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The Impacts of Collective Bargaining on Local Government Services: A Review of Research

David T. Methé and James L. Perry, University of California, Irvine

The past decade's huge growth in local government expenditures, the near bankruptcy of major American cities, and the rising swell of taxpayer discontent are leading indicators of a continuing urban fiscal crisis. A belief of many local government officials, citizens, and scholars is that collective bargaining is partly, and perhaps substantially, to blame for this fiscal crisis. The specific impacts of local government employee unionization and collective bargaining have been debated for the past decade. This debate has yielded occasionally conflicting and, on some issues, only fragmentary empirical evidence. This paper reviews available evidence as a means of developing generalizations about the impact of unionization and collective bargaining on local services and of identifying future research needs.

Wages and hours worked are probably the inputs most directly affected by collective bargaining. Impacts upon these inputs are translated, through other policy and strategy decisions, into decisions on the size and composition of the work force.

This review focuses primarily on three principal impacts of public employee unions and collective bargaining. First, the influence exerted on the inputs used to produce local government services, especially employee wages, is assessed. Has unionization and collective bargaining led to public employee wage and benefit gains? The second issue that is explored involves the productivity of resource utilization. For example, has collective bargaining led to reductions in labor productivity or adjustments in the productivity of other resources? The third impact involves the effects of unionization and collective bargaining on local government expenditure levels. Have local budgets risen with increasing input costs or have local governments held budgets down by compensating, on other ways, for cost increases attributable to collective bargaining? These and other issues are explored following a brief discussion of the analytic framework used for selecting and organizing the research literature.

The Analytic Framework

The framework we employ to organize the relevant literature and, thereby, to identify the impacts of unionization and collective bargaining on local government services is a modification of taxonomies developed by Bradford, Malt and Oates and by Burkhead and Hennigan. The taxonomy is presented in Figure 1.

Environmental variables influence each component of the system, but they are most crucial in stimulating the need for a particular service. The environment subsumes the economic conditions of supply and demand that influence inputs and outputs and the political and legal conditions that influence service delivery. Environmental factors might exacerbate or moderate the outgrowth of unionization and collective bargaining.

The input category in Figure 1 represents the various factors used in producing a particular service, including

While the growth of public employee unions and collective bargaining has stimulated research about their effects on local governments, the precise impacts remain shrouded in myths and polemics. In this review, empirical research about the effects of collective bargaining on local services is examined. A taxonomy is developed to compare and evaluate the research, the preponderance of which has focused on employee wages. Analysis of the research indicates that public employee gains from collective bargaining are not evenly distributed across occupational groups and that collective bargaining has contributed to increased municipal expenditures and fiscal effort. However, research still needs to be undertaken to fill significant gaps in our knowledge about collective bargaining's impacts, particularly with regard to the issues of the efficiency and effectiveness of local government services.

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James Perry is associate professor in the Graduate School of Administration, University of California, Irvine. He is co-author or author of numerous articles and co-author of Technological Innovation in American Local Governments (Pergamon, 1979).
both the amount (e.g., number of employees and/or hours-worked) and composition (e.g., number of full-time workers versus number of part-time workers) of human resources. Public employee unions or collective bargaining might affect managerial decisions about the amount and composition of these resources. Wages and hours worked are probably the inputs most directly affected by collective bargaining. Impacts upon these inputs are translated, through other policy and strategy decisions, into decisions on the size and composition of the workforce.

The activities category in Figure 1 refers to the rules regarding the quality and quantity of services delivered and the procedures for delivering a designated level of service. Since these rules influence the productivity of employees and the efficiency of task accomplishment, and because unions and collective bargaining often influence these rules, it is expected that the productivity of the worker will be affected. The direction of the effect on productivity, either an increase or decrease, will depend upon the type of rule change.

The output category of the taxonomy presented in Figure 1 refers to the tasks accomplished or resources expended by the organization. Since outputs are a result of some combination of inputs and activities, the effects of collective bargaining at other points in the input-output chain might lead to decreases or increases of output.

The consequences category is not a simple derivative of the output component. Consequences of local services involve how citizens perceive matters of concern to them. Despite improvements in how efficiently outputs are produced, environmental factors might hinder a proportionate improvement in the consequences of local services. To the extent that collective bargaining affects outputs directly or how outputs are perceived by citizens, the consequences of local services might be altered.

This input-output taxonomy is used in the next section to classify the impacts of unionization and collective bargaining and to assess the adequacy and coverage of previous research.

**Review of the Literature**

Summary information on 20 studies that investigated the impacts of unionization and collective bargaining upon aspects of the delivery of local government services is presented in Table 1. We have selected research on municipal governments that employed large samples from which statistical inferences were drawn. Most of the studies used an ex post facto research design and multiple regression analysis. The studies we selected originate predominately from the field of labor economics, but some come from the fields of public administration and organizational behavior.

Several conventions were followed in creating Table 1. First, the studies are listed chronologically to highlight the development of this growing area of research. Second, abbreviated names of variables, rather than the complete variable label, are sometimes used in the table. The independent variables reported in the table are confined primarily to those that measured variations in either unionization or collective bargaining. Finally, the "major findings" column in Table 1 summarizes only the general conclusions of each of the studies.

Even without a detailed examination of each of the studies in Table 1, several generalizations evolve from inspection of the summary information. For example, perusing the column in Table 1 headed "government function studied" reveals that a great deal of research has focused on the uniformed services, i.e., police, fire, and transit. In fact, these functions are examined in a majority of the studies. Research that looks exclusively at other local government functions is an exception. For example, little or no research focuses on recreation, library or social services. Of course, there are good reasons for the predominant emphasis on uniformed services, among them the essential nature of these services, their comparability from city to city, and the availability of adequate data about these services.

A review of Table 1 also indicates that most research on the impacts of collective bargaining relies on data bases drawn from the 1960s and early 1970s. This

**FIGURE 1**

A Taxonomy for Assessing the Impacts of Collective Bargaining on Local Services
<table>
<thead>
<tr>
<th>Study</th>
<th>Scope of Sample</th>
<th>Government Function Studied</th>
<th>Sample Size</th>
<th>Year(s) Data Were Collected</th>
<th>Dependent Variable(s)</th>
<th>Independent Variable(s)</th>
<th>Major Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melvin Lurie, &quot;The Effect of Unionization on Wages in the Transit Industry,&quot; <em>Journal of Political Economy</em>, 69 (December 1961), 558-572.</td>
<td>American Transit Association member organizations</td>
<td>Transit</td>
<td>250</td>
<td>1914-1949</td>
<td>Basic wage rate per hour, Payments per hour for &quot;time not worked&quot; and premium payments, Value of fringe benefits</td>
<td>Presence (absence) of a union</td>
<td>4-10% increase in wages, 6-7% increase in non-wage rate earnings, 1.5% increase in fringe benefits</td>
</tr>
<tr>
<td>Orley Ashenfelter, &quot;The Effect of Unionization on Wages in the Public Sector: The Case of Fire Fighters,&quot; <em>Industrial and Labor Relations Review</em>, 24 (January 1971), 191-202.</td>
<td>Cities with populations of 25,000-100,000</td>
<td>Fire fighters</td>
<td>201</td>
<td>1961-1966</td>
<td>Average hourly wage, Average annual salary, Average weekly duty hours</td>
<td>Presence (absence) of a union</td>
<td>6-16% increase in average annual salary, 3-9% decrease in average annual duty hours, 0-10% increase in average annual salary</td>
</tr>
<tr>
<td>Ronald G. Ehrenberg, &quot;Municipal Government Structures, Unionization, and the Wages of Fire Fighters,&quot; <em>Industrial and Labor Relations Review</em>, 27 (October 1973), 36-48.</td>
<td>Cities with populations of 25,000-250,000</td>
<td>Fire fighters</td>
<td>270</td>
<td>1969</td>
<td>Entrance and maximum annual salary for fire fighters, Average annual salary for all department employees, Fire fighters' annual hours of work, Entrance and maximum hourly wage for fire fighters, Average hourly wage for all department employees</td>
<td>Presence (absence) of a union, Presence (absence) of a written contract</td>
<td>Presence of union has virtually no effect on hours or earnings; In cities with union contracts: 2-18% increase in hourly wages, 2-9% decrease of annual hours, 0-9% increase in annual earnings</td>
</tr>
<tr>
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<tr>
<td>James L. Fruend, &quot;Market and Union Influences on Municipal Wages,&quot;</td>
<td>Cities with a population over 50,000</td>
<td>All</td>
<td>40-80</td>
<td>1965-1971</td>
<td>Percentage change in average weekly earnings, 1965-1971</td>
<td>Percent unionization of city work force</td>
<td>The relationships between wage changes and union power and aggressiveness are negligible</td>
</tr>
<tr>
<td>Daniel S. Hamermesh, &quot;The Effect of Government Ownership on Union Wages,&quot; in Daniel S. Hamermesh (ed.), Labor in the Public and Non-Profit Sectors (Princeton, N.J.: Princeton University Press, 1975). PP. 227-263.</td>
<td>Cities with population between 100,000-1,000,000</td>
<td>Unionized bus drivers, Construction trades, Random sample of occupations</td>
<td>23-48</td>
<td>1963-1972</td>
<td>Entry wage of unionized bus drivers relative to manufacturing Wage of government craftsmen relative to that of unionized private craftsmen in the same trade</td>
<td>Presence (absence) of a union</td>
<td>Only in one of three data sets (transit) did the earnings of unionized government employees exceed those of private unionized employees in the same same occupation (by 9-12%)</td>
</tr>
<tr>
<td>Ronald G. Ehrenberg and Gerald S. Goldstein, &quot;A Model of Public Sector Wage Determination,&quot; Journal of Urban Economics, 2 (July 1975), 223-245.</td>
<td>Cities with a population over 25,000</td>
<td>All</td>
<td>284-478</td>
<td>1967</td>
<td>Average monthly earnings</td>
<td>Percent employees represented by unions or employee associations Geographic factors Occupational factors National union affiliation</td>
<td>2-16% increase in average monthly earnings Local union/nonunion wage differentials tended to be larger for each function than the national union/non-union differentials</td>
</tr>
<tr>
<td>Thomas A. Kochan and Hoyt N. Wheeler, &quot;Municipal Collective Bargaining: A Model and Analysis of Bargaining Outcomes,&quot; Industrial and Labor Relations Review, 29 (October 1975), 46-66.</td>
<td>Sample of 380 cities that were known to have engaged in collective bargaining with a local of the International Association of Fire Fighters</td>
<td>Fire fighters</td>
<td>121</td>
<td>1972</td>
<td>A cumulative index of scores on 53 contract items; progressively higher scores were assigned an item according to the degree it approached union bargaining goals</td>
<td>Union characteristics Management characteristics Degree of multilateral bargaining Environmental characteristics</td>
<td>The legal environment had the greatest effect on the contract index Degree of decision-making power of the management negotiator had a positive association with the contract index</td>
</tr>
<tr>
<td>Paul F. Gerhart, &quot;Determinants of Bargaining Outcomes in Local Government Labor Negotiations,&quot; Industrial and Labor Relations Review, 29 (April 1976), 331-351.</td>
<td>Sample of cities, counties, special districts and school districts of varying (but unspecified) population range</td>
<td>All except teachers and transit</td>
<td>262</td>
<td>1968</td>
<td>A cumulative index of scores on 158 contract items; progressively higher scores were assigned an item according to the degree it approached union bargaining goals</td>
<td>Statutory bargaining obligation Anti-strike legislation International union affiliation Union political activity Public policy environment (voter sympathy)</td>
<td>Statutory bargaining obligation and public policy environment were related to higher bargaining outcomes Union political activity and international union affiliation had no influence on bargaining outcomes Automatic penalties against strikers lessened union power</td>
</tr>
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<td>David Lewin and John H. Keith, Jr., &quot;Managerial Responses to Perceived Labor Shortages,&quot; Criminology. 14 (May 1976), 65-93.</td>
<td>Cities with populations over 250,000</td>
<td>Police</td>
<td>46-55</td>
<td>1971-1972</td>
<td>Minimum and maximum annual salary for police patrolmen</td>
<td>Presence (absence) of a union</td>
<td>Unionization was related to lower police salaries</td>
</tr>
<tr>
<td>James L. Perry and Charles H. Levine, &quot;An Interorganizational Analysis of Power, Conflict and Settlements in Public Sector Collective Bargaining,&quot; American Political Science Review, 70 (December 1976), 1185-1201.</td>
<td>New York City</td>
<td>All</td>
<td>60</td>
<td>1968-1972</td>
<td>A cumulative index of changes of scores on contract items and separate indices for the salary, non-salary cost, and non-cost components of the contract</td>
<td>Union power Relative power</td>
<td>Union power was related to higher amounts of contractual change, greater improvements in nonsalary cost items, and greater improvement in noncost items</td>
</tr>
<tr>
<td>W. Clayton Hall and Bruce Vanderporten.</td>
<td>Cities with populations over 50,000</td>
<td>Police</td>
<td>141</td>
<td>1973</td>
<td>Minimum and maximum annual salary for a police private Average annual salary for all police department personnel</td>
<td>Presence (absence) of a written labor contract Presence (absence) of formal collective negotiations</td>
<td>Existence of a written labor contract was not significant Formal collective negotiations are related to small to moderate pay increases</td>
</tr>
<tr>
<td>Richard B. Victor, The Effects of Unionism on the Wage and Employment Levels of Police and Firefighters (Santa Monica, Calif.: The Rand Corporation, P-5924, 1977).</td>
<td>Cities with populations over 50,000</td>
<td>Police and fire fighters</td>
<td>187-209</td>
<td>1975</td>
<td>Average annual salary Per capita full-time equivalent police and fire fighters</td>
<td>Percentage of the municipal labor force in the function who are union members Presence (absence) of a recognized union Presence (absence) of a collective bargaining agreement</td>
<td>The three measures of union power exhibit remarkable internal consistency 7.8-12.3% increase for police wages; 12.1-27.8% increase for fire wages. Unionism increases fire fighters employment, but not police employment</td>
</tr>
<tr>
<td>David Shapiro, &quot;Relative Wage Effects of Unions in the Public and Private Sectors,&quot; Industrial and Labor Relations Review, 31 (January 1978), 193-203.</td>
<td>Males 45-59 years of age</td>
<td>All</td>
<td>99-1136</td>
<td>1971</td>
<td>Hourly wage rates for blue collar and white collar workers</td>
<td>Whether or not wages are set by collective bargaining</td>
<td>Unionization of white-collar government workers does not result in significant gains in earnings Unionization of blue-collar workers significantly increases wages</td>
</tr>
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<tr>
<td>Stanley Benecki, “Municipal Expenditure Levels and Collective Bargaining,” Industrial Relations, 17 (May 1978), 216-230.</td>
<td>Cities with populations over 10,000</td>
<td>All</td>
<td>81-347</td>
<td>1969-1972</td>
<td>Expenditure, revenue, debt, and employment levels</td>
<td>Percentage employees represented by unions or employee associations Institutional bargaining variables</td>
<td>Collective bargaining is associated with higher levels of personnel expenditures relative to other expenditures; larger budgets; and lower levels of employment</td>
</tr>
<tr>
<td>Richard C. Kearney, “The Impacts of Police Unionization on Municipal Budgetary Outcomes.” Paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago, April 1978.</td>
<td>Southwestern cities with populations between 10,000 and 250,000</td>
<td>Police</td>
<td>109</td>
<td>1967-1976</td>
<td>Police personnel expenditures as a percentage of total police expenditures</td>
<td>Percentage of police employees represented by an organization which conducts formal or informal negotiations Presence (absence) of a collective bargaining contract</td>
<td>Police unions appear to exert a slight impact on budgetary outcomes</td>
</tr>
<tr>
<td>Russell L. Smith and William Lyons, “Public Sector Unionization and Municipal Wages: The Case of Fire Fighters.” Paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago, April 1978.</td>
<td>Cities with populations over 25,000 in 1960</td>
<td>Fire fighters</td>
<td>342-411</td>
<td>1960-1970</td>
<td>Annual salary for entering employees Weekly work hours</td>
<td>Presence (absence) of a local union Presence (absence) of a contract Presence (absence) of a dues checkoff provision</td>
<td>12% increase in wages 18% reduction in hours Presence of a union was more significant than existence of a contract</td>
</tr>
<tr>
<td>Philip B. Coulter, “Organizational Effectiveness in the Public Sector: The Example of Municipal Fire Protection,” Administrative Science Quarterly, 24 (March 1979), 65-81.</td>
<td>Cities with populations over 25,000</td>
<td>Fire fighters</td>
<td>324</td>
<td>1973</td>
<td>Expenditures Prevention effectiveness Suppression effectiveness Productivity</td>
<td>Unionization</td>
<td>Unionization was related to higher expenditures, but not to suppression effectiveness or productivity</td>
</tr>
<tr>
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<tr>
<td>James L. Perry, Harold L. Angle, and Mark E. Pittel, <em>The Impact of Labor-Management Relations on Productivity and Efficiency in Urban Mass Transit</em> (Washington, D.C.: U.S. Department of Transportation, Research and Special Programs Administration, Office of University Research, 1979).</td>
<td>Public transit organizations in the Western United States</td>
<td>Transit</td>
<td>28</td>
<td>1977</td>
<td>Service efficiency (labor productivity, operating expense ratios) Service effectiveness Employee withdrawal (turnover, absenteeism, tardiness) Organizational adaptability</td>
<td>Legal, organizational structure, attitudinal and policy variables</td>
<td>Organizational policies in the collective bargaining agreement significantly influenced service efficiency and employee withdrawal Service effectiveness was not systematically related to the labor-management variables</td>
</tr>
<tr>
<td>Jean Baderschneider, &quot;Collective Bargaining Pressure on Municipal Fiscal Capacity and Fiscal Effort.&quot; Paper presented at the Annual Meeting of the National Academy of Management, Atlanta, August 1979.</td>
<td>Cities with populations over 50,000 in 1975</td>
<td>All</td>
<td>289</td>
<td>1967 and 1975</td>
<td>Fiscal capacity (financial capability) Fiscal effort (extent government utilizes its financial capability)</td>
<td>Presence (absence) of collective bargaining legislation covering police and fire fighters</td>
<td>Some support that collective bargaining legislation is associated with ability to pay and substantial support that it is associated with increased fiscal effort</td>
</tr>
</tbody>
</table>
Scholars have consistently concluded that unionized public employees do no better than unionized private employees. Thus, the observed differences between unionized and nonunionized employees reflect nothing endemic to the public sector, contrary to assertions that have received wide currency.

Other municipal employees have not fared as well as fire fighters, but transit employees are probably a close second with an estimated 9-12 percent wage differential between unionized and nonunionized organizations. The wages of unionized police employees have actually been found to lag behind their nonunionized counterparts in two studies, although two more recent analyses found that police unionization had a positive influence on wages. These contrasting results probably indicate that employees in low-wage police departments organized principally to increase wages, but that their efforts did not achieve instantaneous success.

While the research results are not in complete accord, general municipal employees (e.g., highways, sewerage, sanitation, parks and recreation, and libraries) do not appear to have achieved significant wage gains from unionization. Only Ehrenberg and Goldstein concluded that unionization has had an upward influence on the wages of general municipal employees. Two studies, using more recent samples, found that unionization had no effect on the wages of general municipal employees.

Although the aggregate effects of collective bargaining on local employee wages would appear to be positive, nothing sets the results for public employees apart from their private union counterparts. Scholars have consistently concluded that unionized public employees do no better than unionized private employees. Thus, the observed differences between unionized and nonunionized employees reflect nothing endemic to the public sector, contrary to assertions that have received wide currency.

Fringe Benefits. The price of labor might not be the only input that has been affected by unionization and collective bargaining. Although research on employee benefits has been quite limited, there is some indication that employees, by organizing and bargaining collectively, are more likely to improve their benefits and working conditions than they are wages. Four studies that have looked directly at fringe benefits concluded that employees achieved fringe benefit gains through either unionization or collective bargaining. Kochan and Wheeler's finding that collective bargaining has contributed to significant gains in overall bargaining outcomes for fire fighters indicates that significant wage increases for fire fighters have not dampened their success in achieving non-wage gains as well. There is some support, however, for the belief that unions gradually shift their relative priorities between wages and fringe benefits as they become more established. For example, in his study of transit motormen, Lurie concluded that after 1938 transit unions placed a higher priority on securing fringe benefits than they had in the preceding two decades.

Employment. An enduring controversy in economics involves the disemployment effects of unionism. The controversy involves the extent to which bargained increases in wages and other terms of employment will result in reduced levels of employment. This controversy is particularly meaningful to the current predicament of municipal governments. Given the "essential" nature of many municipal services, it seems highly unlikely that increases in the price of labor could be offset by reductions in employment. This does appear to be the case for uniformed services, where the employment levels of police have remained constant and fire fighter employment levels have actually increased despite increases in the price of labor. However, the inelasticity of demand for these occupational groups is not characteristic of all municipal services. Benecki found that...
unionization significantly reduced overall employment levels, particularly in large cities. These reductions in employment, of course, might result from a variety of sources, among them decisions by the local legislature to decrease the quantity of municipal services in the face of higher labor costs, substitution of new technologies for relatively more expensive labor, or increases in the productivity of existing employees.

Environmental Moderators. As we noted in our discussion of the taxonomy, environmental factors affect other variables within each component of the model. Environmental influences are particularly important in assessing the effects of unionization and collective bargaining on local government inputs. Two specific environmental influences, the city government structure and the degree of monopsony power held by the city, seem especially likely to moderate the influences of unionization and collective bargaining on local government inputs.

Three types of city government structure have been studied in assessing the impacts of collective bargaining: city manager, commission, and mayor-council. It is generally believed that a manager or commission type government, because it is more professional, will be able to hold the line against unions more effectively than a mayor-council form of government. However, manager and commission structures do not appear to moderate union influences on wages and fringe benefits. In fact, there is some indication that the wages of union members might actually be higher in the city manager cities, but these wage differentials are probably offset by higher employee productivity.

Another factor that may blunt the power of a union is the monopsony power held by the municipal employer. Monopsony refers to the demand side of the demand-supply equation. It is analogous to a monopoly, but, instead of one supplier, there is only one purchaser of a good or service. Thus, the degree to which a city is the only buyer of particular labor skills in a given geographic area, it exercises monopsony power. With only one exception, research indicates that city monopsony power does dampen union influence. However, Hall and Vanderporten suggest that monopsony power might moderate union influence only under limited circumstances. Hall and Vanderporten found that the ability of geographically isolated cities to wield monopsony power is not sustained when employees have achieved formal bargaining rights. In such cases, bilateral monopoly settlements yielded salaries similar to those reached in cities located in more competitive urban areas. Thus, a strong union might be able to overcome the monopsonistic power of a city.

Other research, while not testing the monopsony issue directly, has looked into differentials in union power associated with city or metropolitan area size. Both Ashenfelter and Ehrenberg found that the union had greater impact upon wages in smaller cities than in larger cities. Gerhart, in assessing aggregate contract outcomes, discovered that unions operating in small SMSAs fared better than unions in jurisdictions outside of SMSAs or than unions in large SMSAs. Surprisingly, contract index scores were lower in large SMSAs. Among his explanations for the relative success of governmental jurisdictions in large SMSAs was that management might be more sophisticated and that the process may be more political, and hence informal, in the largest cities. Both of these would have a tendency to decrease union power relative to management. Thus, it appears that employer monopsony can have a dampening effect on union power, but only in limited circumstances.

Activities

While a great deal of heat has been generated in the last several years about collective bargaining and employee productivity, work rules, and policy encroachment, the research to date has shed little light upon these controversies. Although his research was intended to be exploratory rather than conclusive, Stanley's multiple-case study remains the most comprehensive analysis of collective bargaining and municipal activities. His general conclusion was that unions had won victories over working conditions in a narrow sense, but that management maintained firm control over policy determination and operations management.

In the decade since Stanley's research, no one has undertaken to reassess systematically his conclusions. However, two recent studies have looked at various aspects of collective bargaining and work management. Coulter examined the influence of unions on the productivity of fire departments (as measured by the total cost of fires, i.e., expenditures plus property loss, per capita). Using a multivariate procedure called discriminant analysis, Coulter concluded that unionism neither decreased nor increased productivity.

Clues to the reasons why unionization or collective bargaining might have no net effect on productivity are provided in a recent study of public mass transit organizations. Collectively-bargained work rules, generally believed to reduce productivity, were found to have both positive and negative effects on labor productivity and operating costs. This finding confirms Stanley's earlier assertion that "some forces tend to offset each other." Overall, however, the transit study concluded that productivity and efficiency could be improved if labor would agree to the relaxation of certain scheduling and guaranteed-minimum work rules, and if both labor and management cooperated in developing work attendance incentives and improving grievance procedures.

Outputs

Although the research is far from voluminous, we know much more about the impact of collective bargaining on municipal outputs than about its impacts on municipal activities. For instance, widespread consensus surrounds the conclusion that collective bargaining has driven municipal expenditures upward. In the
most comprehensive study of the influences of collective bargaining on expenditure patterns, Benecki found that unionization was associated with higher personnel expenditures and higher overall expenditures. These results, however, were not uniform for large and small cities. In the largest cities, unionization was associated with lower levels of governmental activity because of a highly significant and negative relationship between unionization and employment. On the other hand, unionization in the smallest cities was associated with higher levels of governmental activity related to significantly higher personnel expenditures.

A possible reason for this disparity between large and small cities is that larger cities tend to offer a greater quantity and variety of services while smaller cities might offer an irreducible core. The greater quantity and variety offers a source of slack to the larger cities. Benecki speculates that large cities can eliminate peripheral programs and still maintain their core while smaller cities cannot. Thus, large cities are more likely to cut back on output and incur disemployment. Smaller cities are more likely to incur higher levels of expenditures, especially in the personnel sector, and to implement some revenue shortfall, e.g., incurring short-term debt, in order to cope with the aftermaths of unionization and collective bargaining.

The differences between large and small cities might also be accounted for by differences in the development of unionization in the two size classifications. Larger cities exhibit greater unionization, which might reflect longer-standing bargaining relationships. If this is true, then the adjustment mechanism used by smaller cities, that of expenditure adjustment, may represent the short-run impact of bargaining. In the long run, however, employment might be expected to decline in smaller cities just as it has in large cities.

In the fact of expenditure increases, revenues and taxes have risen correspondingly. Schmenner found tax rates positively correlated with police-fire wage settlements. However, when the tax rate was lagged back two years, it was negatively correlated with police-fire wages. Perhaps the most plausible explanation for these temporal differences is that, in the short run, politicians seldom react to negotiated wage increases by increasing taxes. However, local decision makers must ultimately raise taxes as a result of negotiated wage increases. In a similar vein, Baderschneider found that fiscal effort was greater in jurisdictions that were covered by collective bargaining legislation for police and fire fighters.

**Consequences**

Like the activities category of the taxonomy, very little research has been directed at discovering how and in what ways unionization and collective bargaining might affect local service effectiveness. Two studies, focusing on fire departments and public transit agencies, have explored simple associations between collective bargaining variables and measures of service effectiveness. Coulter examined the relationship between union-
ment methods. Of course, the absence of an association between bargaining and consequences could also indicate that the consequences dimension of the taxonomy is much more complex than the variables that have been studied. For example, if collective bargaining has contributed to redistributions of local government outputs, then any attempt to measure collective bargaining's impacts should probably focus on citywide rather than service-related measures of effectiveness.

Conclusions

This paper has reviewed empirical research on the impacts of unionization and collective bargaining on local government services. Our conclusions about these impacts are summarized in Table 2. In retrospect, this collection of research findings represents significant strides beyond our knowledge of a few years ago. However, important questions about impacts within each category in the taxonomy remain to be investigated and answered.

The various studies have shown that unions probably do contribute positively to employee wages. The precise magnitude of this influence is difficult to judge. While more work needs to be done in determining the effect, greater emphasis should be given to non-uniformed employees. More specifically, studies which look at several categories of employees should be conducted. Furthermore, total compensation should be included more frequently in this research. Unionization and collective bargaining probably influence total compensation, but the magnitude is difficult to judge given our existing knowledge.

There is also a need to determine if collective bargaining encourages management to substitute capital for labor and, if so, how much. Furthermore, changes in the occupational composition of the public workforce also need to be assessed. This type of research might shed light on the role unions have played in local government innovation. Better methods for measuring least-cost combinations of capital and labor might first have to be developed.

As public employee unions expand and mature, bargaining emphasis appears to change. Hours, fringe benefits, and work rules may take on greater importance. If this is so, productivity bargaining may become a dominant form of bargaining in the future. It will be crucial to better understand this type of bargaining in order to avoid the pitfalls that Horton uncovered in New York City. Methodologies must also be developed for assessing the productivity-related implications of changes in work rules.

It is with regard to local government outputs and consequences that the most glaring research needs arise. Is it city size along that is associated with the differential union effect on expenditures or some other variables? Virtually no research has explored unionization's effects on consequences. Only through a more complete understanding of these and other impacts will we be able to sweep away the myths surrounding local government bargaining and replace them with more informed judgments.

Notes


3. These criteria have led to the exclusion of research on teachers as well as single- and multiple-city case studies. A moderate amount of research has focused upon the impacts of collective bargaining in public education. See, for example, W. Clayton Hall and Norman E. Carroll, "The Effect of Teachers' Organization on Salaries and Class Size," Industrial and Labor Relations Review, 26 (January 1973), 843-841, and Gary A. Moore, "The Effect of Collective Bargaining on Internal Salary Structures in the Public Schools," Industrial and Labor Relations Review, 29 (April 1976), 352-362. The primary reason for excluding this research is the difference between the institutional contexts of public education and municipal governments. Differences in the composition of their workforces and their legal status threaten the validity of any comparisons.

Case studies tend to be more useful for generating than for testing hypotheses. Although case studies are not included in our review, both single- and multiple-city case studies have been useful for assessing collective bargains' impacts. See, among others, David Stanley, Managing Local Government Under Union Pressure (Washington, D.C.: The Brookings Institution, 1972), and Raymond D. Horton, "Productivity and Productivity Bargaining in Government: A Critical Analysis," Public Administration Review, 36 (July/August 1976), 407-414.

4. It should be noted that unionization and collective bargaining are not one and the same. The term unionization is usually used to denote the proportion of a work force that
belongs to a union, while collective bargaining is used to refer to the formal structure of negotiations between management and labor. However, in this paper the terms are, for the most part, used interchangeably because the measurement of the two concepts in many of the studies does not permit a distinct separation of the effects of each. Many of the studies include collective bargaining as part of the unionization variable or lump collective bargaining together with several factors such as dues checkoff and affiliation with a national union to form a "strength of union" variable. Thus, the distinction between unionization and collective bargaining is valid, but their respective effects cannot be separated given our existing knowledge base.


11. This is the most plausible of the explanations for a negative relationship between police unionism and wages offered by Lewin and Keith, op. cit., p. 76. Another possible explanation, however, is what some researchers term the "simultaneity problem." Simply, this problem involves whether or not several inputs (e.g., wages, fringes, and employment) are determined simultaneously. If several outcomes are determined simultaneously, then ordinary least squares estimates could produce the results found by Lewin and Keith. See Victor, op. cit., p. 7.


17. Lurie, op. cit. Smith and Lyons, op. cit., also suggest that the union's bargaining emphasis shifts as it becomes more established.

18. For a summary and critique of the classical literature on the wage-employment tradeoff, see Arthur M. Ross, Trade Union Wage Policy (Berkeley, Calif.: University of California Press, 1956).


22. Ehrenberg, op. cit. and Ehrenberg and Goldstein, op. cit.

23. The exception is Schmenner, op. cit.

24. Hall and Vanderporten, op. cit.

25. Ashenfelter, op. cit. and Ehrenberg, op. cit.


27. Several of the studies in Table 1 have investigated activities like work rules, but they have done so only through their inclusion in additive contract indices. See Kochan and


31. Stanley, op. cit., p. 139.


33. Benecki, op. cit.

34. Ibid.

35. Schmenner, op. cit.


37. Coulter, op. cit.

38. Perry, Angle, and Pittel, op. cit.


40. Horton, op. cit.