

Bargaining Laws as a Cause and Consequence of the Growth of Teacher Unionism

Gregory M. Saltzman

Industrial and Labor Relations Review, Volume 38, Issue 3 (Apr., 1985), 335-351.

Stable URL:
http://links.jstor.org/sici?sici=0019-7939%28198504%2938%3A3%3C335%3ABLAACA%3E2.0.CO%3B2-U

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at http://www.jstor.org/about/terms.html. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

Industrial and Labor Relations Review is published by Cornell University, School of Industrial & Labor Relations. Please contact the publisher for further permissions regarding the use of this work. Publisher contact information may be obtained at http://www.jstor.org/journals/cschool.html.

Industrial and Labor Relations Review
©1985 Cornell University, School of Industrial & Labor Relations

JSTOR and the JSTOR logo are trademarks of JSTOR, and are Registered in the U.S. Patent and Trademark Office. For more information on JSTOR contact jstor-info@umich.edu.

©2002 JSTOR

http://www.jstor.org/
Wed Jan 30 11:43:54 2002

BARGAINING LAWS AS A CAUSE AND CONSEQUENCE OF THE GROWTH OF TEACHER UNIONISM

GREGORY M. SALTZMAN*

This study analyzes state-level data for 1959–78 to determine whether the rapid growth of teacher unionism during those years was primarily a result or a cause of the public sector bargaining laws adopted during the same period. The author finds, contrary to the view of some scholars, that the enactment of laws requiring public sector employers to bargain with majority representatives of their employees was the single most important cause of the growth in the proportion of teachers covered by union contracts. Although the growth in teacher unionism in turn encouraged the adoption of some new or stronger bargaining laws, this effect was relatively weak. More important predictors of new bargaining laws included the extent of political patronage in a state and the bargaining laws adopted by neighboring states.

IN THE past 30 years, millions of public employees have either joined unions or forced the transformation of existing public employee associations into unions, and many states have enacted legislation extending the union rights of public employees. Neither of these important developments, however, was anticipated by most industrial relations scholars, and neither has been fully explained, even retrospectively. To assist the search for such an explanation, this study examines the growth of collective bargaining by public school teachers and the enactment of teacher bargaining laws.[1] Its central focus is what Burton called "the most tantalizing question about the growth of public sector bargaining," namely, how important were changes in bargaining laws as a cause of the growth of bargaining?[2]

Two conflicting answers have been offered to that question. On the one hand, many teacher union leaders and school board representatives have claimed that bargaining laws were very important. Most of the seventy practitioners interviewed for

*The author is Assistant Professor at Brandeis University in the Florence Heller Graduate School for Advanced Studies in Social Welfare. This paper is based on a dissertation completed at the University of Wisconsin under the supervision of James L. Stern, Glen Cain, and W. Lee Hansen. Michael Borus, Robert Lerman, and Audrey R. Newell provided helpful comments on a draft of the paper. The research was supported in part by a doctoral dissertation grant from the U.S. Department of Labor and a fellowship from the National Science Foundation.

[1]Restricting the focus to a homogeneous group such as teachers effectively holds many variables constant.

[2]John F. Burton, Jr., "The Extent of Collective Bargaining in the Public Sector," in Benjamin Aaron, Joseph Grodin, and James L. Stern, eds., *Public-Sector Bargaining* (Washington, D.C.: Bureau of National Affairs, 1979), p. 36.

Industrial and Labor Relations Review, Vol. 38, No. 3 (April 1985). © 1985 by Cornell University.
0019-7939/85/3803 $01.00

this study,[3] for example, pointed to the enactment of laws establishing a duty to bargain as the single leading reason for the spread of teacher bargaining.[4] They argued that such laws reduce the will and ability of public employers to resist the unionization of employees and that, to a lesser extent, these laws directly stimulate employee interest in bargaining. These practitioners also claimed that anti-union laws, or even an absence of pro-union laws, significantly hinder the growth of bargaining.

On the other hand, some scholars have argued that bargaining legislation has only a small effect on the extent of bargaining. In comments on the private sector, Dunlop asserted that although the Wagner Act prevented the destruction of unions during depressions, it played only a minor role in the initial organizing of workers.[5] More recently, Burton contended that the laws enacted in the 1960s and 1970s giving public employees the right to bargain "were no more important than several other factors" in explaining the growth of public sector bargaining.[6] He added that "in some instances, the enactment of favorable legislation was as much a result of membership growth as a cause of it."[7] This latter claim implies that part of the apparent impact of bargaining legislation should be attributed to the pre-existing strength of public employee unions.

Empirical analysis is needed to choose between these interpretations. Accordingly, this study presents estimates of the impact of changes in bargaining laws on the extent of teacher bargaining and the impact of changes in the extent of teacher bargaining on the nature of bargaining laws. The study also estimates the impact on bargaining coverage and on bargaining laws of other explanatory variables that are important, not only as controls but also in their own right. Finally, the paper concludes with comments on public policy and potential union strategy.

Previous Studies

Although there have been many qualitative studies of the development of teacher unionism and many econometric studies of union growth in general, there have been few econometric studies of the growth of teacher unionism or the enactment of public sector bargaining laws. Among the few are a paper by Moore, which analyzes the growth of teacher organizations and teacher bargaining coverage, and papers by Kochan and by Moore and Newman, which analyze the enactment of public sector bargaining laws.[8] The object of the present study is to improve upon those three papers by using a larger data set, additional explanatory variables (e.g., employment concentration, the extent of patronage in public employment, and Democratic Party strength), and—most importantly—different dependent variables.

This paper distinguishes, for example,

[3]I interviewed 22 officers and staff members of the American Federation of Teachers (AFT), 24 officers and staff members of the National Education Association (NEA), 13 management representatives, and 11 others. Although many of those interviewed played leading roles in the unionization of teachers, an effort was made to obtain a variety of perspectives by interviewing persons ranging from AFT President Albert Shanker to rank-and-file members of teacher organizations. The emphasis on AFT and NEA personnel reflects the focus of this study, namely, the activities of teacher organizations. For a list of those interviewed and further details of the interview process, see Gregory M. Saltzman, "The Growth of Teacher Bargaining and the Enactment of Teacher Bargaining Laws," unpublished doctoral dissertation, Department of Economics, University of Wisconsin, 1981, pp. 358–68.

[4]Some of the statutes also established election machinery to determine representation and prohibit employer discrimination against union activists. The effect that is attributed to the duty to bargain might therefore have sometimes resulted, at least in part, from these other statutory provisions. In many cases, however, the statutes they cited had merely established the duty to bargain and omitted the other provisions when they were first enacted.

[5]John T. Dunlop, "Comments" on Irving Bernstein's "Growth of American Unions, 1945–1960," *Labor History*, Vol. 2, No. 3 (Fall 1961), pp. 361–63.

[6]Burton, "The Extent of Collective Bargaining," pp. 15, 36–37.

[7]Ibid., p. 15.

[8]William Moore, "An Analysis of Teacher Union Growth," *Industrial Relations*, Vol. 17, No. 2 (May 1978), pp. 204–15; Thomas Kochan, "Correlates of State Public Employee Bargaining Laws," *Industrial Relations*, Vol. 12, No. 3 (October 1973), pp. 322–37; William Moore and Robert Newman, "A Note on the Passage of Public Bargaining Laws," *Industrial Relations*, Vol. 14, No. 3 (October 1975), pp. 364–70.

between those teacher organizations that are trade unions and those that are not. Moore's models of teacher union growth, on the other hand, use dependent variables that include all members of the two major teacher organizations for the period beginning in 1919. These organizations are the American Federation of Teachers (AFT), an openly declared trade union affiliated with the AFL-CIO; and the National Education Association (NEA), a professional association that shuns the label "union" but has become increasingly like one. Many AFT locals, however, used to be "friends of the labor movement" clubs, while NEA affiliates often were (and in some parts of the South, still are) primarily educational lobbying groups, social clubs, or company unions. Grouping these organizations together with real teacher unions makes it difficult to interpret Moore's regression results because the reasons for joining a social club, for example, may be entirely different from those for joining a union.[9] To avoid this inappropriate grouping of dissimilar local organizations, this paper uses as a dependent variable the extent of teacher bargaining coverage, which is a better measure of teacher unionization than is membership in the AFT or NEA.

Second, this paper takes into account the irreversibility of changes in the extent of teacher bargaining and the nature of teacher bargaining laws. Few school boards have terminated existing bargaining relationships, and few courts or legislatures have taken away legal bargaining rights already granted—even when environmental conditions have become much less favorable to unions than they were when the teacher organizations established their bargaining role. This irreversibility complicates the relationships among the variables, much as the irreversibility of hard boiling an egg complicates the relationship between the consistency and temperature of the egg (which, once hard boiled, remains so—even if it is subsequently refrigerated).

The regression models of bargaining legislation presented by Moore and Newman and by Kochan do not adjust for the existence of this "hard boiled egg effect." They used values of the explanatory variables in 1970 and 1972, respectively, to explain the nature of teacher bargaining laws in the same year. But for states where the bargaining laws had already been enacted in the 1960s, the nature of bargaining laws was a predetermined variable by 1970 or 1972; the laws reflected the social, economic, and political environment at the time of enactment, and not necessarily the environment in subsequent years. This paper, unlike the previous studies, uses *changes* in the extent of bargaining or the nature of bargaining legislation as a dependent variable. For example, 1970 values of the explanatory variables are used to explain changes taking place that year in the type of bargaining law, and not to explain the type of law already in effect.

A third difference between this paper and the previous studies concerns how bargaining laws are categorized. The Kochan and the Moore and Newman papers did not classify the laws for some states according to their own stated classification criteria. For example, both listed New Hampshire as having no public sector bargaining law, whereas in fact New Hampshire had a law authorizing but not requiring public employers to bargain. The classifications used here are based on a direct review of every relevant statute and court decision rather than on secondary legal sources.

The classification system used here better meets Kochan's aim of indicating the relative "extent to which the policies provide for a formalized bargaining relationship."[10] Kochan's scoring system gives the

[9]R. M. Blackburn made a similar point in a study of British bank clerks, arguing that one should consider both organizational membership and organizational character when measuring the extent of unionization. He cited collective bargaining activity as a hallmark of a union. See *Union Character and Social Class* (London: Batsford, 1967) pp. 10, 18–19, 28.

Admittedly, some public employee organizations that do not engage in collective bargaining nevertheless influence the terms and conditions of employment for their members by use of political action. They therefore could be reasonably defined as labor unions. But in the absence of good data indicating which local teacher organizations have used political action to regulate employment conditions to a significant degree, the analysis here excludes methods of job regulation other than collective bargaining.

[10]Kochan, "Correlates of State . . . Laws," p. 323.

same weight to important and unimportant features of labor laws, which results in such anomalies as higher scores for Alabama and Texas (which *prohibit* bargaining by teachers) than for Colorado (which at that time had no statutes or supreme court rulings clarifying the legal status of bargaining, but did have teacher bargaining contracts in effect). The Moore and Newman classification system avoids giving *higher* scores to laws that actually are less favorable to bargaining; but because its categories are relatively broad, it still assigns to the same category states that prohibit bargaining and states that do not specify whether bargaining is legal but allow it on a de facto basis. Distinguishing between such dissimilar legal situations would result in a better classification system. Therefore, this paper subdivides two of the Moore and Newman bargaining law categories in order to provide more homogeneous groupings.

Variables Affecting the Extent of Teacher Bargaining

The percentage of teachers in the United States covered by collective bargaining contracts increased substantially in the late 1960s and 1970s, as indicated in Table 1. Ideally, a general theory of union growth would provide the basis for specifying the variables that led to this increase. Unfortunately existing theories did not predict the upsurge of public employee unionism beginning in the 1960s and cannot fully explain it retrospectively. Particularly surprising to most researchers was that the wave of unionization in the public sector encompassed not only traditionally union-prone blue-collar workers, but also white-collar, professional, and supervisory workers such as school teachers and principals. In view of their lack of predictive power, previous theories seem to be poor guides for selecting explanatory variables. Instead, it seems more appropriate here to adopt John R. Commons's approach of developing a model based on observation.[11] Thus, the variables used to explain the extent of teacher bargaining coverage are derived from the opinions of the practitioners I interviewed and the findings of previous studies. These variables are grouped into the six categories that follow.

Table 1. Trends in Teacher Bargaining Coverage and Legislation in the United States, 1960–77.[a]

Year	*Percentage of Teachers Covered by Collective Bargaining Contracts*	*Number of States Requiring School Boards to Bargain*
1960	0%	0
1962	3	1[b]
1964	6	1
1966	12	5
1968	23	9
1970	34	18
1972	44	22
1974–75	56(1975)	27(1974)
1976	63	30
1977–78	65(1977)	31(1978)

[a]Sources described in "The Data and the Dependent Variables" section of the text.

[b]Whether the 1962 law, enacted in Wisconsin, established a duty to bargain was subject to dispute. In 1966 an administrative agency ruled, by a two to one vote, that it did not (*William E. Moes and City of New Berlin*, 61 LRRM 1487, Wisconsin Employment Relations Board, 1966). Nevertheless, the law is included here because it had other features that promoted the spread of bargaining. Specifically, it provided for enforcement by an administrative agency, prohibited unfair labor practices, and established an impasse resolution procedure.

Teacher and school characteristics. Two major changes in the post-war period are the substantial increases from 1950 to 1970 in the percentage of male teachers (*MALE*) and in the average size of schools and school systems (*SCLSIZE* and *SYSSIZE*, measured in thousands of teachers per school building or per school system, respectively). Although the effects of the feminist movement and the rising fraction of women with long-term commitments to market employment may eventually eliminate male-female differences in the propensity to unionize, many previous studies have found that men

[11]John R. Commons, *The Economics of Collective Action* (New York: Macmillan, 1950), chapter 10, "Methods of Investigation," especially pp. 136–37.

are more likely to be organized.[12] Thus, the increase in the number of male teachers may have contributed to the rise of teacher bargaining.

The increase in the average size of schools and school systems should have a similar effect.[13] There are five main reasons for this. First, large schools are more likely to have a "critical mass" of militant teachers who reinforce each other's activism. Second, in large schools, teachers are more difficult for principals to monitor and therefore have more latitude to engage in union activities. Third, large school systems present attractive organizing targets for unions because there are economies of scale in providing representation services. Fourth, teachers in large school systems can more credibly threaten to strike for recognition because it is harder to replace large groups of strikers. Finally, large school systems have bureaucratic rule-making and less personal contact between teachers and top administrators, which means that collective rather than individual bargaining is more effective in influencing employment conditions.

Labor market conditions. Teachers' real and relative earnings declined during World War II but rose steadily from the late 1940s to the late 1960s.[14] Thus, the claim by many practitioners that teachers became militant because of "bad salaries" is a plausible explanation for the teacher strikes of the late 1940s. But why did teachers become militant in the mid-1960s, when wages were better than ever before? Despite the improvements in teacher salaries, many teachers still resented earning less than some blue-collar workers. Moreover, the shortage of secondary teachers in the first half of the 1960s[15] and the availability of attractive employment alternatives during the Vietnam boom not only brought pay increases but also may have unleashed latent militancy among teachers by giving them the power to win strikes and engage in union activity without fear of losing their jobs.

The growth of bargaining should therefore be negatively related to the aggregate unemployment rate for the state in the previous year (*UNEMPL*). (Lagged values are used since union activitists are most vulnerable to employer coercion when the organizational campaign is just getting started, which is often a year before teachers win representation rights.) The relationships with teachers' relative earnings (*RLPAY*)[16] and the rate of growth in teacher employment over the preceding four years (*GROWTH*)[17] are unclear, however, since

[12]For example, see William Moore and Robert Newman, "On the Prospects for American Trade Union Growth: A Cross-Section Analysis," *Review of Economics and Statistics*, Vol. 57, No. 4 (November 1975), pp. 435–45.

[13]This hypothesis is supported by Bain (who found that white-collar workers in Britain were more likely to be organized when they were employed in large work groups) but not by the studies of private sector certification elections reviewed by Heneman and Sandver (which found negative relationships between unit size and the union victory rate). See George Bain, *The Growth of White-Collar Unionism* (Oxford: Clarendon Press: 1970), pp. 72–81; and Herbert Heneman III and Marcus Sandver, "Predicting the Outcome of Union Certification Elections: A Review of the Literature," *Industrial and Labor Relations Review*, Vol. 36, No. 4 (July 1983), pp. 537–59.

[14]Real earnings are listed in *Historical Statistics of the U.S. from Colonial Times to 1970* (Washington, D.C.: U.S. Bureau of the Census, 1975), Part 1, p. 375. Earnings compared to the wages earned by 2,000 hours of nonfarm unskilled labor are reported in Peter Lindert and Jeffrey Williamson, "Three Centuries of Inequality" (Madison, Wis.: University of Wisconsin, Institute for Research on Poverty, Discussion Paper 333–76, March 1976), p. 66.

[15]Joseph Kershaw and Roland McKean, *Teacher Shortages and Salary Schedules* (New York: McGraw-Hill, 1962), pp. 79–115.

[16]*RLPAY* was calculated by dividing the average nine month salary of teachers in a state by 50 × the average weekly earnings in that state of production workers in manufacturing. Ideally, relative earnings would also be measured using a group more comparable to teachers than are production workers; but data disaggregated by state and spanning the two decades studied are not available for other groups. In any case, teachers do compare their wages to those of blue-collar workers; and many teacher unions have organized and mobilized their members for strikes by citing the higher earnings of blue-collar workers with less than high school educations.

[17]Ideally, growth in teacher employment would be measured over the preceding year rather than over the preceding four years, but during the 1960s, data on the number of teachers employed were only available biennially. Furthermore, the unreliability of these data (as indicated by discrepancies between figures from the NEA and those from the U.S. Office of Education) made it difficult to obtain an accurate measure of changes over a two-year period because percentage changes in reported figures might reflect

low relative earnings and reduced or negative employment growth suggest both the economic grievances that spur militancy and the weak market position that forestalls it.

Membership of other unions. Although the percentage of employees belonging to unions grew for the public sector in the late 1960s and the 1970s, that for the labor force as a whole declined. Nevertheless, the labor movement remained strong in many states. The membership of all unions in a state should be positively related to the extent of teacher bargaining in that state because the labor movement often gave teachers political support.[18] The membership of public employee groups other than teachers should be particularly important, if only as an index of prevailing attitudes toward public sector bargaining. Thus, teacher bargaining should be positively related to the fraction of the population belonging to unions (*UNION*) and to the fraction of noneducational state and local public employees belonging to the American Federation of State, County, and Municipal Employees (*AFSCME*).[19]

Attitudes toward unions. Prevailing attitudes toward unions should affect both teachers' demand for bargaining rights and the willingness of school boards to grant them. One direct measure of these attitudes is the voting record of members of Congress, who presumably tend to vote in accordance with the preferences of their constituents. Teacher bargaining coverage thus should be positively related to the average rating by the AFL-CIO's Committee on Political Education (COPE) of each state's delegation to the U.S. House of Representatives, divided by the average COPE rating for the House as a whole (*COPE*).

Bargaining coverage may be related to two indirect measures of attitudes toward unions. The first is the level of economic development, which varies considerably by region. In particular, the South has traditionally been less developed. Marshall argued that Southerners tend to resist unions because they see them as a barrier to attracting industry.[20] This resistance to unionism may carry over to the public sector, particularly if allowing public sector bargaining leads to tax increases that may drive away investment.[21] Hence, bargaining coverage should be positively correlated with real state per capita income (*INCOME*, measured in thousands of 1967 dollars).

A second indirect measure of attitudes toward unions is urbanization. According to several of the practitioners interviewed, urban areas tend to be more pro-union, so there may be a positive relationship between the fraction of the population living in urbanized areas (*URBAN*) and the extent of teacher bargaining.

The previous extent of bargaining. The expected *change* in the extent of bargaining may depend upon the previous extent of bargaining (CB_{t-1}). When teacher bargaining is getting started, bargaining by some teachers may facilitate the spread of bargaining to other school systems in the same state because it provides an example for other teachers to imitate and because, in states where the legal status of bargaining is not clear, it may overcome the argument of school boards that bargaining is illegal. On the other hand, if bargaining is already extensive, the remaining school systems without bargaining may be the most difficult to organize. Furthermore, there is a strictly mechanical effect: the extent of bargaining cannot exceed 100 percent. Therefore, the expected increase in teacher bargaining should first rise, then fall, with the previous extent of bargaining.

---

minor errors in the data more than actual changes in employment. Therefore, *GROWTH* was measured over a period of four years so that actual changes would be relatively large compared to errors in the data.

[18]Jack Stieber, *Public Employee Unionism* (Washington, D.C.: Brookings Institution, 1973), pp. 108–10.

[19]Membership in public sector unions other than AFSCME might also be important, but data were not available on other unions. In any case, AFSCME represents far more noneducational state and local government employees than any other union. Thus, AFSCME membership is a reasonable proxy for the overall size of the NEA's and AFT's potential public sector allies.

[20]F. Ray Marshall, *Labor in the South* (Cambridge, Mass.: Harvard University Press, 1967), pp. 319–20.

[21]Daniel Gallagher, "Teacher Bargaining and School District Expenditure Levels," *Industrial Relations*, Vol. 17, No. 2 (May 1978), pp. 231–37; and Stanley Benecki, "Municipal Expenditure Levels and Collective Bargaining," *Industrial Relations*, Vol. 17, No. 2 (May 1978), pp. 216–30.

Public policy changes. State laws governing public sector labor relations changed substantially during the past three decades. The trend toward the legalization of bargaining began in the late 1950s. Subsequently, state laws regulating bargaining by teachers and other public employees became progressively more like the private sector National Labor Relations Act. More and more state laws not only allowed but required public employers to bargain with majority representatives, established administrative agencies to enforce prohibitions of unfair labor practicies, and gave public employees powerful weapons for inducing management concessions (either the right to strike or compulsory interest arbitration).

By all accounts, the extent of teacher bargaining should be positively related to the prior enactment of laws mandating bargaining with majority representatives (*MLAW2*, *MLAW4*, and *MLAW77*, dummy variables indicating, respectively, the enactment of a law in the preceding two years, enactment two to four years earlier, and a law on the books in 1977). The strength of this relationship, however, is in dispute: weak according to Burton and Dunlop, strong according to the practitioners. The extent of bargaining should also be positively related to the prior enactment of statutes or issuance of decisions by state appeals courts expressly permitting bargaining (*PLAW*)—such as the 1966 ruling in the *Board of Education of City of Chicago* case in Illinois; but it should be negatively related to laws banning representation elections (*ELAW*)—such as the 1965 Winton Act in California—and laws and court decisions expressly banning bargaining (*BLAW2*, indicating enactment in the prior two years, and *BLAWold*, indicating enactment more than two years before)—such as the 1977 ruling in the *County Board of Arlington* case in Virginia.[22]

[22]*Chicago Division of Illinois Education Association v. Board of Education of City of Chicago*, (Ill. App. Ct. 1966) 222 N.E. 2d 243; *Commonwealth of Virginia v. County Board of Arlington County*, (Va. S. Ct 1977) 232 S.E. 2d 30.

Factors Influencing the Nature of Teacher Bargaining Laws

What, in turn, explains the behavior of the state legislators and appeals court judges who effected these changes in bargaining statutes and case law?[23] The following factors may be important.

Bargaining coverage and union membership. The growing strength of public employee unions may be not only an effect but also a cause of public policy changes. As public employee unions gain strength, politicians will become more sensitive to their demands. (Bargaining laws, however, may also be enacted to control public employee strikes rather than to strengthen public employee unions, which suggests a different interpretation of any positive relationship between the strength of public employee unions and the enactment of public sector bargaining laws.) The overall membership of the labor movement may also affect the nature of public policy. Thus, the enactment of pro-union laws should be positively related to the lagged fraction of teachers covered by collective bargaining agreements (CB_{t-1}), the lagged change in that measure of teacher bargaining coverage (ΔCB_{t-1}), AFSCME membership (*AFSCME*), and total union membership (*UNION*).

Attitudes toward unions. Relative COPE ratings (*COPE*), the level of economic development (*INCOME*), and urbanization (*URBAN*) may be positively related to the prospects for pro-union public sector bargaining laws. The reasons for these associations are the same as those for the postulated associations with the extent of teacher bargaining.

[23]In Florida, the state supreme court not only effected changes in case law but virtually compelled the state legislature to enact a collective bargaining statute. This action was based on the court's controversial interpretation of the "right-to-work" provision of the 1968 revision of the Florida constitution, which the court construed as granting public employees the right to bargain. See *Dade County Classroom Teachers Association v. the Legislature of the State of Florida*, 269 So. 2d 684 (Florida, 1972). The legislature enacted a bargaining statute two years later, when it appeared that their continued inaction might lead to a state supreme court edict establishing compulsory interest arbitration. See BNA *Government Employee Relations Report*, No. 551, April 22, 1974, pp. B12–14.

Democratic party gains. Teacher bargaining laws are most likely to become more pro-union just after the Democratic party makes gains in state legislative and gubernatorial elections. Such legal changes are especially likely if the Democratic gains cause a change in control of state government. These changes in Democratic strength can be measured by two variables: first, the change in the percentage of seats held by Democrats in the house of the legislature where the Democrats were weaker (*%DEM*); and second, the change in the number of centers of power (the state senate, the state assembly, and the governorship) controlled by the Democratic party (*#DEM*).

Note that the variables used here measure *changes* in Democratic party strength, not *levels*. Using levels could be misleading because of the absence of a two-party system in much of the South prior to the 1970s. Thus, while a large Democratic majority might imply a liberal state legislature in most regions, that might not be the case in the South, where most legislators, liberal or conservative, were affiliated with the Democrats. Using *changes* in Democratic party representation provides a more accurate measure of the ebb and flow of liberal strength because it excludes one-party states where the Democrats always won all the seats.

The extent of political patronage. Public policy concerning bargaining may depend on the strength of the civil service system. Several practitioners told me that where patronage is extensive, politicians oppose granting bargaining rights. Often, one of the first things workers seek when they win bargaining rights is protection against arbitrary discharge. This proection, however, would undermine patronage-based political machines, because public employees would no longer have to work on political campaigns in order to keep their jobs. Therefore, states with a high proportion of public employees protected by a civil service merit system (*MERIT*) may be more likely to enact pro-union public sector bargaining laws.

Regional patterns. Sharkansky has shown that state governments tend to adopt policies similar to those in neighboring states because public officials are more likely to consult their counterparts in nearby states and because neighboring states often have many socioeconomic characteristics in common.[24] Although some of these socioeconomic characteristics are controlled for in this model, residual regional effects may still remain. The regional pattern in bargaining laws can be measured by four variables indicating the fraction of contiguous states in various categories just prior to the lawmakers' decision: the fraction banning bargaining (*BFRAC*), mandating bargaining (*MFRAC*), with a more pro-union law (*HIFRAC*), and with a less pro-union law (*LOFRAC*).

Previous bargaining laws. Finally, the probability that teacher bargaining laws will become more pro-union should be lower in a state with a law that already satisfies most union concerns. If that state does change the law, however, then the new law will probably be more pro-union than new laws in other states. These relationships can be captured with six dummy variables indicating the prior law category (*CAT1* through *CAT6*).

The Data and the Dependent Variables

The preceding discussion suggests a list of variables that potentially explain the extent of teacher bargaining coverage and the nature of teacher bargaining laws. Aggregate statewide data were obtained for most of the variables for ten different years: for the bargaining coverage model, biennially from 1960 to 1972, plus 1975, 1976, and 1977; and for the bargaining law model, biennially from 1959–60 to 1977–78. Values for most of the variables could be readily calculated from a variety of published sources,[25] but deriving the data for

[24]Ira Sharkansky, *Regionalism in American Politics* (Indianapolis: Bobbs-Merrill, 1970), pp. 3–4.

[25]Values of the variables for each state were computed from data in the following sources: (1) *MALE, SCLSIZE, SYSSIZE,* and *GROWTH* from U.S. Office of Education, *Statistics of Public Elementary and Secondary Day Schools* (title varies) and NEA, *Estimates of School Statistics*; (2) *UNEMPL, INCOME, URBAN, #DEM,* and *%DEM* from *Statistical Abstract of the U.S.*; (3) *RLPAY* from *Estimates of School Statistics* and U.S. Bureau of Labor Statistics (BLS), *Employment and Earnings*; (4) *UNION* from BLS, *Directory of National Unions and*

Table 2. Categories of Teacher Bargaining Laws.

Category	*Description*
1. *BLAW*	Collective bargaining by teachers expressly prohibited.
2. *NOLAW*	No statute or generally applicable court ruling concerning the right to bargain (although there may be laws prohibiting strikes, permitting or mandating informal consultation with teachers, etc.).
2a. *ELAW*	Subset of category 2 in which secret ballot representation elections were banned; these statutes were obtained by the NEA in a few states in the 1960s for the purpose of thwarting AFT efforts to gain exclusive bargaining rights in big cities.
3. *PLAW*	Law expressly permits bargaining with teacher organizations.
4. *MLAW*	Law mandates bargaining with teacher organizations representing a majority of teachers in the school system.
5. *MLAW*	Category 4 plus an administrative agency to determine bargaining units and enforce a prohibition of unfair labor practices.
6. *MLAW*	Category 5 plus either compulsory interest arbitration or a protected right to strike.

Note: In none of the first five categories are strikes protected; in many cases, states in these categories explictly prohibit public employee strikes.

bargaining coverage and bargaining laws was considerably more complex.

For teacher bargaining coverage, the main problem was obtaining accurate data for the periods before 1966 and after 1972. Published data are available for the period from 1966 to 1972;[26] but deriving data for subsequent years required extensive calculations using the 1975, 1976, and 1977 Census of Governments tapes;[27] and data for the period from 1960 to 1965 (when teacher bargaining was still unusual) had to be obtained from scattered published reports, archival materials, and interviews. By contrast, the raw data for teacher bargaining law variables—statutes and major court decisions—are always published; but these statutes and court decisions had to be located and interpreted. Bargaining laws were grouped into the six mutually exclusive categories shown in Table 2. The categories are ordered: the higher the category, the more pro-union the law.[28]

Employee Associations, and U.S. Bureau of the Census, *Current Population Reports*; (5) *COPE* from *Congressional Quarterly Weekly*; (6) *MERIT* from Council of State Governments, *Book of the States*; and (7) *AFSCME* from data obtained from Prof. Leo Troy of Rutgers University. Note that all fractions and rates (*MALE, GROWTH, UNEMPL, AFSCME, UNION, URBAN, MERIT, CB77, AFTFRAC, BFRAC, MFRAC, HIFRAC,* and *LOFRAC*) were expressed as decimal fractions ranging from 0.0 to 1.0. ΔCB was also expressed as a decimal fraction, although it had negative values in those cases where extent of bargaining declined (as in Virginia in 1977, when collective bargaining was banned by court order).

[26]"Growth of Teacher Contracts, 1966–1973," *NEA Negotiation Research Digest*, January 1974, pp. 15–16.

[27]The Census of Governments tapes are based on questionnaires mailed to all state and local governments every five years (including 1977) and to a sample of state and local governments in other years. The questionnaires cover not only labor relations but also such topics as government finances. For a summary of the results for the labor relations questions and more information about the survey techniques, see U.S. Bureau of the Census, *Labor-Management Relations in State and Local Governments, 1977 Census of Governments*, Vol. 3, No. 3 (Washington, D.C.: GPO, 1979).

I manually vertified the Census of Governments data for about 1,000 cases (all school systems with instructional staffs of 1,000 or more, and those systems in which the tapes for different years gave contradictory information) by checking printed tables published by the NEA and, in somes cases, by telephoning the appropriate state and local affiliates of the AFT and the NEA. Based on these comparisons, the data from the Census of Governments tapes were corrected for about 300 cases.

[28]Bargaining law categories 4, 5, and 6 (shown in Table 2) were grouped together in the *MLAW* category to explain changes in the fraction of teachers covered by union contracts. In part, this grouping was needed because the dependent variable was limited. Most states enacted laws in stages, with the category 5 or 6 laws coming only after most teachers had made use of a category 4 law to win bargaining rights. In many cases, therefore, no further increases in bargaining coverage were possible when the category 5 or 6 law was enacted because bargaining coverage had already virtually reached the maximum limit of 100 percent.

A second reason for grouping the three categories was that the practitioners interviewed thought that the additional provisions of categories 5 and 6 (an administrative agency to enforce a prohibition of unfair

The bargaining coverage and bargaining law models each had two dependent variables, one measuring changes, the other, levels. These dependent variables were: (1) the annual change in the fraction of teachers in each state covered by collective bargaining agreements (ΔCB), (2) the fraction of teachers in each state covered by collective bargaining contracts in 1977 ($CB77$), (3) the probability that a state's bargaining law would change to a higher category in the particular biennium [$Pr(\Delta LAW)$], and (4) the category of law just after the change in category (LAW). Note that since $Pr(\Delta LAW)$ can vary only between zero (indicating that it would not change to a more pro-union category in the particular biennium) and one (indicating that it would change), it may be more realistic to postulate that the relationship in the $Pr(\Delta LAW)$ regression is logistic rather than linear.

A further assumption was that a simultaneous equation model was not appropriate. Since legislative changes are seen as both a cause and an effect of the spread of teacher bargaining, simultaneous equation bias could be a problem. The practitioners interviewed, however, claimed that these forces operate with a lag; i.e., a change in teacher bargaining laws affects the extent of bargaining only after a delay of some months or even years, and vice versa. Lagged values of the other dependent variable, however, are predetermined variables.[29] Since all the explanatory variables are either exogenous or predetermined, a simultaneous equation model is not appropriate.

The four equations were estimated using four different sets of observations. District of Columbia data were included in the regressions for bargaining coverage but not in those for bargaining laws since no DC data were available for several key political variables. Data for ten biennial cross-sections were used in estimating the ΔCB and $Pr(\Delta LAW)$ equations;[30] data for 1977 for the $CB77$ equation;[31] and data for the 52 cases between 1959 and 1978 where the law category changed for the LAW equation.

Bargaining Coverage Regressions

Regression estimates of the bargaining coverage models, Equations 1 and 2, are presented in Table 3. The major finding from these regressions is that changes in bargaining laws had a stronger association with the subsequent spread of bargaining than did any of the other explanatory variables. In particular, the enactment of laws mandating bargaining with majority representatives typically led to a rapid and substantial increase in the fraction of teachers covered by collective bargaining contracts. All three mandatory bargaining law variables, *MLAW2*, *MLAW4*, and *MLAW77*, had positive coefficients, indicating a positive relationship with increases in the extent of bargaining (ΔCB) and the extent of bar-

labor practices, and either compulsory arbitration or the right to strike) had little independent effect on the number of teachers covered by union contracts. Of course, the administrative agency and the ULP ban could be much more important for organizing in an industry where management fights unionization; and even in public education, arbitration or the right to strike could significantly affect bargaining outcomes.

[29]But where there is serial correlation in the error term, lagged endogenous variables are not predetermined and ordinary least squares estimates of the parameters will be inconsistent. [See Robert Pindyck and Daniel Rubinfeld, *Econometric Models and Econometric Forecasts*, 2d ed. (New York: McGraw-Hill, 1981), p. 193.] The appropriateness of OLS thus depends on the absence of serial correlation, but in a pooled cross-section/time series model such as that presented in Equations 1 or 3, one might expect serial correlation between the error terms for a given state in successive years. Because the Durbin-Watson test for serial correlation was not designed for pooled cross-section/time series regressions, an alternative test had to be devised. For both Equation 1 and Equation 3, I regressed the residuals for 1962–78 on the lagged residuals for the same state and tested for the significance of the relationship between them. The relationship between the residuals and the lagged residuals was statistically insignificant, suggesting that there was no serial correlation and that OLS was appropriate.

[30]Before the data were pooled, two hypotheses were tested: first, that the intercepts were the same for all states, and second, that they were the same for all years. An F test failed to reject these hypotheses at approximately the 5 percent level or better.

[31]Estimation using the entire set of observations from 1960–61 to 1977–78 was also attempted, but this pooled cross-section/time series approach could not be used because of a severe problem of autocorrelation. This autocorrelation arose because unexplained jumps in bargaining coverage are perpetuated in subsequent years.

Table 3. Determinants of Teacher Bargaining Coverage, 1960–77.†

Independent Variables	*Equation 1: Annual Change in the Percentage of Teachers in Each State Covered by Collective Bargaining Contracts, 1960–77 (ΔCB)*		*Equation 2: Percentage of Teachers in Each State Covered by Collective Bargaining Contracts in 1977 (CB77)*	
	Coefficient	*(t-Ratio)*	*Coefficient*	*(t-Ratio)*
Bargaining Laws (dummy variables)				
Law mandating bargaining				
Enacted 0–2 years ago (*MLAW2*)	0.164***	(16.99)		
Enacted 2–4 years ago (*MLAW4*)	0.065***	(6.62)		
In effect in 1977 (*MLAW77*)			0.329***	(6.90)
Law permitting bargaining (*PLAW*)			0.193*	(2.45)
Law banning representation elections (*ELAW*)	−0.040	(1.94)		
Law banning bargaining				
Enacted 0–2 years ago (*BLAW2*)	−0.076**	(3.09)		
In effect at the time (*BLAWold*)	−0.018	(1.95)	−0.165*	(2.38)
Teacher/School Characteristics				
Fraction of teachers male (*MALE*)	0.128*	(2.54)	2.136***	(5.71)
Teachers per school (*SCLSIZE*)	1.030**	(2.60)	5.700*	(2.07)
Teachers per school system (*SYSSIZE*)	0.002	(0.84)	0.068***	(4.19)
Labor Market Conditions				
Growth in teacher employment (*GROWTH*)	−0.069**	(2.69)	−0.359	(1.46)
Lagged unemployment rate (*UNEMPL*)	−0.095	(0.81)		
Membership of Other Unions				
AFSCME membership (*AFSCME*)	0.025	(1.20)		
Attitudes Toward Unions				
Relative COPE ratings (*COPE*)	−0.004	(0.71)		
Real per capita income (*INCOME*)	0.018**	(3.26)	0.129**	(3.37)
Control Variables				
Lagged extent of bargaining (CB_{t-1})	0.109***	(3.34)		
Lagged extent of bargaining squared [$(CB_{t-1})^2$]	−0.187***	(5.70)		
Constant	−0.074***	(4.12)	−0.913***	(5.44)
R^2	0.563		0.920	
Number of observations	510		51	

†ΔCB regression based on data for each state for 1960–77; CB77 regression based on data for 1977 only.
*Significant at the 5% level (two-tailed test).
**Significant at the 1% level (two-tailed test).
***Significant at the 0.1% level (two-tailed test).

gaining in 1977 (*CB77*). Moreover, these coefficients were all significant at the 0.1 percent level. Most important, however, they had large magnitudes, indicating that mandatory bargaining legislation had a great impact on the extent of teacher bargaining. This impact was greater than that of any other explanatory variables in the model.

The key role of bargaining legislation is demonstrated by calculating how much a nonlegal variable must change to have the

same impact on bargaining coverage as does the enactment of a mandatory bargaining law. The coefficients for Equation 1 indicate that the enactment of a law requiring school boards to bargain with majority representatives leads, within four years, to an increase of 0.229 (out of 1.00) in the fraction of teachers covered by collective contracts. (This is the sum of the coefficients for *MLAW2* and *MLAW4*.) The variable in Equation 1 with the next greatest impact, *INCOME* (measuring real per capita income), would have to rise by $12,800 to bring the same increase in the extent of bargaining as a mandatory law passed four years earlier. But the standard deviation for *INCOME* was only $717 and its range for the two decades considered was only $4,622, so the actual variations in income had a much smaller impact on bargaining coverage than did the enactment of a mandatory bargaining law.

The coefficients for Equation 2 indicate that the expected fraction of teachers covered by collective contracts in 1977 was 0.329 higher in states that had laws mandating bargaining with majority representatives. The explanatory variable with the next largest impact was *MALE*, the fraction of teachers who were male, which would have to rise by 0.16 to have the same effect on the extent of bargaining in 1977. Although this increase in *MALE* is less extreme than a $12,800 increase in *INCOME*, it is still large: the standard deviation for *MALE* in 1977 was only 0.07. Thus, particularly in Equation 1, but also in Equation 2, mandatory bargaining laws emerge as the most important factor explaining the growth of teacher bargaining. In other words, this finding tends to refute Burton's claim that changes in legislation were no more important a cause of growth in bargaining than were several other factors.

Furthermore, the estimated coefficients may understate the impact of mandatory bargaining laws on medium and smaller school systems. This can be seen by comparing the date when formal collective bargaining began in large school systems to the date when legislation establishing a duty to bargain was enacted. The data in Table 4 show that 39 percent (37 of 95) of the large and very large school systems (those with full-time equivalent instructional staffs of more than 2,500 in 1977), and 55 percent of the teachers in those systems (325,906 of 594,782), started bargaining before the enactment of bargaining legislation. The magnitudes and statistical significance of the legislation coefficients, even when these large systems were included in the sample, suggests that the estimated impact of legislation would be even greater if small and medium school systems were considered alone.[32]

Additional evidence of the differential impact of legislation by size of school system is provided by comparing the timing of the onset of bargaining for the two different strata shown in Table 4: very large school systems (instructional staffs of 5,000 or more) and large school systems (those with instructional staffs of 2,500 to 5,000). In the very large school systems, 69 percent of the teachers were represented in formal collective bargaining before mandatory bargaining legislation was enacted; but in large school systems, only 29 percent were thus represented. Moreover, among the very large school systems, only an explicit legal ban on teacher bargaining (such as that in a 1947 Texas statute) has sufficed to forestall bargaining indefinitely. Among the large school systems, by contrast, 14 percent of the teachers were in states with no such prohibition and nevertheless did not have collective bargaining (as of 1982). These clear differences between large and very large school systems indicate that the smaller the school system, the more teachers need mandatory bargaining laws to secure bargaining rights. Presumably, this generalization would apply with even greater force to medium and small school systems, where teachers have a less effective strike threat.

Other results of the bargaining coverage regressions were largely as predicted. Increases in the extent of bargaining and

[32]Unfortunately, data for two of the variables (*MALE* and *SCLSIZE*) are not available separately for all of the large school systems for the entire twenty-year period, so that it was not possible to exclude the large school systems from the sample and to estimate separate bargaining coverage regressions for the small and medium systems alone.

Table 4. Timing of Mandatory Bargaining Legislation and the Start of Teacher Bargaining: Large and Very Small School Systems Compared.[a]

Employment Stratum[b]	*When Formal Bargaining Started*	*Total Systems*		*Total Staff*	
		Number	*Percent*	*Number*	*Percent*
5,000 +	Before mandatory law	20	(57%)	263,748	(69%)
	After mandatory law	10	(29%)	80,948	(21%)
	No bargaining yet				
	In state where bargaining is banned	5	(14%)	38,170	(10%)
	In state where bargaining is not banned	0	(0%)	0	(0%)
	Total	35	(100%)	382,866	(100%)
2,500–5,000	Before mandatory law	17	(28%)	62,158	(29%)
	After mandatory law	20	(33%)	69,212	(33%)
	No bargaining yet				
	In state where bargaining is banned	15	(25%)	50,503	(24%)
	In state where bargaining is not banned	8	(13%)	30,043	(14%)
	Total	60	(100%)	211,916	(100%)

[a]Includes all school systems with 2,500 or more full time equivalent instructional staff, based on figures from the 1977 Census of Governments. Data for when teacher bargaining started were obtained from *Negotiation Agreement Provisions* (Washington, D.C.: National Education Association, 1966–67, 1968–69, and 1970–71 editions), and from the 1975, 1976, and 1977 Census of Governments tapes. Where necessary, these sources were supplemented by referring to various issues of the BNA *Government Employee Relations Report* and by telephone interviews with various state and local affiliates of the NEA and the AFT. Data for when the statutes mandating bargaining with majority representatives was enacted were obtained from the relevant session laws volume.

[b]Full-time equivalent instructional staff per school system in 1977.

a greater extent of bargaining in 1977 were positively associated with laws expressly permitting bargaining (*PLAW*), the fraction of teachers who were male (*MALE*), the average number of teachers per school (*SCLSIZE*) and per school system (*SYSSIZE*), the fraction of noneducational state and local government employees belonging to AFSCME (*AFSCME*),[33] and real per capita income in the state (*INCOME*). Increases in the extent of bargaining and a greater extent of bargaining in 1977 were negatively associated with laws banning representation elections (*ELAW*), laws banning bargaining (*BLAW2* and *BLAWold*), the lack of alternative employment opportunities (*UNEMPL*), and the rate of growth of teacher employment (*GROWTH*). Most of these associations were statistically significant at the 5 percent level or better. Note that the negative coefficient for *GROWTH* implies that teachers are more likely to win bargaining rights when a deteriorating market position makes them angry, rather than when an improving market position makes them powerful.[34]

[33]Arguably, *AFSCME* is an endogenous variable that depends on the same factors that influence the growth of bargaining. Therefore, since including the variable *AFSCME* might obscure the effects of the truly exogenous variables, Equation 1 was also estimated with the variable *AFSCME* deleted. Because the coefficients and t-ratios for the legal variables changed very little, the findings concerning the impact of legislation on the extent of bargaining stand. The results after deleting *AFSCME* indicate, however, that if *AFSCME* is endogenous, Table 3 may have overstated the importance of *COPE* and understated the importance of *SCLSIZE* and *SYSSIZE*.

[34]The teacher union breakthrough in New York City during the period 1960–62 may be an exception. This organizing campaign was led by junior high and, to a lesser extent, high school teachers just at the time when the baby boom generation was hitting the secondary schools, giving secondary school teachers a strong labor market position.

In addition, increases in the extent of bargaining were significantly and positively associated with the lagged extent of bargaining, CB_{t-1}, and significantly and negatively associated with $(CB_{t-1})^2$; the maximum increase occurred when about 29 percent of teachers had previously been covered by collective bargaining contracts. Perhaps, after a third of the teachers in a state have won contracts, the easily organized teachers have all been organized. Alternatively, after that level of organization, a backlash against teacher bargaining may begin to outweigh the increased awareness of the benefits of bargaining.

The bargaining regressions produced one unexpected result. The union membership variables (*AFSCME* and *UNION*) were insignificant, as was the direct measure of labor's political influence (*COPE*). This finding suggests that once there were controls for other explanatory variables, there was no relationship between the extent of teacher bargaining and labor movement strength.[35] This result is difficult to explain. Nevertheless, the bargaining coverage models seemed to provide a good fit: R^2 was about 0.57 for Equation 1 and 0.92 for Equation 2.

Bargaining Law Regressions

Regression results for the bargaining law models, Equations 3 and 4, are presented in Table 5. Equation 3 gives the expected probability that a state's bargaining law will change to a more pro-union category in a given biennium, while Equation 4 gives the expected category of bargaining law at the time the law changes.[36] Logit estimates are presented in Equation 3 although the magnitude and statistical significance of the coefficients were greater in the linear probability model. But since the assumption of linearity is unreasonable in this case, the logit results seem preferable.

The bargaining law regressions show that the extent of bargaining had only a minor impact on the passage of bargaining laws. As the results for Equation 3 indicate, the probability of pro-union changes in teacher bargaining laws was higher where teacher bargaining had been spreading rapidly; but the coefficient for the spread of bargaining variable (ΔCB_{t-1}) had a more modest magnitude and a less impressive level of statistical significance than the mandatory bargaining law variables did in the bargaining coverage regressions. Moreover, the category of bargaining law enacted was actually *lower* where teacher bargaining previously was extensive, an unexpected result indicated by the negative coefficient of CB_{t-1} in Equation 4. These results tend to support the claim that legal changes are more a cause of bargaining coverage changes than an effect.

Several of the remaining explanatory variables had a significant impact on the enactment of bargaining laws. Pro-union laws were more likely where (1) AFSCME and the labor movement as a whole had substantial membership, (2) real per capita income was high, (3) the Democrats had made gains in the most recent state government elections, especially in control of the governorship or one or both legislative

[35]Indeed, preliminary regressions showed that these variables were sometimes insignificant even at the 50 percent level. Following Draper and Smith, all variables that failed to meet that significance level for a particular equation were deleted before the final regressions were run. See N. R. Draper and H. Smith, *Applied Regression Analysis* (New York: John Wiley and Sons, 1966), pp. 167–69. The variables *URBAN* and *RLPAY* were also deleted on these grounds, although these deletions should be less surprising. Many of the reasons urbanization was supposed to facilitate the spread of bargaining (e.g., large schools and school systems, strong unions, and high income) were controlled for by other variables. Similarly, the expected effect of high relative pay for teachers was hard to predict, even leaving aside the complications arising from the endogeneity of teacher earnings.

[36]The bargaining categories in Equation 4 are ordinal, not cardinal, so that a multinomial logit model or discriminant analysis would be more appropriate than ordinary least squares. Unfortunately, these more sophisticated approaches require the estimation of a separate set of parameters for all but one of the categories and there are too few observations to allow this. Therefore, Equation 4 was estimated by ordinary least squares, with cardinality of the dependent variable simply assumed. (These are the results shown in Table 5). Equation 4 was also estimated after the ordinal dependent variable was transformed to an interval variable by means of z-scores; results were very similar.

Table 5. Determinants of the Nature of Teacher Bargaining Laws, 1959–78.†

Independent Variables	*Equation 3: Probability of Change to Higher Law Category, This Biennium [Pr(ΔLAW)]*		*Equation 4: Category of Law Just after the Change in Category (LAW)*	
	Coefficient	*(t-Ratio)*	*Coefficient*	*(t-Ratio)*
Bargaining Coverage/Union Membership				
Lagged change in teacher bargaining coverage (ΔCB_{t-1})	3.883*	(2.03)		
Lagged extent of teacher bargaining coverage ($CB_{t-1}1$)			−1.801*	(2.05)
AFSCME membership (*AFSCME*)	2.769*	(2.56)	2.022	(1.98)
Union membership (*UNION*)			11.81*	(2.05)
Attitudes Toward Unions				
Real per capita income (*INCOME*)	0.878*	(2.25)	0.736*	(2.05)
Urbanization (*URBAN*)	−1.303	(1.47)	−1.738*	(2.20)
Political Characteristics				
Change in minimum Democratic Party strength in either house of state legislature (*%DEM*)	2.863	(1.55)		
Change in Democratic Party control of governorship and legislative houses (*#DEM*)	0.204*	(2.14)		
State jobs not subject to patronage (*MERIT*)	2.828**	(2.98)	0.679	(0.97)
Law Pattern of Contiguous States				
Fraction banning bargaining (*BFRAC*)	−3.337*	(2.11)		
Fraction mandating bargaining (*MFRAC*)	3.403**	(2.82)	1.731**	(3.07)
Fraction with a more pro-union law (*HIFRAC*)	−1.407	(1.33)		
Fraction with a less pro-union law (*LOFRAC*)	3.747**	(3.11)		
Prior Law Category (dummy variables)				
Banned bargaining (CAT1)	0.659	(0.50)	−1.386	(1.27)
Banned representation elections (CAT2a)	0.262	(0.27)		
Permissive law (CAT3)	−2.911**	(2.85)	0.600	(1.28)
Mandatory law (CAT4)	−3.902***	(4.36)	1.254*	(2.15)
Mandatory law (CAT5)	−6.533***	(4.61)	1.506	(1.77)
Mandatory law (CAT6)	−13.73*	(2.34)		
Constant	−0.168*	(2.34)	0.504	(0.49)
Log-likelihood ratio/R^2	−119.25 (LLR)		0.544 (R^2)	
Number of observations	500		52	

†Pr(Δ*LAW*) regression based on data for each state for 1959–60 to 1977–78; logit results reported. *LAW* regression based on data for 52 cases where law category changed.

*Significant at the 5% level (two-tailed test).

**Significant at the 1% level (two-tailed test).

***Significant at the 0.1% level (two-tailed test).

houses, (4) few government jobs were subject to patronage, and (5) few neighboring states had enacted laws banning bargaining, but many had enacted laws mandating it. The best predictor of more pro-union laws was the fraction of neighboring states mandating bargaining with majority representatives (*MFRAC*), the coefficients for which had large magnitudes.

Another result was the pattern of coefficients for the variables controlling for the previous category of legislation. As one proceeds from category 1 (least favorable to unions) to category 6 (most favorable), the coefficients become algebraically smaller in Equation 3 and algebraically larger in Equation 4. Thus, as expected, states that already have pro-union laws are less likely to change their laws to a more pro-union category; but if they change them at all, the new law is likely to be more pro-union than new laws in other states.

Some unexpected results were (1) the limited usefulness of AFL-CIO COPE ratings as a predictor of pro-union laws (*COPE* was deleted from the regressions for failing to be significant at the 50 percent level); (2) the negative coefficient for the extent of urbanization (*URBAN*), indicating that less urbanized states were more likely to get pro-union laws; and (3) the signs of the coefficients for two of the four legal pattern variables, *HIFRAC* and *LOFRAC*, which indicated that a state's bargaining law was more likely to change to a more pro-union category if few neighboring states were previously in higher (more pro-union) categories and if many neighboring states were in lower (less pro-union) categories. There may be some omitted variable that causes a state to have a more pro-union bargaining law than its neighbors; this variable may also increase the probability that the law will change to a higher category. The effect of this omitted variable may outweigh any tendency of courts and legislatures to imitate the behavior of their counterparts in neighboring states.[37]

Conclusions

The relationship between the growth of teacher bargaining coverage and collective bargaining laws is complex. Typically, teachers in large cities start bargaining prior to the enactment of bargaining legislation. This bargaining is one, but not the most important, factor leading to the subsequent adoption of bargaining laws. Once these laws are enacted, however, they provide a major impetus to further union growth, and bargaining quickly spreads to the suburbs, medium and smaller cities, and rural areas. Causality runs in both directions, but bargaining laws appear to have a much greater impact on the extent of bargaining than the extent of bargaining has on bargaining laws.

Although bargaining laws were the key factor leading to the growth of bargaining, other variables were also important. Male teachers and teachers in large employment units, for example, were more likely to start bargaining than female teachers and those in small units. These findings may have implications for the potential for organizing private sector white-collar workers, but the implications are tentative because two important variables could not be incorporated into the bargaining coverage model. The first is rival unionism, a spur to organizing, which has been unusually intense in public education. The second is management resistance to unionization, which may be less in public education than in the private white-collar sector.

The best predictor of the nature of bargaining laws was the fraction of neighboring states that had enacted mandatory bargaining legislation. Elimination of political patronage, higher levels of economic development, Democratic party gains, and higher membership in AFSCME also furthered the enactment of pro-union bargaining laws.

[37]It also could be argued that the legal pattern variables, like *AFSCME*, are not truly exogenous and should be deleted from the models. When this was done, the signs of the coefficients remained the same. The coefficient of ΔCB_{t-1} remained modest, while that of CB_{t-1} remained negative, so that the conclusions concerning the effect of bargaining coverage on bargaining laws still stand.

What does the future hold? The substantial impact of bargaining laws on bargaining coverage suggests that the enactment of federal legislation giving state and local public employees the right to bargain would greatly facilitate the spread of bargaining by teachers and other public employees in states where bargaining activity is now sparse. Whether such a law is enacted depends in part on a variable that could not be incorporated into the quantitative model, namely, the degree of cooperation among the various public employee organizations. But the prospects for such cooperation, and hence for more pro-union public sector bargaining laws, may be dimmed by the continued rivalry between the AFT and the NEA.