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COLLECTIVE BARGAINING AND COMPENSATION
IN THE PUBLIC SECTOR

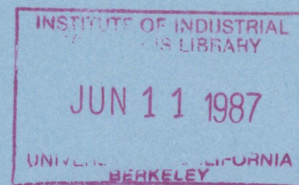
by

Daniel J.B. Mitchell*

*Daniel J.B. Mitchell
Director
Institute of Industrial Relations
U.C.L.A.
Los Angeles, California 90024
(213) 825-4339

and

Professor
Graduate School of Management
U.C.L.A.



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INSTITUTE OF INDUSTRIAL RELATIONS (Los Angeles)
UNIVERSITY OF CALIFORNIA
LOS ANGELES

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DANIEL J.B. MITCHELL

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In the late 1970s, when the previous edition of this chapter was being prepared (Mitchell, 1979), the world of collective bargaining was dominated by the private sector. Within the private sector, union wage settlements generally outpaced nonunion wage adjustments. True, the proportion of private union-represented workers slipped slightly each year. But the pace of slippage was sufficiently slow that the now-commonplace phenomenon of "concession bargaining" was virtually unknown.

Meanwhile, bargaining in the public sector was something of a backwater. Some academics had begun to pay increased attention to the subject. However, collective bargaining for government employees was still viewed as an offshoot of private sector industrial relations. Thus, state legislatures would typically turn to the framework of the amended Wagner Act when they regulated bargaining with public employees. And government managers hired private sector industrial relations experts to handle their new bargaining obligations.

The view from the late 1980s is profoundly different. Unions in the private sector lost substantial membership in the first half of the 1980s, but public sector unions basically held their own.¹ By 1985, the proportion of private sector wage and salary earners represented by unions was only 16%, while in the public sector the ratio was 43%. (Gifford, 1986) These discrepancies were reflected in shifts in bargaining power as well as in the public/private mix of union-represented workers.

Not surprisingly, academic research into public sector wage setting, bargaining, and related topics has expanded substantially. Reviews of this growing literature are becoming increasingly available. (For example, Freeman 1986; Hirsch & Rufolo, 1983). Rather than simply describe what has already been done in earlier periods, this chapter will begin with an empirical

overview of public sector bargaining and wage setting during the 1980s. References to the analytical and empirical literature in subsequent review sections will also be confined almost exclusively to research in the 1980s. It will be suggested that public sector industrial relations now has lessons for the private sector.

I. Pay Trends in the 1980s.

Table 1 compares public and private pay trends on a total compensation basis during 1980-86. In the private sector, as price disinflation occurred, wage inflation also moderated. Various forces, including dollar appreciation (and resulting import competition), severe recession, and de-regulation, sparked a dramatic union wage concession movement. This movement did not remain confined to distressed industries; it soon spilled out of its initial confines and lowered union wage norms throughout the private sector. (Mitchell, 1985) As pre-existing private contracts expired, nonunion pay increases pulled ahead of those settlements determined under collective bargaining.

By the mid 1980s, pay adjustments in the public sector generally outpaced private pay outcomes. Especially in the educational sector, where studies such as the "Gardner Report" pointed to low pay for teachers as a source of student deficiencies, deliberate attempts were made to raise compensation levels. (National Commission, 1983) In addition, pay adjustments which had been repressed by taxpayer revolts in the late 1970s -- such as that surrounding California's Proposition 13 -- showed evidence of subsequent wage "catch up" pressures.² (Mitchell, 1983a).

Table 1

Public and Private Pay Trends in the 1980s as Indicated
by the Employment Cost Index

Sector	1980	1981	1982	1983	1984	1985	1986
Private Sector							
Union	11.1%	10.7%	7.2%	5.8%	4.3%	2.6%	2.1%
Nonunion	8.9	9.4	6.0	5.7	5.2	4.6	3.6
All	9.8	9.8	6.4	5.7	4.9	3.9	3.2
State & Local Government							
Elementary & Secondary Schools	n.a.	n.a.	7.3	5.9	7.7	6.3	5.8
All	n.a.	n.a.	7.2	6.0	6.6	5.7	5.2

Note: Figures refer to changes in total compensation (wages, benefits, and payroll taxes).

Source: Current Wage Developments, various issues.

II. Union vs. Nonunion Pay Adjustments.

Unfortunately, indexes of union versus nonunion pay trends in government are not directly available. However, information which can be obtained suggests that union pay adjustments at the state and local level were not disproportionate sources of wage pressure during the 1980s. For example, Table 2 divides states, localities, and school districts (a subdivision of localities) into those with above-average and below-average unionization rates.³

During the period of economic slump (1979-82), government wages in areas with relatively low unionization rose at or above the rates in more highly-unionized areas. Except at the state government level, this pattern continued during 1982-85. In the earlier period, slower growth of per capita income, area wages, and government employment in more highly-unionized public jurisdictions might have accounted for the seeming lack of union-related wage pressure. But these factors generally reversed in the latter period, without leading to relative upward pressure on union wages. Thus, just as unions were not linked to relative wage pressures in government in the latter half of the 1970s (Mitchell, 1983b), neither were they associated with a wage push in the first half of the 1980s.

The regression analysis of Table 3 confirms more precisely the lack of a union association with upward wage pressure. Using states as the unit of observation, trends in government pay during 1982-85 were regressed against the unionization rate, changes in area wages, and earlier government wage trends (1979-82).⁴ Unionization appears in the equations as either an insignificant or as a slightly negative influence on pay adjustments during this period. State and local pay trends were primarily influenced by area wage movements

Table 2

Changes in Per Capita Income, Area Wage Levels, and
Government Employment, by Degree of Unionization

	State Governments		Local Governments		School Districts	
	Low Union	High Union	Low Union	High Union	Low Union	High Union
Average Annualized Change in:						
Per Capita Income						
1979-82	8.5%	8.5%	8.6%	8.4%	8.7%	8.4%
1982-85	5.8	6.4	5.7	6.6	5.5	6.1
Area Wage Levels						
1979-82	8.5	8.4	8.5	8.4	8.6	8.2
1982-85	3.8	4.4	3.9	4.5	3.8	4.4
Government Employment						
1979-82	.4	.4	.4	-1.3	1.3	-.1
1982-85	2.2	2.1	1.4	1.5	2.6	2.1
Government Wage						
1979-82	9.0	8.4	9.3	9.3	9.0	8.4
1982-85	4.8	6.1	5.8	5.6	5.8	5.5
<hr/>						
Note:						
Average Ratio of Government Wage to Area Wage, 1982	1.18	1.21	1.06	1.20	1.07	1.18
Number of Observations	27	23	30	21	21	24

Note: High union refers to areas in states with unionization rates at the jurisdiction level indicated are above the 1982 average. Averages for state governments, local governments, and school districts were 36.0%, 47.0%, and 51.6% respectively. Low union refers to areas with below-average unionization. Unionization rates are the proportion of full-time employees represented by unions. Government wage refers to average monthly

Table 2 -- continued

earnings in October of year shown of full-time government employees. Government employment refers to both full- and part-time workers. Area wage level refers to annual wages per employee in state covered by unemployment insurance. For Maryland, area wages for all employees were projected from 1984 to 1985 using figures for private employees, only. The ratio of government wages to area wages is on an annual basis, i.e., government monthly wages have been multiplied by 12.

Source: See text and footnotes.

Table 3
Regressions Relating to Wage Catch-Up and Unionization:
Cross-Sections, 1982-85

	State Govt.	Local Govt.	School Districts
Constant	4.98**	6.95**	6.32**
Unionization Rate, 1982	.02	-.02**	-.01
Change in government wage, 1979-82	-.35**	-.26**	-.18*
Change in Area Wage, 1982-85	.70**	.50**	.39**
Adjusted R ²	.33	.37	.20
Standard error	1.75	1.06	1.29
Number of Observations	50	51	45

*Significant at 10% level. **Significant at 5% level.

Note: Dependent variable is annualized percent change in monthly earnings of full-time government employees, October 1982 to October 1985, in each state at the level of government listed at the head of the column. The unionization rate is the proportion of full-time workers organized as of October 1982 in each state at the level of government listed at the head of the column. The change in government wage is the dependent variable during October 1979 to October 1982. Change in area wage is the annualized change in wages per employee covered by unemployment insurance in the state of the jurisdiction.

Source: See text and footnotes.

(positively) and by past government pay trends (negatively). The latter finding strongly suggests catch up influences. Relatively low government pay increases -- perhaps due to fiscal strains -- in an early period tend to be "made up" subsequently as budget outlooks improve.

III. The Wage Concession Movement in Government.

It is paradoxical, but perhaps symptomatic of the growing importance of the public sector in industrial relations, that President Reagan's firing of striking air traffic controllers in 1981 is often seen as a cause of subsequent private union wage concessions and membership losses.⁵ The air traffic controller strike was a uniquely public sector event; workers who did not have the legal right to strike were terminated for asserting that right. (Northrup, 1984; Hurd & Kriesky, 1986; Northrup, 1986) If the dispute had any demonstration effects, they might have been expected to flow mainly into public labor-management relations.

Yet while some concession bargaining by unions in the 1980s occurred in the public sector, it was -- as the author has noted elsewhere -- a "lesser force" when compared with private sector developments. (Mitchell, 1986) A substantial literature developed concerning private sector concessions. But the literature on public sector concessions was quite limited, probably because of their lower frequency. (See Lewin, 1983, for an exception).

Table 4 compares private with state and local union wage adjustments under "major" contracts.⁶ The table indicates the proportions of workers covered by first-year wage freezes or cuts, a proxy for concession bargaining. Wage cuts were virtually unknown in major contracts in government, but could be found in such formerly "key" private industries as steel. Freezes in wages were more

Table 4

Trends in Union Wage Adjustments
in the Private and Public Sectors, 1980-86

	1980	1981	1982	1983	1984	1985	1986p
New Union Wage Settlements							
First-Year Wage Adjustments:							
Private	9.5%	9.8%	3.8%	2.6%	2.4%	2.3%	1.2%
State & Local	7.5	7.4	7.2	4.4	4.8	4.6	5.7
Percent of Workers with First-Year Wage Cuts:							
Private	0%	3%	2%	12%	5%	3%	9%
State & Local	0	0	0	0	0	*	0
Percent of Workers with First-Year Wage Freezes:							
Private	*	5%	42%	44%	18%	33%	21%
State & Local	10%	9	12	21	19	16	10
<hr/>							
Percent of Union Workers with Escalators							
Private	57%	56%	58%	57%	57%	50%	40%
State & Local	n.a.	21	2	1	2	2	2
Effective Union Wage Adjustments:							
Private	9.9%	9.5%	6.8%	4.0%	3.7%	3.3%	2.3%
State & Local	6.5	8.7	6.6	5.2	5.0	5.7	5.5
<hr/>							
Note: State & Local Wage Adjustments According to Employment Cost Index	n.a.	n.a.	6.5%	5.3%	5.9%	5.6%	5.4%

Note: Private union adjustments refer to nonagricultural contracts covering 1,000 or more workers. State and local union adjustments refer to contracts covering 5,000 or more workers, 1980-83, and 1,000 or more workers, 1984-86. p = preliminary

Source: Current Wage Developments, Monthly Labor Review, various issues.

common than cuts in both sectors, but again the private sector featured such outcomes more prominently.

i. The Escalator Impact.

Private sector contracts were more likely to have had cost-of-living escalator clauses prior to the concession period than state and local contracts. Thus, in some cases wage freezes were partly alleviated by escalator increases under private agreements. Despite reduced inflation, private sector union negotiators also held on to their escalators more tenaciously than their government sector counterparts. While some public sector workers may have put a high priority on contractual protection from inflation (Dayal, 1984), union bargainers in a few cases faced newly-enacted legal bans on continuing such clauses for public employees. (Healy, 1984; Miller & Stern, 1984)

The fact that escalators were a relatively recent phenomenon in the public sector in most jurisdictions was undoubtedly a major factor in their elimination; they simply had not become as entrenched as in many private bargaining units. In addition, as will be discussed below, union contracts are typically of shorter duration in government than in the private sector, making escalation less critical. With more frequent negotiations, unexpected inflation developments can always be reflected in re-negotiations, without substantial delay.

Even accounting for escalator wage increases, Table 4 shows that effective union wage adjustments (including those pursuant to escalators) in state and local employment still exceeded those for private workers consistently after 1982. But effective union wage adjustments in state and local government were

not out of line with general wage adjustments in that sector (union plus nonunion). Again, the lack of a public sector union wage push in the 1980s is confirmed by the available data.

ii. Fiscal Distress and Concessions.

Thanks to the experiences of New York City's flirtation with bankruptcy in the mid 1970s and of California's Proposition 13, the notion that union wage adjustments in the public sector are affected by fiscal crises is well established.⁷ Workers may become angry and militant in the face of such experiences, but anger alone does not translate into big wage increases. Indeed, the major concern of unions in such situations may well shift to protecting employment rather than raising wages. (Swimmer, 1982, 1983)

Even when unions are negotiating to save jobs in the short run, there is always the hope on the employee side that concessionary wage losses may be made up in some future, more favorable period. As one local union president put it in late 1986, after obtaining job security guarantees in exchange for a wage freeze:

"If we get logged in for two years, maybe there'll be a change in Washington...Then we can get back to negotiating like we used to. Right now, people are concerned about keeping their jobs..." (Bureau of National Affairs, 1986b)

The evidence on catch up tendencies in government wage setting suggests that this hope is not unrealistic.

Union "tastes" for employment vs. wages in periods of fiscal distress will vary; the choice will not always be for the former over the latter. (Horton, 1986) Nevertheless, fiscal pressures do lead to reduced public pay settlements generally. (Way, 1986) And there is an incentive for rival unions at least to coordinate their strategy, when faced with a common budgetary threat. (Lewin &

McCormick, 1981) Union leaders, if not members, have learned to associate periods of budget constraint with less favorable bargaining outcomes. (Bureau of National Affairs, 1986a)

The concession bargaining in the public sector that did occur in the 1980s was linked to fiscal distress of particular jurisdictions. Using a variety of data sources, the author developed a file of public sector concession agreements (those involving first-year wage freezes or cuts) for the period 1980-86. This file permits a breakdown of concessions by government level, type of service provided, and other characteristics.⁸

Table 5 indicates that most state and local concessions were in fact negotiated at the local level (where most bargaining units are located). Education and transit were the services most commonly represented in the concession file; together they accounted for about 40% of the contracts included. The concession contracts split roughly 50-50 between large units (those involving 1,000 or more workers) and smaller units. Of course, the larger units account for the bulk of the affected workers.⁹

Six states -- Oregon, Michigan, Pennsylvania, Ohio, Washington, and California -- accounted for 60% of the wage concessions reported. Of these, all but California appear to have negotiated a disproportionate share of concessions, when compared with the number of union agreements falling within their boundaries.¹⁰ The budgetary problems of these states during the early 1980s is well known. Oregon and Washington suffered from declines in the lumber industry. Michigan, Pennsylvania, and Ohio became "rust belt" states, suffering lost tax revenues due to adverse trends in manufacturing. In short, the connection between public sector concession bargaining and fiscal distress is clear.

Table 5

Characteristics of State and Local Union Wage Concession
Sample, 1980-86

Category	Proportion in Category	Category	Proportion of Units in Category	Proportion of Agreements in Category ¹
Level:		State:		
State	13%	Oregon	15%	2%
Local	87	Michigan	14	9
		Penn.	10	7
Service:		Ohio	8	5
Education	27%	Wash.	7	4
Police	11	Calif.	6	12
Fire	10	Other	40	61
Health	6			
Transit	13	Union:		
Other	33	AFSCME	19%	29%
		NEA	18	6
Unit Size:		IAFF	11	11
Less than		ATU	10	2
1,000		AFT	4	3
Workers	53%	Other	40	50
1,000 or				
More				
Workers	47			

¹Estimate of the proportion of agreements by state refers to labor-management agreements in effect as of October 1982. Estimate of the proportion of agreements by union refers to the number of state and local agreements on file with the Bureau of Labor Statistics as of Fall 1979.

Source: Author's public sector concession file (see text and footnotes for details); U.S. Bureau of the Census, Labor-Management Relations in State and Local Governments, GC82(3)-3 (Washington: GPO, 1985), Table 3; U.S. Bureau of Labor Statistics, BLS File of State, County, and Municipal Collective Bargaining Agreements, Fall 1979, report 598 (Washington: GPO, 1980), Table 2.

iii. The Outcomes of Concession Bargaining.

Table 6 compares various features of the government concession contracts to a similar sample covering the private sector.¹¹ The table indicates that many of the characteristics of private sector concession bargaining in the 1980s could also be found in the public sector. For example, the increased use of profit sharing under private sector concession contracts had a counterpart in contractual features linking pay to future available revenue in the public sector. Such share arrangements introduced an element of de facto wage flexibility into the agreement. But in neither public nor private employment did concession bargaining cause a substantial reduction in contract length compared with the durational norms for the sector.¹² Thus, the added wage flexibility which might have been associated with shortened contracts did not develop.

Two-tier wage contracts grew in usage during the mid 1980s in private employment, particularly in concession situations.¹³ They also developed in public employment, but appear to be linked mainly to public enterprises. For example, at the federal level, the Postal Service contracts of 1984 included a two-tier pay system. (Loewenberg, 1986) All of the contracts included in the public concession sample with reported two-tier plans involved transit systems. Two-tier pay plans were much more prevalent in private bargaining than in public. Where they existed in public employment, unions pushed -- sometimes successfully -- to terminate them. (U.S. Bureau of Labor Statistics, 1986a).

Lump-sum pay systems were also found in concession agreements in both sectors.¹⁴ However, these systems became widespread in private bargaining while remaining a relative rarity in government. Nominal wage decreases, the

Table 6

Union Wage Concessions in State and Local Government
and in Private Bargaining

	Private Sector		State and Local		
	All	1985-86	All	1985-86	All Excluding Transit
Percent of Contracts in Sample with:					
Escalator Clause	20%	12%	7%	11%	3%
Wage Decrease	20	16	4	3	4
Two-Tier Wage Plan	10	13	1	5	0
Profit Sharing	5	7	-	-	-
Revenue Sharing	-	-	5	0	6
Lump-Sum Wage Plan	22	46	3	8	3
Note: Mean Contract Duration in Months	30	32	22	26	20
Settled by Arbitration	-	-	6	5	5
Percentage of Sample	100%	43%	100%	20%	87%

Note: Private sector sample consists of over 1,800 settlements during 1981-86 with first-year wage freezes or cuts. State and local sample consists of 182 settlements during 1980-86 with first-year wage freezes or cuts.

Source: Author's concession files drawn from the Daily Labor Report, Government Employee Relations Report, and Current Wage Developments. See text and footnotes for details.

sample confirms, were comparatively infrequent in government employment (and were found mainly in smaller agreements), but were more commonplace in private concession bargaining.

Probably, the major difference between the private and public concessions of Table 6 is their time profile. Private concessions continued unabated into the mid 1980s, despite the general economic expansion after 1982. In contrast, public concessions tended to taper off in frequency as the economy improved. Thus, the public sector concessions which were negotiated seemed more transitory than their private counterparts, and were linked to temporary fiscal distress in particular jurisdictions. Perhaps this transitory aspect is why in most cases, the parties were able to reach a concession agreement without the intervention of interest arbitration. Apparently, both sides understood the short-term fiscal dilemma they faced and adapted to it. Private concessions, however, represented a longer-term weakening of union bargaining power related to membership losses within industries and the rise of nonunion competition.

IV. Pay Levels in Government.

In one respect, the literature of the 1980s differed little from earlier research efforts. Economists in the eighties were still trying to pin down the impact of unions on public sector pay. The question was still, do unions make government pay levels higher? And the answer was still "yes-somewhat."

i. "Rents" in Public Pay Determination.

Before the union wage effect question can be addressed, however, it is important to develop some notion of what government pay levels would be like, absent unionization. Simple comparisons of pay levels in the unionized public

sector with private pay levels could be misleading, if government pay was inherently "too" high, i.e., too high with or without a union. Thus, the union wage impact research has been closely linked to the general question of whether public employees actually receive economic "rents," i.e., premiums in pay above their alternative labor market value.

Table 7 provides a time series comparison of pay levels on a total compensation basis between various public pay rates and a private sector average.¹⁵ Note that in the late 1970s and 1980s, average federal pay levels -- unadjusted for any occupational composition effects -- were anywhere from 24% to 43% above the private sector. In contrast, state and local pay levels did not show such marked differences, when measured against the private sector.

The simple ratio analysis of Table 7 has been reflected in more sophisticated comparisons, in which controls were introduced for employee characteristics. Economists researching the issue of rents for public employees tended to conclude that federal workers (including the postal workers who dominate the federal enterprise column of Table 7) were "overpaid." But they were likely to find that state and local employees -- as a group -- were not overpaid, or were less overpaid. (Krueger, 1986; D. Alton Smith, 1980; Sharon P. Smith, 1982, 1983)

Generally, within demographic groups, researchers often found that those workers likely to receive lower pay in the private sector, i.e., women and minorities, received higher pay in public employment. (Gunderson, 1980) Whether this leveling effect of government was a Good Thing, or whether government ought to be compared with private outcomes by demographic group, was much debated in testimony by economists in connection with Postal Service

Table 7

Comparative Government and Private Pay Trends, 1950-85

Year	Federal Enter- prises to Private	Federal Civilian to Private	Federal Enter- prises to Federal Civilian	State & Local Enter- prises to Private	State & Local Educa- tion to Private	State & Local Non-edu- cation to Private
1950	1.09	1.19	.92	1.02	n.a.	n.a.
1955	1.01	1.17	.86	1.01	.92	.90
1960	1.01	1.24	.82	.99	.99	.89
1965	1.07	1.33	.80	1.01	1.01	.89
1970	1.13	1.40	.81	1.06	1.10	.96
1975	1.25	1.43	.88	1.07	1.07	.97
1976	1.28	1.42	.90	1.07	1.07	.97
1977	1.28	1.43	.89	1.05	1.06	.97
1978	1.26	1.43	.88	1.02	1.03	.95
1979	1.24	1.39	.89	1.02	1.03	.95
1980	1.25	1.35	.93	1.01	1.02	.94
1981	1.30	1.36	.95	1.03	1.01	.96
1982	1.27	1.35	.94	1.04	1.03	.97
1983	1.30	1.36	.95	1.05	1.05	.99
1984	1.32	1.37	.97	1.06	1.06	1.01
1985	1.36	1.39	.98	1.09	1.09	1.04

Note: Data are ratios of compensation per full-time equivalent employee. Compensation includes wages, fringes, and payroll taxes.

Source: U.S. Bureau of Economic Analysis, The National Income and Product Accounts of the United States, 1929-82: Statistical Tables (Washington: GPO, 1986), Tables 6.4B and 6.7A; Survey of Current Business, vol. 66 (July 1986), pp. 65-66.

wages. (Asher & Popkin, 1984; Perloff & Wachter, 1984) However, Good Thing or not, the differential wage premiums are by now a well-documented fact.¹⁶

In making public/private wage comparisons, economists have tended to ignore employer characteristics and to concentrate on employees. This tendency reflects the data sets which are most readily available (such as the Current Population Survey), which focus on employee attributes. However, some evidence has developed indicating that a closer examination of employer attributes is needed.

It is known, for example, that larger firms in the private sector tend to pay higher wages than smaller firms. One study confirms a similar tendency for public employment; large public employers pay more than small ones. (Brown & Medoff, 1986) This finding suggests that public/private comparisons should be standardized for size. Since government employees often work for relatively large departments, arguments that prevailing wage comparisons -- such as the PATC survey taken for federal pay setting purposes -- ought to include more small firms need to be re-examined.¹⁷ Including small firms in comparison surveys will obviously pull down the average pay levels gathered from the private sector. But whether such firms are comparable to (generally larger) government employers is open to question.

Government departments nominally operating within a single pay setting system may be able to exercise some discretion over actual wage outcomes. It has been argued that absent other pressures, government departments will wish to pay "more" to their workers, since high wages make for more contented workers. (Mehay & Gonzalez, 1986) But departments will not typically have a totally free hand in such matters. They may, however, be more able to pay higher wages if they service a politically powerful constituency behind them.

One study, based on federal civil service records, for example, found higher pay going to workers in agencies which are important to small, well-organized interest groups. (Borjas, 1980)

ii. Employee Turnover and Rents.

Research on government pay differentials in the 1980s began to depart from the simple comparison approach. It has long been known -- from such sources as area wage surveys -- that in private employment, even narrowly defined jobs exhibit a broad range of pay levels within a local labor market. Evidently, private employers follow a range of pay practices; some try to meet the average wage prevailing in the market while others aim to pay above or below the average.

It can be expected that relatively high wage payers will experience lower employee turnover and greater ease of recruitment than low payers. High salaries are likely to attract a queue of job applicants, which the employer can screen for desired worker characteristics. Jobs can thus be quickly filled. And once filled, the new employees will be less likely to quit, since outside opportunities at comparable wages will be difficult to locate.

This expectation about the effects of wage policy suggests that queues of job applicants and employee turnover rates could be scrutinized to determine the appropriateness of government pay levels. Put in its simplest terms, the argument is that government workers are overpaid if long queues exist for potential job vacancies and if existing workers are slow to turn over, relative to private employment. Several studies have referred to, or examined, public sector queue and/or quit rate data and have concluded that overpayment exists in government, even at the local level. (Krueger, 1986; Venti, 1985; Long,

1982)

However, there is a conceptual difficulty with the queue/quit approach. Empirically, there are large firms -- such as IBM -- which are noted for high pay/low turnover policies. Usually, it is concluded that such firms are following a rational, profit-maximizing strategy of careful screening, lower turnover costs, increased employee loyalty, etc. Because private firms are involved, it is assumed by economists that they are optimizing their pay policies. IBM is not seen as irrationally overpaying its workforce.

But those analysts who apply the queue/quit approach to public employers are typically not willing to make the same presumption about government pay policies. Yet in the absence of a clear model of what rates queuing and quits are efficient for government, the appearance of long queues and low quits cannot be assumed to be suboptimal. Operational models which indicate optimal queues and quit rates for government are not readily at hand.

The queue/quit issue is particularly compelling during periods of high unemployment. In such periods, job applicants are often told by private employers that no vacancies exist. And workers with jobs during recessions are reluctant to quit. To be consistent, those analysts who take the queue/quit approach should argue, therefore, that private employers routinely overpay their workers during economic downturns.

Of course, explaining this phenomenon, in which the typical private (presumably profit-maximizing) employer cyclically becomes an overpayer has long been a major challenge to economic theory. In recent years, the paradox of private wage inflexibility in the face of labor surpluses has given rise to a substantial literature on "implicit contracting" in the labor market. Pending a resolution of this issue (and that may not occur for a long time!),

the queue/quit approach at best serves as an indicator of overpayment in extreme cases. Even then, some kind of ad hoc adjustment for business cycle influences is necessary.

iii. Non-wage Benefits.

Wages are not the only job attribute relevant to the employee. In a world in which unemployment exists (even if economists cannot well explain it), jobs which offer relative security from layoff are more attractive than others. Some researchers have analyzed unemployment probabilities and found -- not surprisingly -- that government jobs provide greater security on average than private jobs. (Allen, 1986) Thus, even when wage comparisons do not show marked discrepancies between public and private pay (as is the case at the local level), factoring in job security as a benefit is likely to make government pay appear too high on an adjusted basis. (Bellanti & Long, 1981)

Conventional employee benefits ought to be considered in public/private pay comparisons, although prevailing wage methodologies used by government pay setters often omit fringes. As Table 8 shows, there is a tendency at all levels of government to devote a greater share of the compensation dollar to non-wage benefits, when compared with the private sector. Moreover, this tendency has been a longstanding practice. Thus, public employees are more likely to appear overpaid on a total compensation basis than on a wage-only basis.

iv. Pensions.

For current benefits, such as health insurance, employer expenditures represent the actual employer cost of the various plans offered to workers.

Table 8

Ratio of Total Compensation to Wages and Salaries
in Public and Private Employment, 1960-85

Year	Private	Federal Enter- prises	Federal Civilian	State & Local Enter- prises	State & Local Educa- tion	State & Local Non-edu- cation
1960	1.06	1.08	1.08	1.09	1.09	1.09
1970	1.12	1.10	1.10	1.10	1.14	1.10
1975	1.16	1.16	1.15	1.14	1.18	1.15
1980	1.18	1.18	1.19	1.19	1.23	1.20
1981	1.19	1.18	1.19	1.20	1.24	1.21
1982	1.19	1.20	1.20	1.21	1.25	1.22
1983	1.19	1.21	1.22	1.21	1.26	1.22
1984	1.19	1.21	1.23	1.21	1.26	1.22
1985	1.19	1.23	1.24	1.22	1.26	1.23

Source: U.S. Bureau of Economic Analysis, The National Income and Product Accounts of the United States, 1929-82; Statistical Tables (Washington: GPO, 1986), Tables 6.4B and 6.5B; Survey of Current Business, vol. 66 (July 1986), p. 65.

However, pensions -- which represent a deferred benefit -- have come in for special scrutiny by economists. Public pensions, unlike private, are not covered by ERISA, and thus may accrue large unfunded liabilities.¹⁶ Future benefit payments which are unfunded do not show up as employer compensation expenditures, although they do represent potentially costly promises.

Analysts of public pension systems have generally found them to be more generous than private programs. (Quinn, 1982) The degree of generosity is positively correlated with the employee's length of service and -- during periods of inflation -- the presence of an escalator clause in the pension benefit formula.¹⁷ (Jump, 1983) Some pension underfunding can be understood as an "optimal" shifting of burdens to future taxpayers, although short electoral horizons of political decision makers may also be important explanations. (Mumy, 1983; Robert S. Smith, 1983)

The issue of pension underfunding is likely both to reassert itself in the future, and to complicate labor-management relations in the public sector. Taken as a whole, state and local pension systems have not been seen as in dire financial straits. (Hall & Smith, 1983) But state and local systems cannot be taken as a whole because they are not a single plan. Some plans have substantial underfunding problems, while others do not. Underfunded plans cannot in general be "bailed out" by an infusion of assets from more healthy pension programs.

One employer solution to the underfunding problem has been to create a lower tier of pension benefits for new employees. Adding a lower tier reduces the increment of expected pension liability which would otherwise be associated with each hire. This two-tier approach was taken at the federal level in the 1980s. (U.S. Bureau of Labor Statistics, 1986b) However, two-tier pension

plans and two-tier pay plans pose similar problems of cross-sectional equity. New hires work side by side with senior workers who earn higher rates of compensation for the same jobs.

V. Unions and Government Pay.

Since merely having the government as employer may influence pay levels, one way to isolate the union effect is to confine union and nonunion wage comparisons solely to the public sector. Studies undertaken in the 1970s generally found that unions did have a pay-raising effect in government. (Mitchell, 1979) Table 9 suggests that similar results were likely to be found in the 1980s.

i. Simple Empirical Evidence.

On Table 9, cross-state regressions have been run explaining government pay in 1982 by per capita income (a proxy for demand for government services), general area wage level (a proxy for labor market conditions and competition), and the government unionization rate.²⁰ The unionization coefficients are positive and -- at the local and school district level -- significant. While much criticism might be leveled at the specifics of the regressions, the results suggest that more sophisticated studies will still find significant union wage impacts for local governments and school systems.

Federal civilian servants may have union representation, but the scope of their bargaining does not include pay. However, postal workers have been covered by a pay-bargaining system since the early 1970s. As has already been depicted on Table 7, postal pay began rising relative to private pay in the period after bargaining was adopted. It continued rising thereafter, except

Table 9

Regressions Relating Government Wage Level to Unionization,
Per Capita Income, and Area Wage Level, 1982

	State Govt.	Local Govt.	School Districts
Constant	464**	-239*	-155
Unionization Rate, 1982	1.58	4.64**	5.91**
Per Capita Income, 1982	.0098	.0317	.0250
Area Wage Level, 1982	.0597**	.0729**	.0678**
Adjusted R ²	.54	.81	.67
Standard error	149	136	149
Number of Observations	50	51	45

*Significant at 10% level. **Significant at 5% level.

Note: Dependent variable is average monthly earnings of full-time government employees in level of government listed at the head of the column. Per capita income refers to 1982 per capita income in state. Area wage level refers to 1982 wages per employee covered by unemployment insurance in state listed at the head of the column.

Source: See text and footnotes.

for a brief, inflation-related lag in the late 1970s. More significantly, postal pay also rose relative to (non-bargained) federal civil servant pay during the 1970s and 1980s. Again, these simple observations do not prove that there has been a union wage effect for postal workers, it would be most surprising -- given the data of Table 7 -- if researchers hadn't found one.

ii. Pay Research in the 1980s.

In fact, a substantial body of literature in the 1980s concludes that there is typically a union wage-raising impact in government. (Lewis, 1986; Freeman, 1986; Gomez-Mejia & Balkin, 1984; Balkin, 1984; Edwards & Edwards, 1982) When compared with private union wage effects, researchers have usually found that the union wage-raising effect in government is smaller. (Moore & Raisian, 1982) Some analysts have argued that union wage effects in the public sector have increased over time. (Baugh & Stone, 1982) But others believe that the union wage effect appears early in the bargaining relationship and may actually diminish thereafter. (Baker, 1984b)

Generally, it has been found that the wage effect depends on whether there is a contract, rather than on the mere presence of a union. (Freeman & Valletta, 1986; Kearney & Morgan, 1980) Whether there is a contract, and hence an effective union, depends heavily on the legislation covering the jurisdiction in question. (Ichniowski, 1986a, 1986b; Hunt, Terza, White, & Moore, 1986) The presence of laws favorable to installation of collective bargaining is associated with such variables as a pro-union political climate, non-south location, and high local income levels.²¹ (Farber, 1986)

Some private sector researchers have insisted that high wages may cause a demand for union services and, therefore, that the seeming union-to-wage

causality may be reversed. They argue that high wages may cause unions, rather than the other way around. To cope with this problem, these skeptics have used simultaneous equation techniques and have included a demand-for-unionism equation. Often, the result is a reduced estimate of the union wage impact.

But there is reason to question this approach as applied to the private sector, where unionization patterns were established many years ago. Private sector workers are more likely to be union or nonunion on the basis of where they find work, rather than on the basis of individual choice about having union representation after they have a job. In the public sector, however, unionization is comparatively new and the simultaneity issue is more important. Government workers already in jobs have more of an effective choice concerning whether a union will represent them or not than private workers.

There has been only limited work applying the simultaneous equation approach to government employees. But the finding in those studies undertaken has been that simultaneous equation methodology increases the estimated union wage impact. (Lewin & Katz, 1983; Bartel & Lewin, 1981) It appears, therefore, that in public employment, low wages -- not high wages -- increase the demand for union services. Presumably, nonunion public workers vote for a union hoping that it will raise their wage rates.²²

iii. Benefits and Unions.

Research in the private sector has confirmed a special affinity of unions for fringe benefits. Various explanations have been given for this phenomenon. Probably the most convincing is that fringes are of special benefit to more senior workers, who will have an influential voice in union decision making under "median voter" models.²³

There is no reason to expect union preferences in the public sector to be notably different from those in the private sector with regard to benefits. Not all research concerning benefits in unionized situations in government has aimed at specifically analyzing the union impact (as opposed to other variables which may influence benefit expenditures). (See, for example, Extejt & Extejt, 1983). However, studies undertaken in the 1980s suggest that a) union bargaining increases employer expenditures on fringes (Feuille, Delaney, & Hendricks, 1985b), and that b) the union effect on fringes is larger than the impact on wages (Bartel & Lewin, 1981).

VI. Union Impacts on Management Strategy and Productivity.

During the 1970s, the U.S. Bureau of Labor Statistics (BLS) published various bulletins summarizing contractual features of both public and private union agreements. Budget cutbacks ended this program, and it is now more difficult to determine the union impact on items other than compensation levels. Unfortunately, lack of good data on public sector contractual terms impedes research on the impact of bargaining on management and on the nature of the labor-management relationship.

i. Contract Duration and Union Security.

In the 1970s, available studies indicated that union agreements in the public sector were typically shorter in duration than those in the private sector. Shorter contracts, other things equal, mean that management must devote more attention to bargaining, since negotiations will occur more frequently. In addition, it appeared in the 1970s that union security arrangements were less common in government (and generally weaker where they

did exist), as compared with private employment. Absent union security arrangements, union financial resources may be smaller and organizing efforts will continue, even after the union is officially recognized. There may be a more adversarial relationship -- again, other things equal -- in such areas as grievance handling. Unions may be less willing to screen out frivolous grievances if the result might be loss of dues-paying members.

Available information, based on sources other than the BLS, suggests that the contract characteristics found in the 1970s carried over into the 1980s. Table 10 compares a study of private union agreements undertaken by the Bureau of National Affairs, Inc., with a similar study of public sector contracts in California. The table indicates that as of the mid 1980s, contract durations remained shorter in public employment than in private; contractual provisions associated with long-duration agreements (reopeners, escalators, and deferred pay adjustments) were also less common.

Union security was notably weaker in the California public sector contracts than in the private sample. This tendency reflects state laws, which restrict the use of such clauses. However, although the figures would vary from state to state, there is other confirmation of weaker union security in the public sector. In 1985, 17% of government workers who were represented by unions were not union members, compared with only 10% in private employment. (Gifford, 1986)

Unfortunately, research into the implications of more frequent negotiations and weaker union security for management has been lacking. It is possible that such public/private differences -- because of their impact on the overall labor-management relationship -- could influence bargained wage outcomes and managerial strategies. But these effects --if they exist -- are unknown.

Table 10

Contractual Features of Labor-Management Agreements,
Public Sector (California) and Private Sector

	California Public Sector Sample, 1984	BNA Private Sector Sample, 1986
Mean Contract Duration (Years)	1.8	2.9
Proportion of Agreements with:		
Reopener	6%	14%
Escalator	12%	42%
Deferred Wage adjustments	63%	80%
No strike/ lockout clause	71%	95%
Union Shop	1%	60%
Modified Union Shop	*	14%
Agency Shop	9%	5%
Maintenance of Membership	6%	4%

*Less than 0.5%.

Note: The California file consists of 757 agreements estimated to cover over one half of all full-time, state and local employees in the state. The BNA file consists of 400 contracts used periodically for surveys of contractual features. Contract durations were estimated from duration intervals.

Source: California Department of Industrial Relations, Provisions of Public Sector Negotiated Labor Agreements in California, 1984 (San Francisco: Division of Labor Statistics and Research, 1985), Tables 1, 5, and 6; Bureau of National Affairs, Inc., Basic Patterns in Union Contracts, 11th edition (Washington: BNA, 1986), pp. 2-3, 101, 115.

ii. Productivity, Resource Utilization, and Bargaining.

The most commonly used measures of productivity for the private sector have been based on the national income (GNP) accounts. But measurement of productivity in government is difficult because the value of public services is assumed to be equal to the value of the labor input which produced them, according to national income methodology. There may be ways to use national income data, nonetheless, to estimate government productivity trends. (Hulten & Robertson, 1983) But finding more tangible and direct output measures would greatly ease the task.

Some progress was made by BLS during the early 1980s in estimating productivity trends at both the federal and state and local levels, using information sources other than the national income accounts. (U.S. Bureau of Labor Statistics, 1983; Fisk, 1983; Fisk 1984) However, only limited aspects of government productivity could be monitored from the alternative sources. For example, the activities measured tended to be either government enterprises (such as state-owned liquor stores) or services for which readily available output measures could be had (such as the processing of unemployment insurance claims).

In the absence of readily-available information on government efficiency in labor utilization, those researchers analyzing the union impact on productivity have had to develop their own output measures. Generally, studies in this field have found either no union productivity effect or mixed effects (raising some output measures, lowering others). (Ehrenberg & Schwarz, 1983; Ehrenberg, Sherman, & Schwarz, 1983; Eberts, 1984) These ambiguous findings mirror similar results obtained from micro-level research in private employment

situations.

Public managers -- certainly not an unbiased source of information -- do not believe that collective bargaining enhances the quality of government service, but they are reluctant to say that unions decrease the quantity of services produced. (Howard & Culkin, 1983) Unions may actually be able to obtain increased expenditures on particular services they represent, through bargaining or lobbying. (Allen, 1986; Eberts, 1983) Of course, added expenditure on production does not necessarily mean higher productivity.

Despite the fuzzy evidence on the union/productivity relationship, legislative authorities sometimes have acted in the belief that unions will lower productivity if not legally constrained by narrow scopes of bargaining. However, productivity issues and working conditions are intertwined. If unions are constrained from improving working conditions, e.g., lowering class sizes in schools, they may simply exercise their bargaining power in the allowable arena of pay. Thus, in the school example, pay may be higher if class size cannot be lowered. (Woodbury, 1985)

iii. Labor-Management Cooperation.

Efforts to trade off higher pay for higher productivity have been made in private employment from time to time. During the 1980s, various quality of working life (QWL) arrangements were associated with private concession bargaining situations. The issue in these cases, however, was not higher pay, but rather maintaining nominal pay (or limiting pay cuts) in exchange for more managerial flexibility regarding job assignments.

Where concession bargaining has occurred in government, there has also been some heightening of interest in QWL approaches. (Lewin, 1983) However,

employees are sometimes suspicious of management motives (and union leadership motives) in establishing cooperative ventures. (Bureau of National Affairs, 1986a) Yet quality circles and similar arrangements now have their advocates in public employment and at least limited effectiveness of such programs has been reported. (Boyce, 1985; Sulzner, 1982)

iv. Subcontracting and Union Wages.

Union-represented workers in government have benefited, relative to many private sector employees, from limited substitution possibilities for their services. The automobile consumer can purchase his/her car from Detroit or Japan. But the drivers' license needed to operate that car can come only from the state motor vehicle department.

Increasingly, however, there has been a greater interest by government managers in creating substitution possibilities through the mechanism of "contracting out." In principle, the computer operations underlying the issuance of drivers' licenses could be subcontracted to a private firm. Managers might wish to contract out if, holding other influences constant, they believed that government productivity was lower than private. Or they might subcontract out if, other things equal (including productivity), government wages were higher than private. Finally, they might want to use the threat of contracting out as a bargaining tool in an era of employee concerns about job security.

A productivity argument in favor of contracting out has developed from the economic theory of employee "shirking." (Hirsch & Rufolo, 1983) According to this theory, if government workers are more difficult to "monitor" than private, they will shirk more than private workers.²⁴ Thus, the model suggests

that where service outputs can be easily monitored, subcontracting out may improve productivity and efficiency.

The private firm which obtains a government contract at a fixed price has an incentive to monitor its employees carefully, since the firm retains the margin between price and cost as profit. Of course, this argument does not entirely lift the burden of monitoring from government. Absent careful scrutiny, the contractor has an incentive to shirk, i.e., to produce a lower quality or quantity of service than is desired by government managers. Thus, with contracting out, instead of monitoring its own employees, government must monitor the performance of subcontractors. If government managers were poorly motivated to do the former, they may not do a particularly good job at the latter.²⁵

While advocates of subcontracting acknowledge this critique, the monitoring problem may simply lead them to demands for more complete "privatization" of public services. For example, government enterprises and quasi-enterprises could be sold to private buyers, thus eliminating the government monitoring role altogether. Some evidence has been disseminated at the federal level suggesting that certain services are cheaper to obtain from the private market than from government. (Bennett & DiLorenzo, 1983) These federal studies may further stimulate state and local managers to investigate the contracting out option.

Whether the cost differentials which may exist between public and private service are based on productivity or compensation levels is an interesting question. But regardless of the answer, the possibility of substitution of private for public workers will tend to weak union bargaining power in government.²⁶ Even where public sector unions seek wage gains through means

other than bargaining, the ability of management to contract out could limit their efforts.

For example, public unions have sought implementation the principle of "comparable worth," which would raise the wages of jobs in which women are highly concentrated.²⁷ Although some of these efforts have been through bargaining, litigation and lobbying have also been an important part of the strategy. There have been estimates that the job displacement effect of raising wages in "female" jobs would be small, due to limited possibilities of cross-occupational substitution. (Ehrenberg & Smith, 1987) However, if government pay increases based on comparable worth raised wages relative to the same occupations in private employment, the temptation to contract out would be increased. Thus, substitution effects and resulting employment displacement could be larger than anticipated.

Just as private sector unions have sought anti-subcontracting provisions in their agreements with management, similar pressures can be expected in government. However, the issue of contracting out and privatization is more than a labor-management issue; indeed, it is more than an issue of government costs. Contracting out policy is interconnected with views on the appropriate role of government in the economy and with the opposing ideologies surrounding that role. Thus, the political climate will strongly influence the degree to which contracting out will be raised in the collective bargaining arena in the future.

VII. Strikes, Arbitration, and Wages.

It is commonplace in analyzing private sector collective bargaining to attribute the source of union negotiating strength to the strike threat. A

credible strike threat represents a potential cost to management; management may be willing to pay a price in terms of improved pay and working conditions to avoid that cost. In the public sector, however, one of the characteristics of labor-management relations is a low strike propensity relative to private employment.²⁸

i. The Empirical Strike Record.

Tables 11A and 11B illustrate this tendency. The BLS stopped collecting detailed strike information in the early 1980s. However, it is possible to compare public and private strike propensities in 1979, i.e., just prior to the period of economic slump and concession bargaining. Table 11A compares strike rates in both sectors on a per member basis rather than on the more commonly used basis of the entire workforce. Members are the more relevant base measure since nonunion workers rarely engage in significant strikes. And whether measured on a strike-per-worker basis or by the proportion of union workers involved in strike activity, strike propensities have been lower in public employment than in private.²⁹

During the 1980s, the only strike data available covered "major" work stoppages affecting 1,000 or more workers. Strike activity was especially quiescent in the private sector in the face of concession bargaining. However, despite the calm in private negotiations, government work stoppages still accounted for only 11% of major stoppages during 1982-85, according to Table 11B. Yet by 1985, public sector union members accounted for one third of all union membership. (Gifford, 1986) Stoppages-per-member were substantially lower in public than in private employment, despite the fact that union members in the public sector were gaining larger wage settlements than their private

Table 11A
Strike Activity in the Public and Private
Sectors, 1979

Sector	Work Stoppages Per 1,000 Union Members	Workers Involved in Work Stoppages Per Union Member
Private	.31	.11
Public	.13	.05
Federal	0	0
State	.06	.05
Local	.20	.08

Source: Public sector strike activity from U.S. Bureau of Labor Statistics, Work Stoppages in Government, 1979, report 629 (Washington: GPO, 1981), p. 4; private sector strike activity from U.S. Bureau of Labor Statistics, Analysis of Work Stoppages, 1979, bulletin 2092 (Washington: GPO, 1981), p. 13; union membership from U.S. Bureau of the Census, Wage and Salary Data from the Income Survey Development Program: 1979, series P-23, no. 118 (Washington: GPO, 1982), Table 1.

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Table 11B
Strike Activity, 1982-85

	1982	1983	1984	1985	1982-85
Major Government Work Stoppages as Proportion of all Major Work Stoppages	8%	15%	10%	13%	11%
Major Work Stoppages Per 1,000 Union-Represented Workers Under Major Agreements:					
Public	-	-	-	-	.01
Private	-	-	-	-	.04

Note: Major work stoppages and major agreements are those involving 1,000 or more workers. Government stoppages and workers refer to state and local sector only.

Source: Work stoppages from preliminary monthly listings in Current Wage Developments, various issues. Estimate of workers represented under major agreements from U.S. Bureau of Labor Statistics, Bargaining Calendar, 1985, bulletin 2231 (Washington: GPO, 1985), p. 3.

counterparts.

ii. Strikes, Wages, and Arbitration.

The fact that strikes are often illegal in the public sector appears to account for their low frequency. Obviously, illegal strikes do occur in government. But the evidence suggests that work stoppages are more likely to occur in jurisdictions where strikes are legal than where they are illegal.³⁰ (Olson, 1986) Not surprisingly, however, what appears to raise wages is strike usage rather than the mere legality of the strike tactic. (Delaney, 1983)

There is an ongoing search in the public sector for an alternative to the strike. It is not clear that this search is in response to a management preference. Managers in government may well prefer to negotiate with a strike threat in the background rather than rely on some other form of impasse resolution.³¹ Nevertheless, there does seem to be a preference on the part of the electorate for avoiding government strikes. It is this preference which accounts for the various alternative dispute resolution procedures found at the federal, state, and local levels.³²

The available choices for impasse resolution other than the strike come down to factfinding or some form of interest arbitration. Factfinding has not been well reviewed, either in the research literature, or by the parties. (Gallagher & Robson, 1983) Where arbitration follows factfinding, however, arbitrators may take the factfinder's views of an appropriate settlement rather than the views of either party. (Gallagher & Chaubey, 1982) Effectively, then, whether or not factfinding occurs, the main alternative impasse resolution technique is interest arbitration, with or without an earlier step of factfinding.

A substantial literature has developed concerning whether the use of

compulsory arbitration is compatible with collective bargaining in government employment. (Champlin & Bognanno, 1985; Chelius & Extejt, 1985; Anderson, 1981; Bloom, 1981; Butler & Ehrenberg, 1981; Kochan & Baderschneider, 1981) Generally, the argument is that knowledge that impasses will eventually go to binding arbitration will "chill" bargaining. According to this view, the parties will fear that the arbitrator will "split the difference" between the labor and management proposals. Thus, each side will want to take extreme positions prior to arbitration, to move the inevitable compromise (split) decision in their desired direction. Bargaining will be likely to fail under these conditions and the parties will become addicted to arbitration (the so-called "narcotic" effect).

The debate over the use of arbitration up through the 1970s was based on a questionable model of arbitrator behavior. As Farber (1981) pointed out, the fact that in a conventional arbitration setting, labor asks for more, and management offers less, than the eventual arbitrated decision does not necessarily mean that arbitrators split the difference. In fact, the evidence suggests that arbitrators have their own norms concerning what an appropriate settlement should be. The parties, to appear reasonable, position themselves around the arbitrator's expected view, thus creating the illusion of split-the-difference decision making. Of course, the arbitrator's norm may be influenced by the parties' positions, and their relative bargaining strength.

To the extent that a chilling effect does occur in the face of conventional arbitration, alternative forms of arbitration have been proposed. These include "closed offer" arrangements, under which the parties submit special offers to the arbitrator independent of their bargaining positions, and final-offer arbitration. Under the latter, the arbitrator picks one or the other

offer, with no compromise.³⁹

Use of arbitration as an impasse resolution technique seems to reduce the probability of a strike. (Ichniowski, 1982) If this reduction is the primary goal, whether the parties settle disputes themselves, or whether they are chilled into an addiction to arbitration would not seem to be a major public policy concern. Although some have claimed that arbitration results in more costly settlements -- which would be a legitimate public policy issue -- the evidence for that position is quite mixed. (Feuille, Delaney, & Hendricks, 1985a, 1985b; Delaney, Feuille, & Hendricks, 1984; Saunders, 1986; Olson, 1980) Labor and management practitioners in areas where arbitration is in use, moreover, do not seem to have unfavorable views towards it. (Chelius & Extejt, 1983)

There is some evidence that if the rules of final-offer arbitration are made clear, more "reasonable" offers from the parties result, at least under laboratory conditions. (DeNisi & Dworkin, 1981) However, the reactions of the parties in the real world where the final-offer technique is used pose some analytical problems. It appears from one study that unions tend to ask for less (and get it) under final-offer arbitration relative to conventional arbitration. (Ashenfelter & Bloom, 1984) But again, the studies are too limited to allow confident predictions of the effects particular forms of arbitration on wages or other outcomes. The parties themselves may not have a clear cut expectation of the impact of binding arbitration. As one local union president put it:

"We went into arbitration, rolled the dice, and ended up with a three-year wage freeze." (Bureau of National Affairs, 1986c)

VIII. Conclusions.

When collective bargaining in the public sector was a comparatively new phenomenon, there were many observers who feared that the system would prove incompatible with the orderly functioning of government. This view is sometimes still expressed. (Neal, 1985) In general, however, the bargaining system in government has become so firmly ensconced that the basic issue of whether or not it should continue to exist is seldom discussed.

What is discussed is the impact of the system on labor costs and productivity. Concerning the former, it does appear clear that bargaining has some impact on wages and benefits, raising them above levels that would otherwise be set. However, the impact appears to be smaller in government--on average -- than that found in the private sector. The evidence regarding the union impact on productivity in government is mixed, but the same ambiguous situation exists for the private sector as well.

Although the public sector experienced some concession bargaining in the 1980s, most such bargaining took place in private employment. The fact that in the private sector the union wage effect grew in the 1970s, and was larger than in government, may well have contributed to this differentiated outcome. Concession bargaining in the private sector represented an unraveling of previously-achieved union wage advantages. Whether by intent or by accident, the public sector seemed better able to avoid this overshooting/unraveling development. In that respect, public sector bargaining worked better than that in the private sector.

The public sector has also had a better record of avoiding strikes. While studies of the exact impact of arbitration (in its various forms) on wages and benefits as yet produce ambiguous results, it does not appear that arbitration

is incompatible with bargaining. And even if a chilling effect occurs, there is no evidence that either the parties or the public are worse off for the experience. Yet private sector folk persists in maintaining the paradoxical position that rights (grievance) arbitration has great merit, while interest arbitration has virtually none.

As part of the soul searching process undertaken by organized labor in the face of the private sector setbacks of the 1980s, the AFL-CIO (1985) made various recommendations for new approaches to worker representation. After analyzing survey data, the Federation concluded that:

"...Many workers, while supporting the concept of organization, wish to forward their interests in ways other than what they view as the traditional form of union representation -- in their view, an adversarial collective bargaining relationship..." (p. 18)

What might the substitute form of representation be? Various suggestions were offered including:

"...a bargaining approach based on solving problems through arbitration or mediation rather than through ultimate recourse to economic weapons..." (p. 18)

The implications are clear. Public sector bargaining over wages and conditions is no longer the child of private sector bargaining, even though it was originally its offspring. The now-mature offspring has experience and lessons in the areas of pay setting and dispute settlement of potential value to its parent.

FOOTNOTES

1. Throughout the text, no distinction is made between "unions" and employee "associations." Although the distinction was relevant at one time, it carried little meaning by the 1980s.
2. Proposition 13 drastically cut local government revenue obtained from property taxes. For information on the employment impact of this proposition, see Levy, Shimasaki, and Berk (1982).
3. The unit of observation is the state (including the District of Columbia). Thus, the division by degree of unionization is made at the state level. Not all states have school districts; hence, there are fewer than 51 school district observations shown on Table 2. Data on per capita incomes were drawn from the Survey of Current Business, various issues. Per capita income figures for 1979-82 are based on a somewhat different definition than those for 1982-85. Figures on government employment and government wages are from the annual publication Public Employment, released by the U.S. Bureau of the Census as part of its Government Employment Series. Unionization rates were drawn from the 1982 Census of Governments and appear in U.S. Bureau of the Census (1982), Table 2. Area wages refer to the entire state and are taken from the series appearing in Employment and Wages and related press releases.
4. For data sources and other information, see the previous footnote.
5. It should be noted that the author does not view the air controllers strike as a major cause of concession bargaining. Other influences were much more important. However, the fact that the air controllers dispute was popularly viewed as a cause of a private sector phenomenon illustrates the growth in importance of the public sector in the field of industrial relations.
6. See the table for the definition of "major" contracts. It should be noted that the series on state and local wage settlements was one of the few areas of expanded collection by the U.S. Bureau of Labor Statistics of an industrial relations data source in a period when such information gathering was generally being trimmed. For details, see Wasileski (1985).
7. It might be noted in this regard that Freeman (1985) found that public pay is responsive to economic conditions although the timing in response may differ between the public and private sectors. Annual regression analysis by the author based on changes in compensation per full-time equivalent employees in government and the private sector revealed a mixed picture. For the period 1960-85, the coefficients on annual price change (lagged one year) tended to be lower in government than in the private sector, i.e., 0.5 to 0.6, as opposed to 0.8. (The only exception was federal enterprises, which were dominated by the escalator clause applicable to postal workers). To measure economic activity, the ratio of real GNP to its long run trend was used. With regard to sensitivity of wage change to the level of economic activity, the private sector generally appeared more sensitive, but only because of the contribution of the 1980s and the accompanying concession bargaining. Significant activity coefficients were found for state and local enterprises and non-educational

services. Other public subsectors produced "correctly" signed coefficients, but without high levels of statistical significance. These results reflect the fact that the public sector as a whole was less adversely affected by recessions in the 1960-85 period (especially the economic slump of the early 1980s) than many private industries. Those government jurisdictions which did experience substantial fiscal distress are reflected in the coefficients of economic activity, but tend to become "lost" when their wage adjustments are mixed with those of other jurisdictions.

8. The file was drawn from articles appearing in the Government Employee Relations Report, settlement listings in the Daily Labor Report (for publicly-owned transit systems, and Current Wage Developments. See Mitchell (1986) for use of an earlier version of the public sector concession file.

9. Ninety-three percent of the workers in the public sector concession file were in units of 1,000 or more employees.

10. The Bureau of Labor Statistics' file is described as containing virtually all agreements covering 1,000 or more workers and a small proportion of agreements covering fewer workers. Because of the limited coverage of smaller units, the file must be taken as a proxy for the actual proportion of agreements in each state or union shown on Table 5.

11. The private file was used (in an earlier form) in Mitchell (1985). However, publicly-owned transit system settlements have been deleted and appear instead in the public file.

12. Contract duration practices in the public sector will be discussed below.

13. Under a two-tier pay plan, new hires are paid at a lower rates than incumbent job holders. See Jacoby & Mitchell (1986) for more details.

14. Lump-sum pay plans involve the paying of a designated bonus to employees which does not enter the basic rate of pay. Thus, the employer experiences lower labor costs during the contract life. For example, a two-year contract with annual 3% wage increases will raise the base wage (and the annual level of employer expenditure) by 6% during its life. In contrast, a two-year contract with 3% annual bonuses will not raise the base wage and raises annual expenditures by only 3% over its life.

15. Comparisons of public and private total compensation figures are complicated by the inclusion of Social Security taxes. Private employers must pay such taxes, state and local governments may or may not be part of the Social Security system. Most federal employees are not under Social Security.

16. The fact that women and minorities are paid more in government than in the private sector does not necessarily mean that no discrimination occurs in public employment. For example, one detailed study indicated that male teachers earned more than females even within an identical salary schedule. Men seemed to be assigned to tasks involving extra compensation for out-of-school activities. It was difficult to determine whether this outcome was the result of discriminatory management preferences or whether it reflected

employee preferences regarding assignments and time allocation. However, the authors suspected that it might reflect discrimination. See Wines, Ley, and Fiorito, (1986).

17. The National Survey of Professional, Administrative, Technical, and Clerical Pay (PATC survey) is conducted annually by the U.S. Bureau of Labor Statistics.

18. The Employee Retirement Income Security Act of 1974 (ERISA) sets standards of funding, vesting, eligibility, and investment of plan assets for private pension programs and other deferred benefits.

19. Formal escalation of pension benefits is virtually unknown in the private sector.

20. The unionization rate refers to full-time workers. See footnote 3 for details on data sources.

21. However, other laws may interact with unionization in complex ways. For example, one study finds that residence laws (requiring civil servants to live in the city which employs them) seem to be associated with weakened union bargaining strength. See Hirsch & Rufolo (1986).

22. However, one study of faculty bargaining (in a mix of public and private higher education institutions) did not find a tendency for lower wage institutions to unionize. See Baker (1984a).

23. Median voter models are based on the observation that it is the infra-marginal voter in a political decision making system who casts the key vote. Thus, in the union setting, a relatively senior worker will be the median voter and median voter preferences will dominate union policy. See Freeman & Medoff (1984).

24. One study argues that even when government monitors employees through performance appraisals, the monitoring is only weakly reflected in employee rewards. (Dunson, 1985) It should be noted, however, that similar results have been found in private employment.

25. Similarly, if governments tend to pay economic rents to their own employees, they might also pay such rents to subcontractors. Favoritism, kickbacks, and just sloppy purchasing of services are certainly not unknown in government contracting.

26. Not surprisingly, public sector unions have strongly opposed contracting out, e.g., American Federation of State, County, and Municipal Employees (1983). It might be noted that some of the critiques made in this publication are based on the difficulty of monitoring contractor performance.

27. Advocates of using comparable worth in setting pay argue that jobs of comparable value to the employer should be paid comparable wages. On an operational level, this idea is usually taken to mean that some type of job evaluation technique should be applied. Under job evaluation, jobs are broken

down by attributes and, effectively, the various attributes are valued. Generally, the impact of such a technique is to raise pay in clerical occupations and certain professions (such as nursing) relative to blue collar occupations.

28. The word "strike" in the text is used to represent any form of work stoppage including lockouts.

29. Strike propensities are especially low in federal employment. As Table 11A shows, there were no strikes at the federal level in 1979. One study of federal strikes covering 1962-81 found that of the 39 recorded stoppages, 12 involved no union and consisted of very short spontaneous walkouts over local grievances. (Becker, 1982). The limited scope of bargaining for federal workers (with the major exception of postal employees) undoubtedly contributes to this low strike propensity.

30. Perhaps the more general result is that strikes occur more frequently in situations where the cost to the striker is relatively low. For example, it has been found that teachers in school districts which reschedule work days to make up for days lost to strikes are more likely to strike than other teachers. (Olson, 1984) Presumably, in jurisdictions where strikes are illegal, the perceived cost is higher (due to the possibility of penalties), and therefore strike rates are lower.

31. One study of the Canadian experience suggests that management is more likely to prefer the strike to arbitration as an impasse resolution procedure than are unions. (Ponak & Wheeler, 1980) A related study finds similar preferences among U.S. government managers. (Feuille & Anderson, 1980)

32. A listing of dispute resolution procedures in various jurisdictions can be found in Honadle, 1981.

33. In fact, there are variations of final-offer arbitration. For example, the arbitrator may be able to make a series of final-offer decisions on various elements of the contract proposals. Or the arbitrator may be able to pick a third proposal from a neutral factfinder. (Friedman & Mukamal, 1984)

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