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ABSTRACT

This paper presents findings of a study that examined the effects of two dispute resolution procedures--fact-finding and compulsory final-offer, issue-by-issue interest arbitration--on teachers' wages, fringe benefits, and language provisions. New Jersey uses fact-finding dispute resolution, in which a recommendation for settlement is submitted to the parties by a neutral third party. Connecticut uses compulsory final-offer, issue-by-issue interest arbitration, which compels a final and binding decision to be rendered by the neutral third party. Methodology involved two phases: (1) analysis of teacher contracts in 50 randomly selected K-12 school districts in Connecticut (n=25) and New Jersey (n=25) for the years 1980-86; and (2) questionnaires sent to each sample district's business administrator, of which 14 (56 percent) were returned from New Jersey and 13 (52 percent) from Connecticut. Findings indicate that teachers who rely on compulsory interest arbitration tend to fare no better than do teachers who rely on fact-finding. Specifically, New Jersey teachers were paid higher wages and realized significantly greater gains in benefits. However, Connecticut teachers had two superior language provisions. Variables accounting for the unexpected findings include arbitrator characteristics and interests, the degree of teacher organization unity statewide, and time requirements. A conclusion is that the loss of power to teachers that results from reliance on neutral third parties may give teacher unions reason to reevaluate their means of dispute resolution. Nineteen tables are included. (Contains 30 references.) (LMI)

The Effects of Fact-Finding and Final-Offer Issue-By-Issue Interest Arbitration on Teachers' Wages, Fringe Benefits and Language Provisions: A Comparative Analysis of New Jersey and Connecticut, 1980-1986

Edith Dunfee Ries, Ed.D.

Statement of Problem

It is generally recognized that one of the obstacles to effective collective bargaining in the public sector is the difficulty that exists in finalizing negotiations. The problem is exacerbated by the inadequacy of the incentives for making concessions. It is clear that pressure to settle in private sector bargaining is substantially greater than in the public sector because the economic consequences of a strike or lockout lurk in the background. Unlike private sector employees, those employees who come under the umbrella of public sector bargaining laws are not, generally speaking, granted a right to strike. Critics of public sector bargaining maintain that without the strike and the lockout, motivation to reach agreement is minimal.

Public sector collective bargaining is not regulated by federal legislation, but rather by statutes which vary from jurisdiction to jurisdiction. Each state employs a variety of procedures for finalizing negotiations in public sector bargaining. Each of these dispute resolution procedures involves a variety of agencies which operate within their own historical and institutional framework. Moreover, each terminal procedure has its own distinct design and each design establishes varying degrees of pressure upon the parties to settle. It has been said that public sector dispute resolution procedures, nationwide, constitute a pattern that could perhaps be best described as a patchwork quilt.

It is the variation in dispute resolution procedures, the contrast in applying settlement pressure, the patchwork quilt, if you will, which served as the basis of this study. By comparing

bargaining outcomes under two different dispute resolution procedures, I attempted to ascertain under which design teachers, as public sector employees, had made greater gains in their terms and conditions of employment.

Terms and conditions of employment for teachers are determined in large measure through the collective negotiations process. Concessions, or lack of them, at the bargaining table determine bargaining outcomes which then impact upon teacher terms and conditions of employment. It is believed that the key element in the process leading to these bargaining outcomes is the procedure used to resolve bargaining impasses (Kochan, 1980). It follows from theory that in the area of public sector teacher bargaining the key element to bargaining outcomes will be the state legislated dispute resolution procedure. It is submitted that the mere presence of a particular dispute resolution structure will affect all teacher bargaining outcomes within that state, even those bargaining outcomes gained without reaching impasse.

The present research compared wages, fringe benefits and language provisions for teachers in the two states of New Jersey and Connecticut during the years 1980-86. Each of these jurisdictions relied upon a different form of dispute resolution for the settlement of teacher-board of education bargaining impasses. Moreover, each procedure applied varying degrees of pressure upon the parties to settle. Dispute resolution procedures under study were: 1) fact-finding, in which a recommendation for settlement is submitted to the parties by a neutral third party, and 2) compulsory final-offer issue-by-issue interest arbitration, which compels a

final and binding decision to be rendered by the neutral third party.

Conceptual Framework

Fact-Finding

One of the original premises underlying fact-finding was that by making public the recommendations of the neutral, sufficient pressure would be brought to bear on the parties to accept the recommendations or to use them for a negotiated settlement (Kochan, 1980). Another theory of fact-finding holds that the prospect of settlement may be enhanced by clarifying positions through the issuance of recommendations (Roomkin & Juris, 1982).

McKelvey (1969), in assessing the early use of fact-finding, however, expressed the fear that as parties became more accustomed to bargaining under fact-finding, the process would become less effective. At the same time Zack (1970) advanced the view that fact-finding offers the risk of "perpetually extending procedures" so that good faith bargaining occurs only at the last stages if at all. Further, Yaffe and Goldblatt's study of public employment disputes in New York state under fact-finding, yielded evidence of employee frustration and led the researchers to conclude "...perhaps the major deficiency in the process is that [fact-finding] reports can be rejected, particularly by employers, with impunity" (1971).

Gatewood's (1974) analysis of data on teacher negotiations in Wisconsin bears out these early concerns for fact-finding's effectiveness. Gatewood found an increasing tendency on the part of teachers in Wisconsin to reject the fact-finder's report. Moreover,

when teachers recognized that fact-finding lacked the finality to influence intransigent employers they began to bypass the process completely.

In Michigan, Wolkinson and Stieber (1976) observed a similar pattern developing among public safety employees. Public sector unions in that state had bypassed fact-finding in 92 of the 144 strikes that had occurred between 1971 and 1974. This evidence of fact-finding's ineffectiveness to bring about finality in Michigan led the researchers to conclude that the process had not "operated as an effective deterrant to strikes..." .

More recently Ianole's (1980) study of teacher-board impasses in New Jersey produced evidence that parties, negotiating under that state's fact-finding statute, lacked the motivation to settle their contract talks bilaterally. There were 64 instances of illegal teachers' strikes in New Jersey during the 1980-1986 school years, (New Jersey Department of Labor, August, 1986), a statistic which appears to support Ianole's conclusion with respect to New Jersey's teacher-school board bargaining relationships.

There seems to be a growing concern among those in the field of labor relations over the belief that the fact-finding process, as it is presently used in the public sector, is not producing the intended results. Kochan attributes fact-finding's ineffectiveness to several factors: (1) its inability to avoid strikes consistently; (2) its low rate of settlement and (3) its impotence in encouraging parties to accept the neutral's recommendations as a basis for settlement (1980).

Compulsory Interest Arbitration

With an eye toward bringing a type of finality into the public sector bargaining process, however, many state legislatures have come to embrace some form of compulsory interest arbitration as an alternative to fact-finding. The use of this arbitration process has, in general, been restricted to disputes involving the protective services, i.e., police and fire fighters. Compulsory interest arbitration statutes which include teachers exist in only 7 of the 50 states in the United States, namely: Connecticut, Iowa, Maine, Minnesota, Rhode Island, Nebraska and Wisconsin.

Proponents of compulsory interest arbitration believe that the the process tends to lessen management's chances of one-sided economic and political strength and, as a result, brings the parties to the negotiation table as relative equals (Stern, Rehmus, Loewenberg, Kasper & Dennis, 1975). Further, some suggest that compulsory arbitration produces a "strike-like" result in that it: (1) gives a powerful impetus to the negotiatory processes of concession and compromise; (2) creates a sense of urgency and (3) imposes a direct cost of disagreement upon the parties (Bowers 1979).

The implication is that compulsory arbitration, like the strike, provides a kind of benchmark which may be helpful in arriving at a particular solution in negotiations. The actual strike need not occur in order that the "particular solution" function be served. The expected cost, i.e., the perception by the parties, of a strike will serve as a standard against which each party may weigh the expected cost of any given concession. This gives each party an equal opportunity to determine the least

favorable terms which will be acceptable to it (Stevens, 1966).

Olson (1984) points out that in the public sector, the expected cost of disagreeing depends on the cost and probabilty of an illegal strike. Similarly, the cost of disagreeing can depend upon the extent to which one party can either impose its demands on the opponent or force a modification in the opponent's position by using or threatening to use the dispute settlement procedure designed to replace the strike.

Comparative Studies

Comparative before and after studies of public safety wage outcomes under fact-finding and compulsory interest arbitration indicate an increase in both minimum and maximum salaries under newly instituted arbitration statutes (Kochan, et al., 1979), (Lipsky, Barocci and Suojanen, 1977). Additional intrastate research, measuring for the use of arbitration, however, suggests that there is no difference between wages secured through the arbitration process and wages negotiated voluntarily by the parties (Wisconsin Report, 1980), Jarley (1987), (Delaney, 1983), (Loewenberg, 1970).

Interstate studies, on the other hand, have indicated that salary increases in arbitration states exceeded the average rate of salary increases in non-arbitration states (Finch & Nagel, 1984), (Olson, 1984), (Connolly, 1986). Similarly, studies of non-wage outcomes indicate a positive result for those public employees negotiating in an arbitration environment (Delaney, 1986).

Rationale

Informed opinion indicates that comuplsory interest arbitrtation provides for the type of finality and equality necessary for effective collective bargaining. As Bowers (1979) research indicates, compulsory interest arbitration affords the parties a technique which can be used to foster accommodation in the negotiation process. In such an environment, it is anticipated that the power of the union will increase. The union advantage is achieved by increasing the employer's cost of disagreeing. Bowers findings imply that compulsory interest arbitration enables the union to force the employer into making concessions not likely to be made under fact-finding. It follows from theory, that, over time, as negotiated and arbitrated settlements become interdependent (Farber and Katz, 1979), collective bargaining outcomes should favor those public sector employees negotiating in a compulsory interest arbitration state rather than those public sector employees who negotiate in a fact-finding environment.

For public education, the reliance upon compulsory interest arbitration in the settlement of collective bargaining disputes means that the "business of teaching" can continue. Labor peace is maintained. However, little is known as to how teachers' terms and conditions of employment are affected by the process. Attention is drawn to the fact that extensive comparative research on bargaining outcomes for police and fire units in arbitration and non-arbitration states exists in the literature. Similar comparative research on bargaining outcomes for teachers is lacking. Thus, I felt that an in-depth comparative analysis of bargaining outcomes for teachers

in both compulsory interest arbitration and fact-finding states was called for at this time.

Fact-finding is still the dominant method for resolving teacher-board of education collective bargaining disputes and more than half of the states across the nation rely on it as a means of resolving impasse in this area. Concern for fact-finding's lack of finality has been expressed by many labor relations experts. Indeed, because of fact-finding's seeming popularity with state legislators throughout the country and because of the concern expressed by informed labor relations experts, I felt it appropriate to compare the performance of fact-finding with what Kochan (1975) terms "its realistic alternative, i.e., another type of impasse procedure." It is submitted here that the "realistic alternative" to fact-finding in teacher-board of education bargaining is final and binding issue-by-issue interest arbitration.

Methods

Source of the Data

This study was accomplished by means of contract analysis and survey research. The format used by Zabriskie (1979) in her comparison of teacher bargaining outcomes in Pennsylvania and New Jersey, along with her suggestions for research improvement, were incorporated into this study. Similar questions were posed. In addition, select provisions listed in the New Jersey Education Association's Sample Contract (1980) as well as Kochan and Wheeler's Model for Analysis of Bargaining Outcomes (1975) were incorporated into the set of questions prepared for this study. Along with salary and fringe benefit analyses, the research included

a comparative analysis of language provisions which speak to union power. The analysis was organized under the following headings:

I. Comparison of teacher salaries and salary increases

A. B.A. Step 5

B. M.A. Step 10

C. M.A.+30 Maximum Step

II. Comparison of teacher fringe benefits

A. Longevity payments

B. Accumulated sick day reimbursement

C. Tuition reimbursement

D. Class coverage payment

E. Travel allowance

F. Personal business days without reason stated

G. Family illness days

III. Comparison of language benefit provisions

A. Teacher preparation time

B. Outside experience credit

C. Sabbatical leave

D. Binding grievance arbitration

E. Agency fee

IV. Comparison in number of steps to maximum M.A.+30

V. Comparison of costs to board for selected insurance premiums

A. Health insurance

B. Dental insurance

The Samples

The research involved a longtitudinal ex post facto study of wage and fringe benefits in 50 randomly selected K-12 school districts in the states of Connecticut (N = 25) and New Jersey (N = 25). Contractual wage, fringe benefit and language outcomes for teachers were analyzed in the sample districts for the six-year period 1980-81 to 1985-86. The states of Connecticut and New Jersey were deemed comparable for the purposes of this study, because they are substantially similar, except for the dispute resolution procedure used by teachers within each state. Proximity to New York City, population of metropolitan cities and median personal per capita income were measured and found to be similar (Statistical Abstract of the United States, 1988).

Sampling Procedure

A stratified random sample of K-12 school districts in each of the two states was selected for inclusion in this study. It was assumed that the school districts chosen for the sample were independent of one another and, more importantly, were drawn from a population with equal or similar characteristics.

Initially, all K-12 school districts in each state were identified and then divided into strata based on their respective student enrollment. Tables 1 and 2 indicate the population and sample districts for each stratum in each state. Next, the New Jersey and Connecticut sample districts were compared using four variables. Table 3 illustrates the mean and standard deviation for each state on each of these variables.

Data Collection

Teacher contracts for the years 1980-86 were collected for each of the 50 school districts in the total sample. A worksheet for uniform data collection was constructed and filled out for each district. Additional data from questionnaire results were added to the individual worksheet. In all, more than 140 teacher contracts were read, coded and analyzed. On average, each of the 50 districts had negotiated three separate contracts for the period under study. The necessary data were entered into computer coding forms, keypunched, tabulated and analyzed by computer.

Because medical and dental insurance premium cost figures pertaining to one specific group of employees within a school district are not obtainable in state offices, it was determined that the most efficient means of establishing the cost of the negotiated fringe benefits to the respective boards of education was to mail a stamped, self-addressed questionnaire to each sample district's business administrator. In order to expedite the return process, it was decided that only the cost figures for the FY 1980-81 and 1985-86 were necessary for measuring change in cost to the board over the time period under study. I felt that the loss in detail would be more than made up in a better percentage of returned questionnaires 14 (56%) were returned from New Jersey; 13 (52%) from Connecticut).

Data Analysis

When statistical tests were needed in response to research questions a significance level of .05 was used. New Jersey and Connecticut were compared on each of the 18 contract variables for

every year under study. One of two types of inferential statistics were used: independent sample t-tests in the case of interval scale variables and crosstabulation tables with chi-square statistics in the case of categorical data. Changes over time in each state were also assessed using one of two procedures. In the case of interval scale data, correlated t-tests were used to determine if the average change between the first observation (1980-81) and the last observation (1985-86) was a significant one. In order to measure the significance of change on the categorical variables over time, the McNemar test was applied. The McNemar test compares the number of districts that changed from "Yes" to "No" on a given benefit to the number of districts that changed from "No" to "Yes." The McNemar test thus enables one to make a probability statement regarding the significance of change in one direction or the other (Twaite & Monroe, 1979).

Two-way analyses of variance (ANOVA) were performed on the salary variables and the other interval scale variables in order to determine whether there were any significant interactions between state and year. The analyses also provided tests for the main effects of each of the two factors, state and time.

Results

Salary Data

The salary data for the present study indicate that, at all salary levels under study, teachers in New Jersey received higher salaries than did teachers in Connecticut during the years 1980-86. Over the six-year period, B.A. Step 5 mean salaries increased from $13,788 to $19,050 in New Jersey and from $12,272 to $17,525 in

Connecticut (Table 4, Figure 1). M.A. Step 10 mean salaries rose from $17,678 to $24,469 in New Jersey and from $16,160 to $22,953 in Connecticut over the same period (Table 5, Figure 2). M.A.+30 maximum step mean salaries increased from $24,443 to $35,343 in New Jersey and from $20,965 to $30,494 in Connecticut during the years under study (Table 6, Figure 3). The percentage increases from year to year were higher in Connecticut than New Jersey for the time period under study. However, the two states did not differ significantly in terms of the percent change from 1980-81 to 1985-86.

New Jersey mean salaries were significantly higher every year of the six-year period at both the B.A. Step 5 and the M.A.+30 maximum step. New Jersey mean salaries were also higher at the M.A. Step 10 level over the period under study, but were significantly higher on that level during the four-year period from 1980-81 to 1983-84.

At both the B.A. Step 5 and M.A. Step 10 levels, the pattern of year to year mean salary increases was similar for both states. There was a significant difference between the states on the pattern of year to year mean salary increases at the M.A.+30 level, however. At this salary level, a widening of the gap between the states appeared during the last year of the study. The data suggest that New Jersey salaries were significantly higher during the last year under study. In both Connecticut and New Jersey, mean salary increases over the six-year period were significant.

Fringe Benefits

The fringe benefit provisions incorporated into the analysis included longevity (Table 7), accumulated sick day reimbursement

(Table 8), tuition reimbursement (Table 9), class coverage payment (Table 10), travel reimbursement (Table 11), personal business days without stated reason (Table 12) and family illness days (Table 13). The data indicate that on the four variables, longevity, tuition reimbursement, personal business days without stated reason and family illness days, there were no significant differences between the two samples in any year and, further, no significant increases over time. Significant differences, either between the states or over time, were indicated on the three remaining variables, i.e., sick day reimbursement, class coverage payment and travel allowance.

The increase over time in New Jersey with respect to the changes that took place on the sick day reimbursement variable was significant. New Jersey districts negotiating sick day reimbursement provisions into their contracts increased from 8 (32.0%) to 20 (80.0%) over the years 1980-86. This change of 12 districts was significant ($p < .001$) and indicated that New Jersey teacher contracts were more likely to contain a sick day reimbursement provision at the end of the period under study.

New Jersey had a significantly greater number of districts than Connecticut with negotiated class coverage provisions in their contracts during the first year of the study, 1980-81. Over the six-year period, the number of New Jersey distircts having such provisions increased from 9 (36.0%) to 13 (52.0%) and Connecticut districts from 2 (8.0%) to 4 (16.0%). For the last year under study, 1985-86, the differences between the states on the class coverage provision were again significant. Increases over time in both New Jersey and Connecticut were not significant on this

variable.

The increase over time in New Jersey for travel reimbursement was significant. The mean travel allowance in cents increased in New Jersey from 11.4 cents per mile in 1980-81 to 14.6 cents per mile in 1985-86. In Connecticut, the increase was from 8.2 cents per mile to 9.8 cents per mile over the same six-year period. The mean difference each year between Connecticut and New Jersey for travel allowance was not significant.

Language Provisions

The language provisions analyzed in this study included teacher preparation time (Table 14), credit for outside experience (Table 15), sabbatical leave (Table 16), final and binding grievance arbitration (Table 17), and agency fee (Table 18). Over the period under study significant increases occurred in Connecticut in the number of districts having provisions for preparation time, grievance arbitration and agency fee. Over the same period, a significant increase occurred in New Jersey only on the agency fee provision.

Steps to Maximum

The data indicate a significant difference between New Jersey and Connecticut in the number of steps to M.A.+30 maximum salary. New Jersey had a significantly higher number of steps to maximum M.A.+30 in each of the six years under study (Table 19). In 1980-81, New Jersey had an average of 17.1 steps to maximum (SD = 3.30) compared to an average of 14.8 steps in Connecticut (SD = 2.4). In 1985-86, New Jersey had an average of 16.2 steps to maximum (SD = 3.3), while in that same year Connecticut's average number of steps

to M.A.+30 maximum was 14.6 (SD = 1.98). The difference between the states was significant in 1980-81 ($p < .01$) and again in 1985-86 ($p < .05$) indicating that Connecticut teachers in the M.A.+30 column reached the maximum salary step earlier in their professional careers than did New Jersey teachers.

Medical and Dental Benefits

No significant differences were found between the two states on medical and dental premiums over the six-year period under study (Table 20). In 1980-81 the New Jersey average medical premium was $991 while the Connecticut average medical premium was $1040. In 1985-86 those mean figures increased to $2107 in New Jersey and $1959 in Connecticut.

The average per teacher dental premium in 1980-81 was $384 in New Jersey and $177 in Connecticut. In 1985-86, New Jersey boards of education paid an average of $577 for per teacher dental premiums while the average cost to Connecticut boards of education was $372 per teacher for the same benefit.

Discussion

The theory that public sector employees bargaining in a compulsory interest arbitration environment will attain greater power which will, in turn, produce greater gains at the bargaining table, is not borne out by the results of this investigation. Rather, the present findings would indicate that teachers who rely on compulsory interest arbitration for the resolution of collective bargaining impasses tend to fare no better than do teachers who rely on fact-finding as a means of settling collective bargaining disputes. While Connecticut teachers are able to rely on legal

means to bring about settlement pressure, it is apparent that this pressure is not sufficient to produce bargaining gains greater than those realized by teachers in New Jersey. The results of this research lead one to conclude that compulsory interest arbitration, used in the educational setting, tends to be a conservative process.

Specifically, salary data for this analysis indicate that teachers in New Jersey are paid higher wages at each of the three salary levels under study. While this indicates a greater gain for New Jersey teachers on the B.A. and M.A. steps, the fact that Connecticut teachers reach the maximum salary level earlier in their professional careers than do their New Jersey counterparts does leave the New Jersey maximum salary findings open to some question. Teachers in New Jersey realized significantly greater gains in benefits which allocated monetary reimbursement, namely, class coverage payment, sick day reimbursement and travel allowance. On the other hand, teachers in Connecticut surpassed New Jersey teachers on two language provisions, class coverage payments final and binding grievance arbitration. New Jersey and Connecticut contracts had an equally significant increase on a third language provision, agency fee.

The results of this study do not support the findings of prior comparative interest arbitration research, namely that of Connolly (1986), Olson (1984) and Delaney (1983). These earlier comparative studies found positive results, in both wage and non-wage provisions, for public sector employees bargaining in arbitration states. This inconsistency between earlier research and the present study may be partly attributable to the fact that the present study

compares bargaining outcomes soley for teachers while the previous studies measured bargaining outcomes for public safety and municipal employees. It is conceiveable that there are differences in the bargaining priorities each public sector group sets for itself.

It might be said that one reason for compulsory interest arbitration's conservative bent rests with the arbitrators themselves. There is good reason to suppose that interest arbitrators, who traditionally handle emergency service as well as educational disputes, are steeped in a tradition of placing the public's monetary interest before that of the employees'. Far too little is known of the reasoning that arbitrators apply to monetary questions in Connecticut, however, to draw definite conclusions on this assumption. Given the significant increase in the number of Connecticut sample districts incorporating final and binding grievance arbitration provisions into their contracts, however, it seems reasonable to infer that language issues which are of concern to arbitrators eventually find their way into Connecticut teacher contracts.

It may be the case that teachers in Connecticut demand less than teachers in New Jersey and that the level of demand on the local bargaining level is based on the strength of the statewide teacher organization. Comparing the representation percentages of the sample districts in this study, one may conclude that New Jersey teachers have a more unified statewide organization. Greater unification can be an indication of greater union power statewide. This strength may, in turn, lend support to higher teacher demands on the local level, thus enabling teachers in New Jersey to make

greater contract gains than do their counterparts in Connecticut. Before this assumption can be accepted as fact, however, it is important to know how each statewide teacher organization is perceived by boards of education, local governing bodies, legislatures and taxpayers.

Finally, consideration must be given to the unique time requirements included in each of the states' public sector labor laws. The New Jersey law, unlike the Connecticut statute, does not mandate a collective bargaining cut-off date. It is possible that this design may work to the advantage of New Jersey teachers. The absence of legal time requirements for collective bargaining closure may give local New Jersey teacher groups a greater period of time in which to apply political pressure on boards of education. This additional time may enable New Jersey teachers to gather greater support for their associations' collective bargaining demands through the use of job action or community appeal, or both. Further research which incoporate micro studies of impasse experience at the actual level of the bargaining relationship would shed light on this assumption.

This paper marginally advances understanding of bargaining outcomes for teachers in fact-finding and interest arbitration states. Since this is a singular study, it is obvious that more research is needed. However, the results of this study should have implications for those teacher unions and state legislatures searching for an alternative to strike in public sector teacher bargaining. Analysis of the law, rather than empirical evidence submitted here, would indicate that compulsory interest arbitration

helps to bring about finality in teacher-board of education contract disputes. This fact works to answer the public's need for labor peace. Nonetheless, the accompanying loss of power which results when neutral third parties are consistently called upon to finalize and write collective bargaining agreements may give teacher unions reason to pause and, in so doing, reevaluate their positions with respect to this form of dispute resolution.

Table 1

Comparison of Population and Sample Groups in New Jersey

Group	School Enrollment	Population	Sample
I	3000 and below	108	14
II	3000 to 5999	53	7
III	6000 and above	29	4
Total		190	25

Ratio: 13.1%

Table 2

Comparison of Population and Sample Groups in Connecticut

Group	School Enrollment	Population	Sample
I	3000 and below	57	12
II	3000 to 5999	35	8
III	6000 and above	24	5
Total		116	25

Ratio: 21.5%

Table 3

Comparison of New Jersey and Connecticut Sample Districts on Selected Variables Using the Mean ($\bar{x}$) and Standard Deviation (SD)

Variable	Sample I (NJ)		Sample II (Conn)	
	$\bar{x}$	SD	$\bar{x}$	SD
District Student Enrollment	3889.0	5667.7	4173.6	3600.1
District Per Capita Income	$ 9243.88	3282.81	8804.24	2380.64
District Median Housing Value	$64528.00	27639.00	68900.00	22163.00
District Median Age	33.8	4.3	32.4	2.6

Table 4

The Mean ($\bar{x}$), Standard Deviation (SD) and Test Statistic (t) of B.A. Step 5 Salaries in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	$\bar{x}$	SD	$\bar{x}$	SD	t
1980-81	$13,788.2	912.6	$12,272.4	1,119.4	5.25***
1981-82	14,589.0	1,066.8	13,137.9	1,320.9	4.27***
1982-83	15,486.2	1,023.8	14,022.3	1,421.7	4.18***
1983-84	16,386.6	1,226.7	15,086.0	1,612.9	3.21***
1984-85	17,357.4	1,395.1	16,211.8	1,885.8	2.44*
1985-86	19,050.2	1,748.2	17,526.0	2,207.8	2.71**
Correlated sample t-test comparing 80-81 to 85-86	14.07***		15.77***		

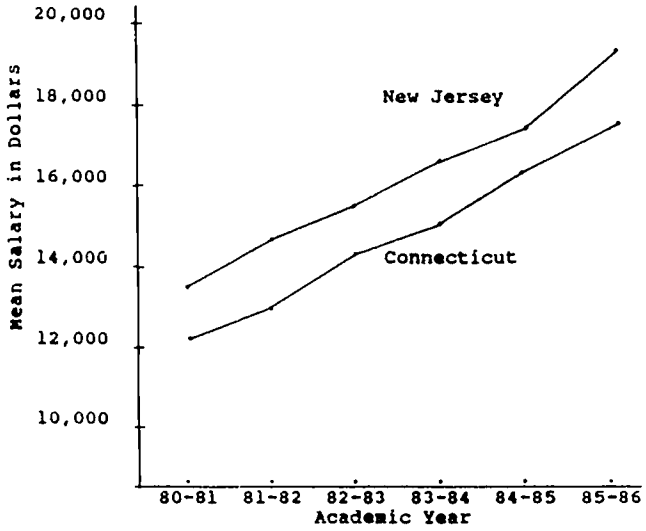

Figure 1. B.A. step 5 salaries in New Jersey and Connecticut, 1980-81 to 1985-86.

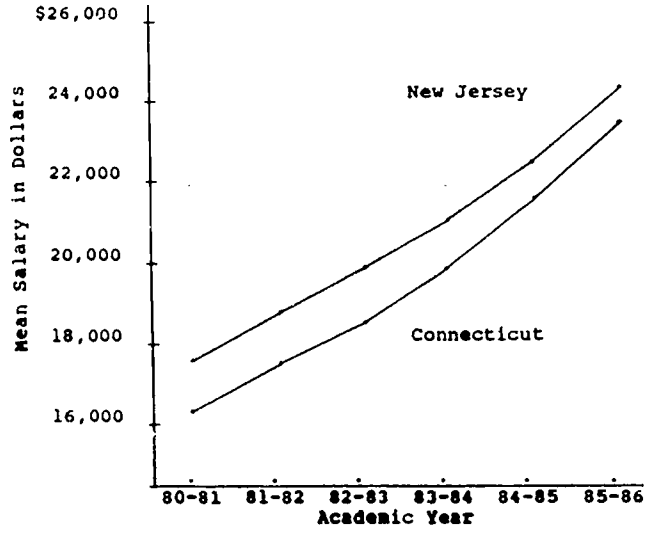

Figure 2. Mean M.A. step 10 salaries in New Jersey and Connecticut, 1980-81 to 1985-86.

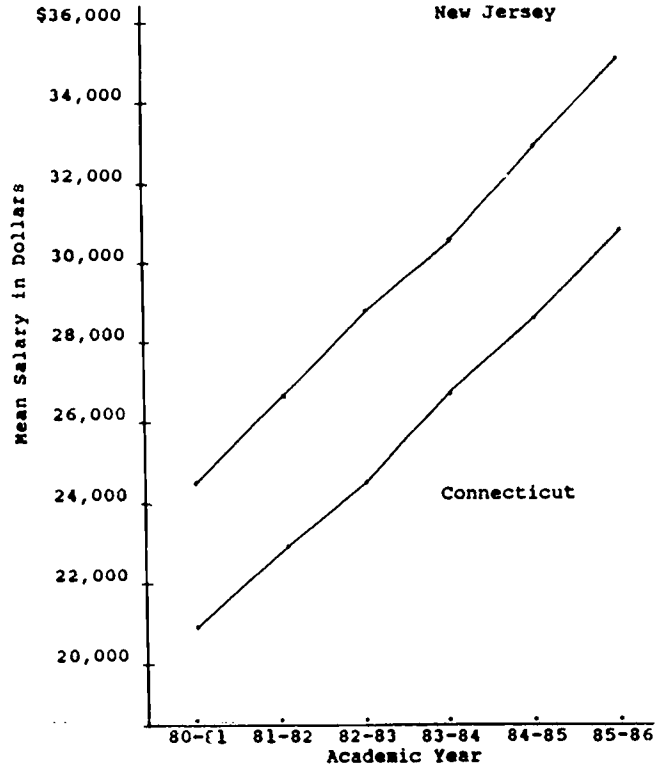

Figure 3. Mean M.A.+30 maximum salaries in New Jersey and Connecticut, 1980-81 to 1985-86.

Table 5

The Mean ($\bar{x}$), Standard Deviation (SD) and Test Statistic (t) of M.A. Step 10 Salaries in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	$\bar{x}$	SD	$\bar{x}$	SD	t
1980-81	$17,678.0	1,123.0	$16,160.0	1,589.9	3.90***
1981-82	18,706.0	1,258.2	17,125.6	1,837.8	3.55***
1982-83	19,794.4	1,391.4	18,387.7	1,966.5	2.92**
1983-84	21,025.4	1,753.3	19,746.1	2,160.3	2.30*
1984-85	22,240.5	1,928.7	21,285.6	2,565.3	1.49
1985-86	24,469.0	2,679.6	22,953.0	2,942.7	1.90
Correlated sample t-test comparing 80-81 to 85-86	13.90***		16.87***		

* p <.05
** p <.01
*** p <.001

Table 6
The Mean ($\bar{x}$), Standard Deviation (SD) and Test Statistic (t) of M.A.+30 Maximum Step in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	$\bar{x}$	SD	$\bar{x}$	SD	t
1980-81	$24,442.5	2,740.0	$20,965.0	1,524.4	5.55***
1981-82	26,346.1	2,991.3	22,418.6	1,709.1	5.70***
1982-83	28,403.1	3,420.2	24,474.9	1,686.6	5.15***
1983-84	30,367.7	3,819.7	26,236.0	1,926.4	4.83***
1984-85	32,576.7	3,823.5	28,150.8	2,110.2	5.07***
1985-86	35,343.4	3,199.0	30,493.5	2,185.8	6.26***
Correlated sample t-test comparing 80-81 to 85-86	33.27***		30.06***		

*** p <.001

Table 7

Number of Districts Having Contract Longevity Provisions in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	16	64.0	14	56.0	0.08
1981-82	17	68.0	14	56.0	0.40
1982-83	17	68.0	17	68.0	0.00
1983-84	18	72.0	17	68.0	0.00
1984-85	18	72.0	17	68.0	0.00
1985-86	18	72.0	17	68.0	0.00
Increase in number of districts with such provisions, 1980-81 to 1985-86	2		3		

(No significant differences between states; no significant increase over 6 years in either state)

Table 8

Number of Districts Having Contract Sick Day Reimbursement Provisions in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	8	32.0	12	48.0	0.75
1981-82	10	40.0	12	48.0	0.08
1982-83	16	64.0	12	48.0	0.73
1983-84	18	72.0	14	56.0	0.78
1984-85	19	76.0	15	60.0	0.33
1985-86	20	80.0	15	60.0	1.52
Increase in number of districts with such provisions, 1980-81 to 1985-86	12***		3		

*** p <.001

Table 9

Number of Districts Having Contract Provisions for Tuition Reimbursement in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	12	48.0	9	36.0	0.32
1981-82	13	52.0	9	36.0	0.73
1982-83	14	56.0	9	36.0	1.29
1983-84	14	56.0	10	40.0	0.72
1984-85	14	56.0	11	44.0	0.32
1985-86	16	64.0	11	44.0	1.29
Increase in number of districts with such provisions, 1980-81 to 1985-86	4		2		

(No significant differences between states; no significant increase over 6 years in either state)

Table 10

Number of Districts Having Contract Provisions for Class Coverage in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	9	36.0	2	8.0	4.20*
1981-82	10	40.0	4	16.0	2.48
1982-83	10	40.0	4	16.0	2.48
1983-84	10	40.0	4	16.0	2.48
1984-85	11	44.0	4	16.0	3.42
1985-86	13	52.0	4	16.0	5.70*
Increase in number of districts with such provisions, 1980-81 to 1985-86	4		2		

* $p < .05$

Table 11

The Mean ($\bar{x}$), Standard Deviation (SD) and Test Statistic (t) of Travel Reimbursement Allowance in New Jersey and Connecticut Contracts, 1980-81 to 1985-86 (cents per mile)

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	$\bar{x}$	SD	$\bar{x}$	SD	t
1980-81	11.4	8.9	8.2	9.6	1.21
1981-82	12.1	9.3	9.2	9.8	1.08
1982-83	13.3	9.5	9.2	9.9	1.50
1983-84	13.8	9.9	9.7	10.5	1.41
1984-85	14.1	10.2	9.8	10.6	1.48
1985-86	14.6	10.6	9.8	10.6	1.61
Correlated sample t-test comparing 80-81 to 85-86	2.82**		1.49		

** p <.01

Table 12

The Mean ($\bar{x}$), Standard Deviation (SD) and Test Statistic (t) of Personal Business Days Allowed in Contracts in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	$\bar{x}$	SD	$\bar{x}$	SD	t
1980-81	2.6	1.2	2.5	1.4	0.32
1981-82	2.6	1.2	2.5	1.4	0.32
1982-83	2.6	1.2	2.5	1.4	0.32
1983-84	2.6	1.2	2.5	1.4	0.21
1984-85	2.6	1.2	2.5	1.4	0.21
1985-86	2.8	1.1	2.5	1.4	0.65
Correlated sample t-test comparing 80-81 to 85-86	0.72		0.00		

(No significant difference between states; no significant increase over six years in either state)

Table 13

The Mean ($\bar{x}$), Standard Deviation (SD) and Test Statistic (t) of Family Illness Days Allowed in Contracts in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	$\bar{x}$	SD	$\bar{x}$	SD	t
1980-81	1.1	1.9	1.3	2.1	0.28
1981-82	1.1	1.9	1.3	2.1	0.28
1982-83	1.1	1.9	1.4	2.4	0.46
1983-84	1.2	2.0	1.4	2.4	0.26
1984-85	1.2	2.0	1.4	2.4	0.26
1985-86	1.2	2.0	1.4	2.4	0.26
Correlated sample t-test comparing 80-81 to 85-86	1.00		1.00		

(No significant difference between states; no significant increase over six years in either state)

Table 14

Number of Districts with Contract Provisions for Preparation Time in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	20	80.0	17	68.0	0.42
1981-82	20	80.0	20	80.0	0.00
1982-83	20	80.0	20	80.0	0.00
1983-84	20	80.0	22	88.0	0.15
1984-85	20	80.0	22	88.0	0.15
1985-86	20	80.0	22	88.0	0.15
Increase in number of districts with such provisions, 1980-81 to 85-86	0		5*		

* p <.05

Table 15

Number of Districts with Contract Provisions for Credit for Outside Experience in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	14	56.0	17	68.0	0.34
1981-82	14	56.0	17	68.0	0.34
1982-83	15	60.0	18	72.0	0.36
1983-84	15	60.0	18	72.0	0.36
1984-85	15	60.0	19	76.0	0.83
1985-86	15	60.0	19	76.0	0.83
Increase in number of districts with such provisions, 1980-81 to 85-86	1		2		

(No significant differences between states; no significant increase over 6 years in either state)

Table 16

Number of Districts Having Contract Provisions for Sabbatical Leave in New Jersey and Connecticut 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	21	84.0	24	96.0	0.88
1981-82	21	84.0	24	96.0	0.88
1982-83	21	84.0	24	96.0	0.88
1983-84	22	88.0	25	100.0	1.41
1984-85	22	88.0	25	100.0	1.41
1985-86	22	88.0	25	100.0	1.41
Increase in number of districts with such provisions, 1980-81 to 85-86	1		1		

(No significant differences between states; no significant increase over 6 years in either state)

Table 17

Number of Districts Having Contract Provisions for Grievance Arbitration in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	18	72.0	17	68.0	0.00
1981-82	19	76.0	19	76.0	0.00
1982-83	19	76.0	21	84.0	0.12
1983-84	19	76.0	23	92.0	1.34
1984-85	19	76.0	24	96.0	2.66
1985-86	19	76.0	25	100.0	4.73*
Increase in number of districts with such provisions, 1980-81 to 1985-86	1		8**		

* p <.05
** p <.01

Table 18

Number of Districts with Contract Provisions for Agency Fee in New Jersey and Connecticut, 1980-81 to 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	N	%	N	%	X^2
1980-81	5	20.0	5	20.0	0.00
1981-82	11	44.0	7	28.0	0.78
1982-83	12	48.0	11	44.0	0.00
1983-84	14	56.0	14	56.0	0.00
1984-85	15	60.0	15	60.0	0.00
1985-86	15	60.0	17	68.0	0.09
Increase in number of districts with such provisions, 1980-81 to 1985-86	10***		12***		

*** p <.001

Table 19

The Mean ($\bar{x}$), Standard Deviation (SD) and Test Statistic (t) Comparing New Jersey and Connecticut Districts on Number of Steps to M.A.+30 Maximum Salary, 1980-81 and 1985-86

Year	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	$\bar{x}$	SD	$\bar{x}$	SD	t
1980-81	17.08	3.30	14.84	2.44	2.73**
1985-86	16.16	3.33	14.56	1.98	2.07*

* p <.05
** p <.01

Table 20

The Mean ($\bar{x}$), Standard Deviation (SD) and Test Statistic (t) Compering New Jersey end Connecticut Districts on Medical and Dental Premiums Per Teacher 1980-81 and 1985-86

Variable	State				
	New Jersey (N = 25)		Connecticut (N = 25)		
	$\bar{x}$	SD	$\bar{x}$	SD	t
Medical premiums per teacher 1980-81	$ 990.56	403.92	1040.14	348.90	-0.32
Medical premiums per teacher 1985-86	2106.80	536.23	1959.07	621.60	0.66
Dental premiums per teacher 1980-81	384.49	359.60	177.35	86.94	1.57
Dental premiums per teacher 1985-86	577.28	565.32	372.28	161.36	1.25

(No significant differences between states)

References

Bowers, M. H. (1974). A study of legislated arbitration and collective bargaining in the public safety services in Michigan and Pennsylvania. Unpublished doctoral dissertation. Cornell University, Ithaca.

Bureau of the Census. (1988). Statistical abstract of the United states 1988, 108th edition. Washington, DC: U.S. Department of Commerce.

Connolly, M. D. (1986). The impact of final-offer arbitration on wage outcomes of public safety personnel: Michigan vs. Illinois. Journal of Collective Negotiations, 15(30), 205-262.

Delaney, J.T., (1983). Strikes, arbitration, and teacher salaries; a behavioral analysis. Industrial and Labor Relations Review 36(3), 431-445.

Delaney, J. T., (1986). Impasses and teacher contract outcomes. Industrial Relations, 25(1), 45-55.

Farber, H. S. & Katz, H. C. (1979). Interest arbitration outcomes and incentive to bargain. Industrial and Labor Relations Review 33(1), 55-63.

Finch, M. & Nagel, T. W. (1984). Collective bargaining in the public schools: Reassessing labor policy in an era of reform. Wisconsin Law Review, 1573-1669.

Gatewood, L. B. (1974). Factfinding in teacher disputes; the Wisconsin experience. Monthly Labor Review, 97(10), 47-51.

Hopkins, C. D. (1980). Understanding educational research. Columbus, OH. Charles E. Merrill Publishing Company.

Ianole, R. J. (1980). An analysis of fact-finding as a final impasse procedure in settling collective bargaining disputes between teacher organizations and boards of education in New Jersey. Unpublished doctoral dissertation. Temple University, Philadelphia.

Jarley, P. (1987). The impact of Wisconsin's Mediation-Arbitration Law on bargaining outcomes. In B.D. Dennis(ed.) Proceedings of the 40th Annual Meeting of the Industrial Relations Research Association. (pp. 320-322). Madison, WI: IRRA Publications.

Kerlinger, F. N. (1973). Foundations of behavioral research. New York: Holt, Rinehart and Winston.

Kochan, T. A. (1975, September). Evaluating the effectiveness of impasse procedures: Some conceptual and research design issues. Paper presented at the meeting for the Society of Professionals in Dispute Resolution, Los Angeles.

Kochan, T. A. (1980). Collective bargaining and industrial relations. Homewood, Illinois: Richard D. Irwin, Inc.

Kochan, T.A., Mironi, M., Ehrenberg, R.G., Baderschneider, J. & Jick, T. (1979). Dispute resolution under fact-finding and arbitration: An empirical evaluation. New York: American Arbitration Association.

Kochan, T. A. & Wheeler, H. N. (1975). Municipal collective bargaining: A model and analysis of bargaining outcomes. Industrial & Labor Relations Review, 29(1), 46-66.

Lipsky, D. B. & Barocci, T. A. (1977). The impact of final offer arbitration in Massachusetts: An anlysis of police and firefighter collective bargaining. (Working paper 941-977). Cambridge. Alfred P. Sloan School of Management, Massachusetts Institute of Technology.

Loewenberg, J.J. (1970). Compulsory arbitration for police and firefighters in Pennsylvania in 1968. Industrial and Labor Relations Review, 23, 367-379.

McKelvey, J. T. (1969). Fact finding in public employment disputes: promise or illusion? Industrial and Labor Relations Review. 22(4), 528-543.

New Jersey Education Association. (1970). Report of the Working Conditions Committee. Trenton, N.J.

Olson, C. A. (1980). The impact of arbitration on wages of fire fighters. Industrial Relations, 19, 325-339.

Roomkin, M. J. & Juris, H. A. (1982). A critical appraisal of research on unions and collective bargaining. In T. A. Kochan, D. J. B. Mitchell & L. Dyer (Eds.), Industrial relations in the 1970s: Review and appraisal (pp. 311-354). Madison: Industrial Relations Research Association.

Stern, J. L., Rehmus, D. M., Lowenberg, J. J., Kasper, H. & Dennis, B. (1975). Final offer arbitration. Lexington, MA: D. C. Heath & Co.

Stevens, C. M. (1966). Is compulsory arbitration compatible with bargaining? Industrial Relations, 5(2), 38-52.

Twaite, J. A. & Monroe, J. A. 1979. Introductory statistics. Glenview, Illinois: Scott Foresman and Company.

Wisconsin Center For Public Policy. (1980). The effect of the Senate Bill 15 Amendments to the Municipal Employer-Employee Relations Act. Madison, WI.

Wolkinson, B. W. & Stieber, J. (1976). Michigan fact-finding experience in public sector disputes. The Arbitration Journal, 31(4), 225-247.

Yaffe, B. & Goldblatt, H. (1971). Fact-finding in public employment disputes in New York State: More promise than illusion. (ILR Paperback No. 10). Ithaca: Cornell University, School of Industrial and Labor Relations.

Zabriskie, A. W. (1979). The effects of collective bargaining with and without the legalized right to strike on wages and fringe benefits of teachers. Unpublished doctoral dissertaion. Temple University: Philadelphia.

Zack, A. (1979). Improving mediation and fact-finding in the public sector. Labor Law Journal, 21(3), 271-280.