negotiation of a new agreement. Contractual change refers only to the changes in the content of the inducements/contributions contract negotiated from the conclusion of one agreement to the conclusion of the subsequent agreement through the collective bargaining process. Inducements include such items as salary levels, monetary fringe benefits, union security provisions, and the control of the physical and health-related environment of the workplace. Although often implicit in the employment relationship itself and only suggested in the management rights clause, contributions items frequently specified in the contract include the length of the workweek, the residual rights of management, the grounds for disciplinary actions, and descriptions of job duties.

Table 1. Theoretical Definitions

| Goal Divergence: | The degree of incompatibility between the goals of the union and public organization. |
| Stability: | The degree to which prior structural features of the relationship expand or contract the capacity for joint decision making during collective bargaining. |

Organizational Dependence:
The degree of support from the task environments of the negotiating organizations.

Conflictual Behavior:
The degree of behavioral opposition between the union and public organizations during collective bargaining.

Contractual Change:
The degree of change in the content of the inducements/contributions contract.

Propositions and Operational Linkages

With the groundwork laid through the introduction of the interorganizational analytic framework, some of the concepts may be interrelated via formal theoretical statements. Preceding each proposition is a statement of the theoretical linkages and premises, and following each proposition is an exposition of supportive empirical evidence and the hypothesized operational linkages.

I. The choice of tactics for pursuing incompatible goals is likely to be influenced by the nature and radicalism of each organization's goals.28 While goal divergence identifies the state of incompatibility or opposition between forces, the degree of conflictual behavior characterizes the behavioral outcome of the interactions between the organizations. The relationship between these concepts is not merely unidirectional since the escalation of conflict can be expected to influence the nature of the goal divergencies. As conflictual behavior escalates, there is a greater tendency for participants to associate only with those similarly oriented to the issues. This form of social support strengthens individual organizational members, highlights the incompatibility of goals, and solidifies the divergence of positions.

These relationships between goal divergence and conflictual behavior are particularly relevant for understanding strike behavior.29 The union views the strike costs as costs to be recouped and revises its aspirations upward in an attempt to offset the costs of the strike. In response to the union action, management's resolve to avoid concessions on certain goal dimensions is likely to increase, and management may even be inclined to withdraw earlier concessions.

26 Walton, "Theory of Conflict in Lateral Organizational Relations"; see also Walton and McKersie, A Behavioral Theory of Labor Negotiations.


29 See Walton and McKersie, A Behavioral Theory of Labor Negotiations, pp. 56–57 for an extended discussion of this point.
Proposition I. In public sector collective bargaining, the greater the goal divergence, the greater the conflictual behavior; as conflictual behavior increases, goal divergence also increases.

Empirical and experimental evidence from Axelrod, Bell, and Deutsch and Kraus is supportive of the plausibility of the two-directional theoretical relationship between goal divergence and conflictual behavior. The operational linkage for Proposition I is hypothesized to be a positive, S-curve relationship. When the degree of goal divergence is minimal, some conflictual behavior may exist, but not a sufficient amount to produce feedback consequences. At intermediate levels of goal divergence, a nearly linear relationship between goal divergence and conflictual behavior is anticipated. Goal divergence may further increase while the degree of conflictual behavior has approached or reached an upper limit, thus accounting for a leveling off in the operational linkage.

II. Schelling writes that bargaining necessitates some kind of collaboration or mutual accommodation even if only in the avoidance of mutual disaster. The time and effort required by the public and union organizations to form mutually consistent expectations, the nature of the expectations, and the capacity to communicate or to destroy communication in collective bargaining depends on the stability of the relationship developed during interaction in administering the collective agreement.

In analyzing interunit conflict in organizations, Walton proposes that more flexible and informal decision rules and less frequent recourse to the use of outside arbiters is likely to increase the capacity for collaboration in joint decision making between the units. The development of mutual attitudes toward one another is a product of the degree of positive or negative affect between the organizations throughout their relationship. It is during interaction in contract administration that the organizations develop mutual expectations, attitudes, and decision rules relevant to their later behavior during collective bargaining. It is this structure of interorganizational interactions which expedites agreement or, conversely, hinders agreement and the control of conflictual behavior during collective bargaining.

Proposition II. In public sector collective bargaining, the lesser the stability during contract administration, the greater the conflictual behavior during negotiations.

Newcomb; Loomis; Bixenstine, Levitt, and Wilson; and Hammond et al. provide experimental results that support this proposition. Lincoln's case analysis of the 1966 New York City Transit Authority negotiations identifies instability in the system as an explanatory variable, for the strike which subsequently occurred. Pruitt, in a theoretical analysis of stability between pairs of national decision-making units, suggests that the operational linkage between stability and conflictual behavior may be a step function; i.e., when the level of stability reaches a critical state, it causes the likely degree of conflictual behavior to change radically. The operational linkage at the interorganizational level of analysis, however, is more likely to be a power function.

III. Within the context of public sector collective bargaining, the choice of negotiation strategies and the employment and timing of particular commitment tactics for the attainment of new organizational domains will depend upon the support each organization obtains within its task environment. The amount of asymmetry between the dependence positions of the organizations influences the success of strategic choices and in turn the degree of behavioral opposition.

Small imbalances in relative dependence continually reinforce the need for cooperation by highlighting the interdependencies of the organizational relations.
organizations. As the asymmetry of relative dependence increases, the likelihood increases that persuasion as a means for reaching agreement will fail, stimulating greater behavioral opposition in the modes of transaction between the organizations. Large differences in relative dependence invite the stronger of the organizations to use coercion against the weaker organization to expand its domain. On the other hand, refusal by the stronger organization to make changes requested by the weaker organization stimulates greater conflictual activity by the weaker organization.

Proposition III. In public sector collective bargaining, the greater the asymmetry of relative dependence between the negotiating organizations, the greater the conflictual behavior.

Narrative and empirical support of the proposition is provided in studies by Terhune, Kerr and Siegel, and Zinnes. A negatively skewed, positive curvilinear operational linkage is expected because beyond a certain level of asymmetry of relative dependence the likelihood of conflictual behavior is considerably reduced. Where an organization is so limited by its dependence position that it very nearly ceases to operate as an independent unit, the likelihood of conflictual behavior rapidly declines.

IV. The more substantial or encompassing a conflict, the greater the pressures from third parties for its solution. In the public sector, as conflictual behavior persists or increases, efforts to arrive at agreement and achieve finality in the collective bargaining process generally lead to mediation or factfinding mechanisms. Concurrent with this phenomenon is the fact that as conflictual behavior between the union and public organization increases, agreement is less likely to be achieved by voluntary concessions and reduction in demands. The anticipation of third party intervention may stimulate marginal concessions by the organizations and actual third party intervention may legitimate or require further concessions. Thus, as conflictual behavior increases, the process is likely to produce greater change in the inducements/contributions contract.

Proposition IV. In public sector collective bargaining, the greater the conflictual behavior, the greater the contractual change.

Little empirical research has been undertaken to assess the plausibility of this proposition. However, one study of the effect of impasse during collective bargaining on negotiated salaries of teachers found better mean salary gains in some impasse districts. The proposed relationship is expected to be clearly evident if all dimensions of the collective agreement are analyzed. The operational linkage between conflictual behavior and contractual change should be positive and linear. The slope of the function is expected to be substantially less than unity.

V. When it comes to a test of strength, the organization that can mobilize the most resources and trade on relationships within its task environment should achieve a more advantageous outcome. Even the expectation of losing at some future time may encourage the weaker organization to search for an immediate solution or offer a favorable concession to the stronger organization. The degree of imbalance in their relative strength is likely to affect the amount of the concessions that the weaker organization will have to offer in order to extract lesser concessions from the stronger organization or to reach final agreement. Since demands are almost always initiated by the union, changes in the contract will usually take the form of concessions to the union.

Proposition V. In public sector collective bargaining, the greater the asymmetry of relative dependence favoring the public organization, the lesser the contractual change; the greater the asymmetry of relative dependence favoring the union, the greater the contractual change.

This proposition is consistent with Gamson's theoretical analysis and is supported in Rapoport's and Orwant's review of experimental games, particularly those of Flood and Caplow. Lammers likewise found a strong relationship between conflictual behavior and the asymmetry of relative dependence favoring the union as a critical factor in the resolution of collective bargaining impasses.
An Analysis of Public Sector Collective Bargaining

The theoretical linkages and interperiod feedback are depicted in Figure 1: An Overview of the Model.

A diagrammatic summary of the theoretical relationships is presented in Figure 1; Table 2 presents a summary of the operational linkages. The broken lines in Figure 1 depict feedback between the outcome of the collective bargaining process in one period and its effect upon the variables in the succeeding period. Because conflictual behavior is causally related to the parties' relative strength, the relationship between relative strength of the parties and outcome is expected to exhibit both upper and lower limits.

Table 2. Summary of Operational Linkages

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Direction</th>
<th>Type</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Divergence and Conflictual Behavior</td>
<td>positive</td>
<td>S-curve</td>
<td>upper</td>
</tr>
<tr>
<td>Stability and Conflictual Behavior</td>
<td>negative</td>
<td>power</td>
<td>none</td>
</tr>
<tr>
<td>Asymmetry of Relative Dependence and Conflictual</td>
<td>positive</td>
<td>negative skew,</td>
<td>none</td>
</tr>
<tr>
<td>Behavior</td>
<td></td>
<td>curvilinear</td>
<td></td>
</tr>
<tr>
<td>Conflictual Behavior and Contractual Change</td>
<td>positive</td>
<td>linear</td>
<td>none</td>
</tr>
<tr>
<td>Asymmetry of Relative Dependence favoring one of</td>
<td>negative</td>
<td>S-curve</td>
<td>upper and lower</td>
</tr>
<tr>
<td>the organizations and Contractual Change</td>
<td></td>
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<td>limits</td>
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</table>
ally dependent on goal divergence, stability, and asymmetry of relative dependence but causally prior to contractual change, it is depicted as an intervening variable in Figure 1.

**Methodology**

The practice of collective bargaining in the public sector has not triggered a bounty of empirical studies which have accumulated large bodies of comparative data. The dearth of research in this field partly stems from the realities of public sector collective bargaining and from the nature of measurement problems associated with the most relevant variables. These problems indicate that relatively inexpensive data collection procedures like the analysis of available aggregate data sets would be inadequate to test the propositions presented in this paper. To provide an appropriate setting to test the model, we had to select a field site with an adequate population of cases for the selection of a sample of cases, adequate archival records for the measurement of the variables, and a uniform legal and political framework within which collective bargaining takes place. For these reasons, the tests of the hypotheses focused on a cross-sectional analysis of public sector collective bargaining in one large municipality, New York City.

**Collective Bargaining in New York City.** In 1958, with the issuance of Executive Order No. 49, Mayor Robert Wagner initiated a program to implement collective bargaining practices prevailing in the private sector. Horton writes: "The executive order quickly was dubbed the 'Little Wagner Act' and the city's civil service leaders called it their 'Magna Carta.' In retrospect, however, the City's new labor relations program hardly deserved these apppellations." 44

Collective bargaining procedures were altered in 1967 by Executive Order No. 52 which established independent, impartial tribunals to settle disputes arising in contract negotiations, contract administration, and representation elections. Simultaneously, the New York State Legislature passed the Public Employees Fair Employment Act (Taylor Law) which exempted New York City from the jurisdiction of the State Public Employment Relations Board (PERB) on the condition that its system for collective bargaining be "substantially equivalent." 47 Thus, City policies were modified in accordance with the provisions of the Taylor Law to parallel State guidelines more closely. 48

Sayre and Kaufman's contention that "no single ruling elite dominates the political and governmental system of New York City" 49 is characteristic of its labor relations activities. A multiplicity of public officials and agencies are involved in New York City government labor relations: the mayor, agency personnel, the Office of Labor Relations, the Office of Collective Bargaining, the Bureau of the Budget, the Department of Personnel, the City Council, and the Board of Estimate. 50 The governor and the State legislators are also occasional participants in City labor relations policy making. 51

While the Office of Labor Relations provides the professional expertise in contract negotiations, 52 it is the Office of Collective Bargaining (OCB) that can be considered the governmental "core group." 53 The OCB is a tripartite board consisting of two members appointed by the mayor, two members appointed by a committee of municipal union leaders, and three members selected by unanimous vote of the mayoral and union appointees. The primary function of the OCB is the resolution of bargaining impasses. The Board of Certification, composed of three of the seven OCB members, is responsible for certifying employee bargaining representatives. In addition, arbitrability of grievances is determined by the Office of the Municipal Labor Relations Board (PERB) on the condition that its system for collective bargaining be "substantially equivalent." 54

**Methodological Concerns:**

These problems indicate that relatively inexpensive data collection procedures like the analysis of available aggregate data sets would be inadequate to test the propositions presented in this paper. To provide an appropriate setting to test the model, we had to select a field site with an adequate population of cases for the selection of a sample of cases, adequate archival records for the measurement of the variables, and a uniform legal and political framework within which collective bargaining takes place. For these reasons, the tests of the hypotheses focused on a cross-sectional analysis of public sector collective bargaining in one large municipality, New York City.

44 New York City, Office of the Mayor, Executive Order No. 49, March 31, 1958.
47 New York State Sessions Laws (1967), Chapter 392.
48 These procedures are spelled out in the New York City Collective Bargaining Law, New York City Administrative Code, chapter 54, for the establishment of the Office of Collective Bargaining, see: New York City Charter, chapter 54, section 1173.
50 Horton, Municipal Labor Relations in New York City, p. 12.
51 Ibid.
52 The Office of Labor Relations was created by Mayor Lindsay in 1966. Its primary function is to represent the City government and units within its jurisdiction in collective bargaining. For an inside view of its operations see Anthony C. Russo, "Management View of the New York City Experience," Unionization of Municipal Employees, ed. Robert H. Conner and William V. Farr, (New York: The Academy of Political Science, Columbia University, 1971, pp. 80-93.
53 Sayre and Kaufman, Governing New York City, p. 710.
determined by all OCB members in their role as the Board of Collective Bargaining.54

When the Office of Collective Bargaining started operations in January, 1968, there were approximately 400 bargaining units in existence.55 Through consolidation of units, the number of bargaining units was reduced to 325 by 1971.56

The choice of New York City as the locus of research creates some dilemmas because New York's city government often is considered sui generis by researchers. It is larger and possibly more complex than any other United States city government.57 The weight of several other factors, however, outweighed these considerations in the selection of New York City as the research site. First, a limited geographic area provided the opportunity to gather information that, dispersed over a larger region, would have been too costly and time consuming to collect. Second, testing the model on a sample of New York City cases did provide an opportunity to disconfirm the propositions, a consideration that took precedence over concern with external validity. Finally, where a comprehensive legal framework for public employment collective bargaining has been adopted by state and local jurisdictions, there tends to be marked similarities in statutory provisions.58 Therefore, no compelling reason exists for contending a priori that an explanatory model tested on cases of public sector collective bargaining in New York City would be less valid for other settings with a comprehensive statutory framework.

Sample Selection. Specification of the population was achieved through the collection of comprehensive lists of collective bargaining settlements in New York City. A set of master lists,59 prepared by the New York City Office of Labor Relations (OLR), contained identifying and descriptive information on collective bargaining settlements between New York City governmental units and various unions representing public employees from 1968 through 1972. Three sources, containing lists of public employee work stoppages during this period, were also consulted to assure that these cases were included on the master lists.60 As a result of this process, the population encompassed 535 collective bargaining settlements.

The next step toward selecting the 60-case research sample was to identify the level of conflict during negotiations so that the population could be stratified. To achieve this objective, several sets of documents were consulted. First, the lists of public employee work stoppages were again utilized.61 Second, all cases in which impasse, fact-finding, or mediation occurred were identified.62 Third, The New York Times Index was utilized to identify negotiations, strikes, settlements, and other activities that may have been reported in The New York Times. Fourth, several civil service and local union publications proved to be valuable sources. The Chief and the Civil Service Leader, publications covering topics of general interest to civil service employees, provided information on a wide range of cases within the population; and the local publication of the AFSCME, Public Employee Press, yielded valuable information pertaining to many additional cases in the population. Stratification was based on a four category scale. Different

62 New York City, Office of Collective Bargaining, Annual Report — 1968-1972. The bulk of information was contained in these reports. Additional information on impasses was retrieved from other unpublished documents within the Office of Collective Bargaining.
conflict acts served to define minimum inclusion levels for each group. Group 1 included all cases where no conflictual acts were observed. Group 2 included cases in which impasses occurred but in which no overt conflictual acts were observed. Group 3 included all cases in which overt acts short of a strike were observed. Group 4 included all cases in which a strike did occur. Once stratification of the population had been completed, the final step in specifying the sample was to select 15 cases randomly from each of the four groups.**

**An appendix containing the cases analyzed, the affiliations of the employee groups, and the year in which negotiations were conducted is available upon request from the authors.

Operational Measures

The indicators for each of the concepts defined in Table 1 are presented below. Because most of the indicators were developed specifically for this study, little attention can be given to the empirical validity of the indicators as they have been used in previous studies.

Goal Divergence. The number of demands submitted by the union at the initiation of negotiations was selected as the indicator of goal divergence. This indicator was chosen over others primarily for advantages of data availability, ease of accessibility, and completeness. Using an unobtrusive indicator to measure goal divergence also circumvented many of the difficulties which could have been encountered in attempting to measure the variable with reactive instruments.

Ideally, the number of initial public organization demands should have been considered also. For the population utilized here, however, there were approximately thirty demands general to all collective bargaining negotiations in New York City. The content of the demands was not published or available from a sufficient number of the involved organizations so that further analysis could be performed, the number of initial union demands was considered adequate for cross-sectional analysis.

While this indicator was assessed on an a priori basis for its face validity, there was little evidence for assessing its empirical validity. From an appendix of data from Hammermesh,66 a median test was performed on the divergence of wage proposals. Dichotomizing the cases on the basis of whether a strike did or did not occur, and computing the probability for the marginal totals in a $2 \times 2$ contingency table produced a significant relationship at alpha = .05. Although this evidence is not substantial, it does point to the empirical validity of using initial bargaining demands to measure goal divergence.

Relative Dependence. In Pugh et al.,68 the size of the organizational unit relative to its parent organization was utilized to measure dependence. Relative size was found to intercorrelate substantially with other dimensions of dependence: status of organization unit (.68), organizational representation on policy-making body (.50), specializations contracted out (-.60), and vertical integration (-.40). Pugh et al. concluded from these results, and from low intercorrelations with the dimensions of other concepts, that this indicator does tap "aspects of the dependence of the organization, particularly its dependence on external resources and power..."

A second consideration was how to operationalize the variable to measure the difference in the amount of dependence between the organizations. The operationalization selected rested on an additive assumption. The dependence score for the union organization was subtracted from the dependence score for the public organization. Under this approach, asymmetry of relative dependence favoring one of the organizations theoretically ranges from a lower limit of -1 (most favorable to the union organization) to an upper limit of +1 (most favorable to the public organization). This indicator was used to test Proposition V. The absolute value of this indicator was used to test Proposition III since the amount of asymmetry alone, and not which organization was favored, was hypothesized to be the significant determinant of conflictual behavior.

Stability. In order to measure this concept, data on the number of grievance arbitrations filed and the number of employees in the unit were
collected. Most of this information was available from the New York City Office of Collective Bargaining and Office of Labor Relations. In cases where these data were not available from these sources, the data were obtained from union publications.

A time frame for isolation of the grievance arbitration data had to be selected so as to be compatible with the conceptualization of stability. The period beginning one year prior to the initiation of contract negotiations appeared to be an appropriate time span. Collecting grievance arbitration data for one year provided a sufficiently long, continuous span of time prior to negotiations to observe variance in the stability of relationship patterns.

The decision to utilize grievance arbitration data for the indicator of stability stemmed from several factors. First, grievance arbitration is generally recognized as an interorganizational mechanism for concerting the action of two or more organizations. Second, regarding the conduct of labor relations in New York City, Executive Order No. 52 required that “an employee organization certified for the unit of which the grievant is a member shall have the right to bring grievances unresolved at Step 2 of the general procedure . . . to impartial arbitration.” Third, previous research by Derber, Chalmers, and Stagner suggested that the grievance process serves as a valid indicator of the stability of the labor-management relationship. Finally grievance arbitration data were easily accessible and inexpensive to collect.

Conflictual Behavior. Dubin points to the difficulty of developing adequate empirical indicators of conflictual behavior since “conflict behavior includes nonhomogenous acts . . .” and “. . . it is a major task to develop some measuring scale by which it is possible to equate a given number of units of personal abuse with the calling of a strike.” Dubin notes, however, that “some acts are more critical to the union-management relationship than others.”

Ivo and Rosalind Feierabend approach the measurement of conflictual behavior on the basis of observationally defined events representing different points on a scale. Similarly, to analyze conflictual behavior in public sector collective bargaining, we chose to use a four-point scale, ranging from 1 (denoting absence of conflictual behavior) through 4 (denoting extreme conflictual behavior) to stratify the cases. Once the cases were selected, they were also ranked within the groups when distinctions could be made in the frequency or intensity of conflictual acts. The final scores for the cases ranged from 1 to 32.

Contractual Change. In scaling items within the contracts, weights were given to contract provisions on the basis of their increasing cost to the public organization or their favorableness to the union. In the case of some contract provisions, the item was assigned a value of 0 or 1 depending on its presence or absence in the contract. For the remainder of the contract provisions, however, more specific ordinal scales were identifiable. By coding successive contracts on this basis, an index of contractual change was obtained by subtracting the values of the previous contract from those of the current contract. Despite an attempt to formulate an exhaustive set of provisions, it was unreasonable to assume that all provisions could be anticipated prior to analysis. Furthermore, some judgment was likewise exercised by the coder in assigning values to idiosyncratic provisions and deviations in particular contracts.

Findings

The operational relationships between the variables are examined graphically in Figures 75 76

Deciles of Goal Divergence

Figure 2. Operational Linkage Between Goal Divergence and Conflictual Behavior

Deciles of Asymmetry of Relative Dependence

Figure 4. Operational Linkage Between Asymmetry of Relative Dependence and Conflictual Behavior

Deciles of Conflictual Behavior

Figure 5. Operational Linkage Between Conflictual Behavior and Contractual Change

Deciles of Asymmetry of Relative Dependence Favoring One of the Organizations

Figure 6. Operational Linkage Between Asymmetry of Relative Dependence Favoring One of the Organizations and Contractual Change

Deciles of Asymmetry of Relative Dependence Favoring One of the Organizations

Figure 7. Operational Linkage Between Asymmetry of Relative Dependence Favoring One of the Organizations and Conflictual Behavior
Table 3. Correlates of Conflictual Behavior and Contractual Change

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goal Divergence</td>
<td>-.045</td>
<td>.225</td>
<td>-.283</td>
<td>.492</td>
<td>.613</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.365)</td>
<td>(.042)</td>
<td>(.014)</td>
<td>(.001)</td>
<td>(.001)</td>
<td></td>
</tr>
<tr>
<td>2. Stability</td>
<td>.076</td>
<td>-.066</td>
<td>.527</td>
<td>.016</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.282)</td>
<td>(.308)</td>
<td>(.001)</td>
<td>(.451)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Asymmetry of Relative Dependence</td>
<td>-.765</td>
<td>.255</td>
<td>.330</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.001)</td>
<td>(.024)</td>
<td>(.005)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Asymmetry of Relative Dependence Favoring</td>
<td>-.373</td>
<td>-.387</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One of the Organizations</td>
<td>(.002)</td>
<td>(.001)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Conflictual Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.361</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(.002)</td>
<td></td>
</tr>
<tr>
<td>6. Contractual Change</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Pearsonian correlation coefficients rounded to the nearest one-thousandth. The figures in parentheses are levels of significance for n = 60. Variable values have been transformed to standard scores.

2 through 7. Only the relationship between asymmetry of relative dependence and conflictual behavior deviates from the hypothesized relationships. On the basis of the graphic analysis, the relationships between conflictual behavior and stability and asymmetry of relative dependence were linearized, and a correlation matrix was computed for the entire set of variables. The correlation coefficients are displayed in Table 3.

Expectations about the relationship between the initial number of union demands and conflictual behavior are borne out by the substantial positive correlation with the indicator of conflictual behavior. The relationship between stability (decreasing) and conflictual behavior also exhibits a substantial positive correlation. When a transformation based upon the revision of the hypothesized operational linkage suggested by Figure 4 is employed, the relationship between asymmetry of relative dependence and conflictual behavior is found to be significant. The hypothesized relationships between conflictual behavior, relative dependence and contractual change also accord with our predictions.

In addition to the lack of support for the hypothesized relationship between asymmetry of relative dependence and conflictual behavior indicated by the zero-order correlations, the

Table 4. Selected Bivariate Relationships Controlled for Goal Divergence and Conflictual Behavior

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Partial r</th>
<th>Control Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability and Conflictual Behavior</td>
<td>-.205</td>
<td>Goal Divergence</td>
</tr>
<tr>
<td>(,.060)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asymmetry of Relative Dependence and Conflictual Behavior</td>
<td>.122</td>
<td>Goal Divergence</td>
</tr>
<tr>
<td>(,.179)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asymmetry of Relative Dependence Favoring One of the</td>
<td>-.280</td>
<td>Goal Divergence</td>
</tr>
<tr>
<td>Organizations and Conflictual Behavior</td>
<td>(,.010)</td>
<td></td>
</tr>
<tr>
<td>Goal Divergence and Contractual Change</td>
<td>.537</td>
<td>Conflictual Behavior</td>
</tr>
<tr>
<td>(,.001)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asymmetry of Relative Dependence Favoring One of the</td>
<td>-.291</td>
<td>Conflictual Behavior</td>
</tr>
<tr>
<td>Organizations and Contractual Change</td>
<td>(,.013)</td>
<td></td>
</tr>
<tr>
<td>Stability and Contractual Change</td>
<td>.097</td>
<td>Conflictual Behavior</td>
</tr>
<tr>
<td>(,.233)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
first-order partial correlations (Table 4) indicate further difficulties in the original formulation of the relationships. The revised relationship between asymmetry of relative dependence and conflictual behavior and the relationship between stability and conflictual behavior are reduced below the .05 level of significance when controlled for goal divergence. Although stability remains significant at the .06 level, the reduction in the significance of the relationship between asymmetry of relative dependence and conflictual behavior is substantial. On the other hand, controlling for goal divergence does not substantially reduce the significance of the relationship between asymmetry of relative dependence and conflictual behavior when the direction of asymmetry is specified (i.e., the relationship between the actual rather than the absolute value of the asymmetry of the relative dependence variable and the conflictual behavior variable). In addition, when conflictual behavior is utilized as the control variable to test the independent effects of goal divergence and asymmetry favoring one of the organizations, both relationships remain significant well below the .05 level. We had expected the relationships between goal divergence and contractual change to be substantially reduced according to the original formulation.

Based upon these findings, Figure 8 (a and b) presents revised models of the determinants of conflictual behavior and contractual change. The major changes in the models are represented by the specification of the direction of the asymmetry in explaining conflictual behavior and the addition of the direct linkage between goal divergence and contractual change. The operational linkage of Figure 7 indicates that the level of conflictual behavior decreases as a linear function of management's dependence on the union. That goal divergence accounts for a substantial amount of the contractual change in the revised model can be explained in part by inadequacies of the indicator used to measure goal divergence. The initial number of union demands appears to represent not only the divergence, but also the convergence of goals. It is also not a good measure of what was termed the aspirational or strength of preference dimension of the concept. The relationship between goal divergence and contractual change may be inexplicably strong for these reasons.

Another interesting phenomenon surfaces when the contractual change index is broken down into the three dimensions of salary adjustment, nonsalary cost changes, and noncost changes. Table 5 displays the correlations be-

78 These categories correspond to the frequently used empirical distinctions among wages, fringe benefits, and other terms and conditions of employment. Different terminology is used here to reflect more clearly the inclusion criteria for each category. Those provisions other than wages and salaries which either
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Table 5. Zero-Order Correlations Between the Explanatory Variables and Three Contractual Change Dimensions

<table>
<thead>
<tr>
<th>Explanatory Variables</th>
<th>Contractual Change Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Salary Adjustment</td>
</tr>
<tr>
<td>Goal Divergence</td>
<td>0.162</td>
</tr>
<tr>
<td>Asymmetry of Relative Dependence Favoring One of the Organizations</td>
<td>-0.104 (0.109)</td>
</tr>
<tr>
<td>Conflictual Behavior</td>
<td>-0.065 (0.309)</td>
</tr>
</tbody>
</table>

The importance of these statements for the discussion at hand rests on several assumptions. First, collective bargaining in the public sector may be partitioned into at least three time periods, each associated with an appropriate forum: (1) pre-impasse, two-party bargaining; (2) impasse, mediated bargaining; (3) post-mediation, power bargaining. Second, the grouping of agenda items for seriatim treatment depends on the organizations involved and varies from situation to situation. Noncost items may, for example, normally be agreed upon first in negotiations, but the second assumption suggests that there is sufficient variation from case to case so that the items which represent subordinate differences will vary. Finally, any package settlement should be viewed as having an upper bound above which management will refuse to agree and a lower bound below which the union will refuse to agree.

Within this framework, the statistical relationships between the dimensions of the contractual change index and the explanatory variables can be more easily understood. For example, take the case in which the agenda orderings of the organizations are consonant and salary is agreed upon in the first time period. Assume that agreement on this item brings the organizations close to their settlement points. If final agreement upon all items in dispute is not reached...


81 Thomas G. Downing, "Strategy and Tactics at the Bargaining Table," Personnel, 37 (January/February, 1963), 44-45.
salary does not preclude the importance of the explanatory variables in determining nonsalary cost and noncost outcomes in succeeding forums and time periods.

A second explanation relates to the visibility of salary adjustments and the proportion of the settlement allocated to each of the items in the inducements/contributions contract. The magnitude of the salary adjustment may vary inversely with the explanatory variables because of the need for the organizations to maintain or enhance future task-environment support. A weak union, for example, may pursue a large wage increase in preference to other inducements because of the immediate and visible gains its leaders are able to provide to its rank-and-file members. Conversely, once the salary demands of strong unions become publicly visible it may be necessary for them to accept other, less visible inducements so that their current gains are not translated into loss of support in the future.

Conclusions

A summary of findings on the original theoretical propositions and operational linkages is presented in Table 6. Although these results do not advance our understanding of public sector collective bargaining processes sufficiently to draw any firm conclusions beyond the scope of the research, three areas of practical implication are suggested to us by this research: the need to give greater emphasis to public interest considerations in the collective bargaining process; the consequences of collective bargaining for internal resource allocation in public organizations; and the utility of the model for evaluating alternative policies or policy changes.

The research indicates that perhaps the scope of the public interest is too narrowly defined in the collective bargaining process. In the bilateral structure of negotiations the broader needs of the community tend to be ignored. As Kochan notes: "The issue which now must be confronted is how to devise a bargaining system for municipal employees which insures them the rights of 'first class citizenship' and still provides a voice for the pluralistic interests of the community."

A second area of practical implication, related to public interest considerations, is the consequences of collective bargaining for the allocation of resources among subunits of the public organization. When the outcome of public sector collective bargaining tends to allocate scarce governmental resources according to union power, severe wage and benefit imbalances can develop which may have serious programmatic and personnel consequences. For example, program outputs may be reduced in one agency to maintain wage and benefit levels in another. Also, the betterment of working conditions for employees in some units may be

Table 6. Summary of Findings of the Theoretical and Operational Relationships

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Confirmation Status</th>
<th>Expected Operational Linkage</th>
<th>Observed Operational Linkage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals divergence and conflictual behavior</td>
<td>Confirmed</td>
<td>Positive S-curve Upper</td>
<td>Positive S-curve Upper</td>
</tr>
<tr>
<td>Stability and conflictual behavior</td>
<td>Confirmed</td>
<td>Negative Power None</td>
<td>Negative Power None</td>
</tr>
<tr>
<td>Asymmetry of relative dependence and conflictual behavior</td>
<td>Disconfirmed</td>
<td>Positive Negative skew, curvilinear</td>
<td>Negative Curvilinear None</td>
</tr>
<tr>
<td>Conflictual behavior and contractual change</td>
<td>Confirmed</td>
<td>Positive Linear None</td>
<td>Positive Linear None</td>
</tr>
<tr>
<td>Asymmetry of relative dependence favoring one of the organizations and contractural change</td>
<td>Confirmed</td>
<td>Negative S-curve Upper and lower limits</td>
<td>Negative S-curve Upper and lower limits</td>
</tr>
</tbody>
</table>

81 Thomas A. Kochan, City Employee Bargaining With a Divided Management (Madison, Wis.: Industrial Relations Research Institute, 1971), p. 68.
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reflected in the resentment and lower morale of employees in other units.

The model could also be useful for evaluating alternative policy prescriptions. For example, a policy change designed to control the scope of bargaining could be evaluated on the basis of how it affects the values of the goal divergence variable over time. Similarly, the comparative effectiveness of state collective bargaining policies for state and local government employees could be evaluated on the basis both of how the policies affect the distributions of the explanatory variables and of how they limit the degree of conflictual behavior.

The greater part of the impact of collective bargaining on government operations and the public employment relationship most certainly lies in the future. It will probably be another decade before the rapid growth of public employee unionism slows appreciably. In the meantime, collective bargaining is bound to continue growing in use and evolving with experience. A disconcerting prospect is that collective bargaining in the public sector will continue to evolve toward the private sector model without adequate consideration being given to the differences in the two settings.82