

NBER WORKING PAPER SERIES

CONTRACTION AND EXPANSION:
THE DIVERGENCE OF PRIVATE SECTOR
AND PUBLIC SECTOR UNIONISM IN THE U.S.

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Working Paper No. 2399

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1050 Massachusetts Avenue
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October 1987

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ABSTRACT

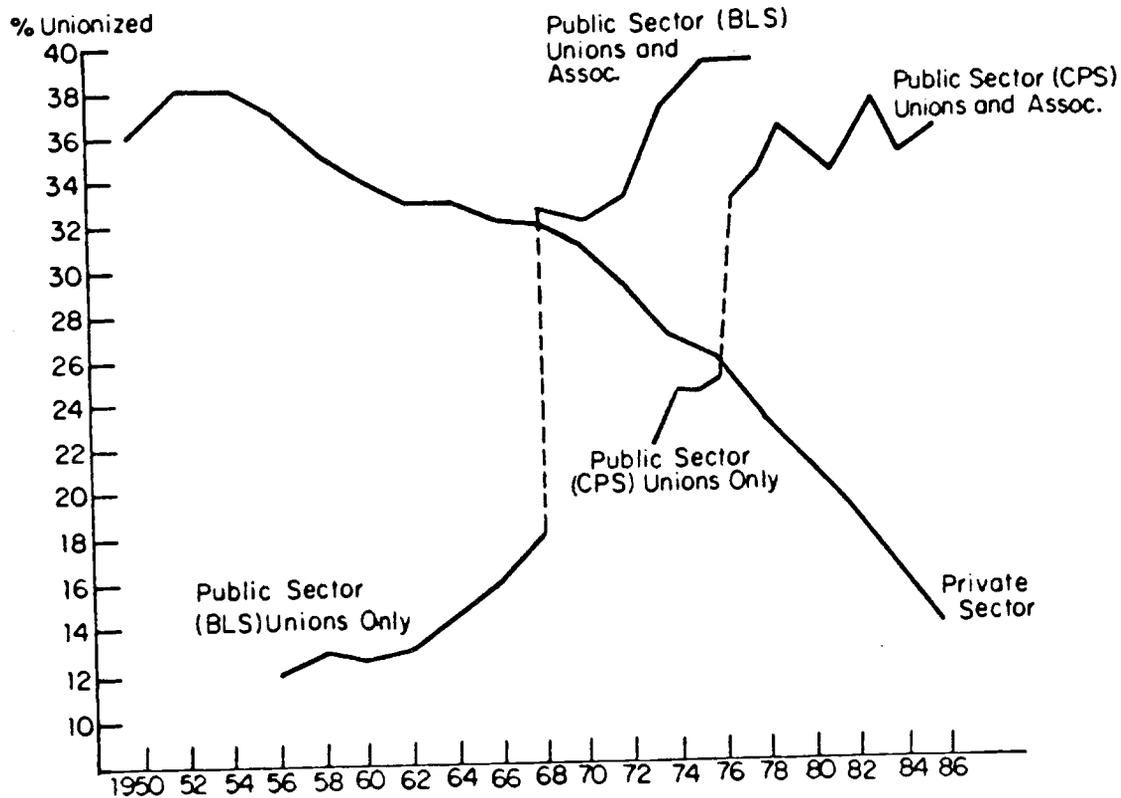
This paper contrasts the differing experience of public sector unionism, which has expanded in the United States, and private sector unionism, which has contracted, in the past several decades. It uses the experience of other countries, particularly Canada, to rule out some explanations of the divergent trends. The paper finds that the major reason for the private sector decline is increased management opposition to union organization, motivated in part by profit-seeking behavior, and augmented by trade union responses; and that the major reason for the public sector union expansion is decreased market opposition due to passage of comprehensive collective bargaining laws and motivated in part by vote-seeking behavior.

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The institutional structure of the American labor market changed remarkably from the 1950s and 1960s to the 1980s. In the '50s and '60s trade unions seemed permanently established in the private sector of the economy: a third of nonagricultural wage and salary workers, and over half of blue-collar workers, were union members; hundreds of thousands of workers voted annually in National Labor Relations Board (NLRB) representation elections to join unions; most large firms sought stable collective bargaining relations with their unions. By contrast, in the public sector only 10-12 percent of workers were union members; fewer were covered by collective bargaining contracts; and most experts regarded public employees as intrinsically nonorganizable. According to AFL-CIO president George Meany, it was "impossible to bargain collectively with the government."¹

The massive contraction of unionism in the private sector and expansion in the public sector in the 1970s and 1980s (see Exhibit 1) has produced an utterly different situation today. In the private sector, the proportion of wage and salary workers in unions plummeted to 14 percent in 1986 -- a level comparable to that in the Great Depression; only a minuscule number of workers joined unions through NLRB elections; and national companies openly proclaimed their intent to establish a "union-free environment." By contrast, in the public sector over a third of the work force was unionized; some 40 percent were covered by collective contracts;² and public sector unions such as the American Federation of State, County and Municipal Employees, National Education Association,

EXHIBIT 1: Changing Percent of Non-Agricultural Workers Who Are Union, by Sector



Sources: Percentage of Workers in Unions and Assoc. in Public Sector, (BLS) U.S. Dept of Labor, 1979.
 Percentage of Workers in Unions and Assoc. in Public Sector, (CPS) U.S. Bureau of Census, 1973-1984, (1982 not available).
 Percentage of Workers in Union in Private Sector 1956-1982, Troy, Leo and Neil Sheflin, Union Sourcebook.
 Private Sector 1984-86 from CPS, U.S. Dept. of Labor, Employment and Earnings, Jan. 1985-87, Spliced with Sourcebook at 1983.

Service Employees International, (which became largely public sector in the period), and the American Federation of Teachers were among the largest in the country. With one in three union members working in the public sector, women with master's degrees (largely schoolteachers) more highly organized than male high school graduates, and police and firefighters the exemplars of craft unionism, the union movement differed drastically from that headed by Meany in the 1960s.

Because the private sector employs nearly 85 percent of nonagricultural wage and salary workers in the United States,³ the contraction of unionization in the private sector dominates the trends for the economy as a whole, with the result that the union proportion of nonagricultural employees fell from 36 percent in 1956 to 18 percent in 1986. This decline in union density was larger than that of the 1920s, and thus arguably represents the most significant change in labor market institutions since the Depression -- the effective de-unionization of most of the U.S. labor force.

What explains the decline in union representation of private wage and salary workers? Why have unions expanded in the public sector while contracting in the private sector? Is the economy-wide fall in density a phenomenon common to developed capitalist economies, or is it unique to the United States? To what extent should economists alter their views about what unions do to the economy in light of the fact that they increasingly do it in the public sector?

To answer these questions I examine a wide variety of evidence on the union status of public and private workers. I contrast trends in unionization in the United States with trends in other developed countries, particularly Canada, and use these contrasts and the divergence between

unions in the public and private sectors of the United States to evaluate proposed explanations.

Because standard economic theory is not normally used to analyse massive changes in the institutional structure of an economy, many may think that an explanation of changing union density requires extensive reliance on social factors that go beyond economics. I argue that this is not the case and base my analysis on economic forces and behavior. The complexity of institutional change does, however, dictate a catholic analytic approach; and I use several lines of argument and evidence rather than a single econometric model or hypothesis test to reach conclusions; in addition, I recognize that a significant residual remains that can and perhaps should be attributed to 'non-economic' factors such as the abilities of union leaders, public opinion, and the like.

I. The Dimensions of Change

"It is a capital mistake to theorize in advance of the facts."

Arthur Conan Doyle, recording the words of S. Holmes.

Three firm observations can be made about the change in union density in the United States: first, that the decline in density in the private sector has been virtually ubiquitous, encompassing workers in all industries, regions, and occupations during the 1980s and earlier; second, that by contrast union expansion in the public sector has been highly uneven, occurring rapidly in some states and occupations but not in others; and third, that the overall drop in union density -- the de-unionization of the economy -- is distinctly American, contrasting sharply with developments in most Western countries.

Exhibit 2 documents the claim that union density has fallen among

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EXHIBIT 2: Percentage of Private Wage and Salary Workers Who
Are Members of Unions, by Industry and Occupation
1980-1986

<u>Industry</u>	<u>% Organized</u>	
	<u>1980</u>	<u>1986</u>
Mining	32	14
Construction	31	22
Manufacturing	32	24
Transportation, Communication, and Public Utilities	48	35
Trade	10	7
Service	9	6
<u>Occupation</u>		
Professional Tech & Kindred	23	19
Managers and Administrators	8	7
Clerical and Kindred	16	14
Sales	4	6
Craft and Kindred	39	29
Operatives, except Transport	40	33
Transport & Equipment	45	31
Non-farm Laborers	33	25
Service workers, except Protective Service*	13	10

*Protective Service excluded because they are largely in the public sector.

Occupations based on 1980 titles with 1985 estimates for:
 Professional, Tech & Kindred=Professional Specialty + Tech and related support, weighted by employment
 Managers & Administration=Executive, administrator and managers
 Clerical & Kindred=Precision production, craft & repair
 Operatives, except transport=Machine operators, assemblers & inspectors
 Transport Equipment=transportation & material moving occupations
 Non-farm laborers=handlers, equipment cleaners, helpers & laborers

Source: U.S. Department of Labor, 1980 and 1987

virtually all workers during the 1980s when the rate of decline was exceptionally severe. The industry figures show the union proportion of workers falling in areas of traditional union strength such as transportation and public utilities (including trucking which the Teamsters once dominated); construction (long the preserve of craft unions); and manufacturing (where industrial unions have held sway since the organizing drives of the 1930s and 1940s); as well as in services and trade where proportions organized were so low that even a modicum of union success would raise the union shares. The occupation data (which understate declines in private sector density because they include public sector labor) reveal a similar trend, with sizeable drops in density among operatives, craft workers, and laborers. As for the longer run, the percentage of production workers in metropolitan areas with collective bargaining contracts fell from 73% in 1960-61 to 51% in 1984, with massive declines in every region of the country ranging from -16 points in the South (48 percent to 32 percent) to -32 points in the West (80 percent to 48 percent, Goldfield, 1987). These declines show that much more is involved in the contraction of union density in the private sector than changes in the regional mix or production worker share of employment.

Overall, the data indicate that an explanation of the decline in private sector union density should focus on factors that affect all private employees as opposed to factors that affect employees in some segments of the labor market rather than others.

The Rise in Public Sector Union Density

Measuring changes in unionism in the U.S. public sector is difficult. One difficulty is that each American state (and the federal government) regulates public sector labor in its own jurisdiction, producing labor

organizations with different legal rights. Whereas in the private sector union membership, collective bargaining representation, and the right to strike are coterminus under the same legal code, in the public sector a worker can be a union member but not be covered by a collective contract in some states (because management can refuse to bargain or to sign an agreement with a union) while being covered in others; be covered by a contract that does not include wages and salaries, as in federal employment; be allowed to strike in some jurisdictions but obligated to resolve disputes through arbitration elsewhere, and so on. Historically, moreover, public sector worker organizations have ranged from associations opposed to collective bargaining to aggressive unions, with the same organization serving as a union in some localities but not in others (the American Association of University Professors is a case in point). Indicative of the measurement problem, the figures on public sector density in exhibit 1 show discontinuities when the relevant surveys first included 'associations' with unions in their definition of collective organisation. While it might seem misleading to compare union membership in early years with union plus association membership in later years, this comparison does in fact accurately measure the magnitude (though not the timing) of change. This is because in the 1950s and early 1960s most associations -- for instance the NEA or the various police and firefighters organisations-- did not engage in collective bargaining, often rejecting it as 'unprofessional' whereas in the 1980s they embraced bargaining and the other attributes of traditional trade unions.

A final complexity is that the legal environment under which public sector unions operate has changed over time. From the 1960s through the early 1970s, when public sector workers joined unions or saw their associa-

tions turn into unions, most public sector labor laws did not require employers to bargain/resolve impasses and outlawed the strike weapon that unions use to force employers to come to agreement. As a result many workers who joined unions did not work under collectively bargained contracts. By contrast, from the mid-1970s to the 1980s more and more union workers (and nonunion workers in organized workplaces) were able to gain contracts from their employers (35 percent of state and local government workers were covered in 1982 compared to 26 percent in 1975).⁴ At the same time that contract coverage was increasing, however, the proportion of public sector workers in unions stabilized or fell. In this case, statistics on membership and coverage tell different stories about the trend in union strength. As collective bargaining resulting in a contract has been the essence of American union activity, I stress increased contract coverage rather than membership trends in assessing the 1980s.

Given differences in state regulations of public sector collective bargaining it is perhaps not surprising to find that the extent and, by extension, expansion of bargaining has varied across states and among occupations. (Exhibit 3). In states with laws favorable to collective bargaining (arbitration or strike permitted laws, and duty to bargain), proportionately more workers are represented by bargaining units than in states that permit but do not require employers to bargain while representation by unions is low in states that have no collective bargaining provisions and lowest in those that prohibit bargaining. Though these data relate to cross-section differences at a point in time rather than changes over time, we can infer patterns of growth from them. We can do this because contract coverage was sufficiently slight in the earlier period that states/occupations with high density in the 1980s

Exhibit 3: Geographic Variation in Percentage of Employees
Represented by Bargaining Units,
by Occupation and State Law, 1982

State Laws from Most Favorable to Least Favorable to <u>Collective Bargaining</u>	# of States with Given Labor Law (% employees represented by bargaining unit), by Occupation:			
	<u>Police</u>	<u>Fire</u>	<u>Sanitation</u>	<u>Street & Highway</u>
Arbitration or Strike Permitted	15 (94%)	18 (94%)	13 (39%)	13 (49%)
Duty to Bargain	12 (58%)	11 (62%)	11 (14%)	11 (71%)
Bargaining Permitted	11 (45%)	13 (54%)	12 (23%)	12 (19%)
No Provisions	8 (29%)	5 (30%)	9 (27%)	9 (44%)
Bargaining Prohibited	4 (16%)	3 (18%)	5 (8%)	5 (1%)

Sources: U.S. Bureau of the Census, Survey of Governments, 1982
NBER State Public Sector Collective Bargaining Law Data Set.

almost always had rapid growth whereas those in which density was low could not have had such growth. Interpreted in this way, the exhibit shows the uneven expansion of union representation, with proportionately more workers gaining representation in states (and occupations) having laws favorable to collective bargaining than in other states.

The evidence on geographic divergence implies that an explanation of union growth in the public sector must have a geographic dimension related to state laws as opposed to the 'across-the-boards' explanation that seems appropriate for the private sector.

Cross-Country Contrasts

Because the meaning and measurement of union membership differs across countries, the figures in Exhibit 4 should be regarded as crude indicators of degrees of unionization. Even read cautiously, however, they clearly contradict the notion that the decline in union density in the United States is part of a general collapse of unions in the developed world: in most countries union density increased in the 1970s and stabilized or declined modestly in the 1980s at levels above those in earlier years. In Japan, where density fell in both decades, the rate of decline was half as large as in the United States, and less significant in terms of the entire work force because the proportion of Japanese working as non-agricultural wage and salary workers increased, maintaining the union share of total employment. In Canada, where many of the same companies and unions operate as in the United States and where living standards and culture (exclusive of Quebec) are similar, union density went from roughly the same to twice the U.S. level from 1970 to 1985. A persuasive explanation of the decline in union density in the United States should also explain why density did not decline in Canada in the same time period.

Exhibit 4: Levels and Changes in Union Density
Across Countries, 1970-85

Countries with Sharp Rises in Density	1970	1979	1984/5	1970-79	1979-85
Denmark	66	86	98	+20	+12
Finland	56	84	85	+28	+ 1
Sweden	79	89	95	+10	+12
Belgium	66	77		+11	
Countries with Moderate Rises in Density					
Italy (?)	39	51	45	+12	- 6
Germany	37	42	42	+ 5	0
France (?)	22	28	28	+ 6	0
Switzerland	31	36	35	+ 5	- 1
Canada	32	36	37	+ 4	+ 1
Australia	52	58	57	+ 6	- 1
New Zealand	43	46	?	+ 3	
Ireland	44	49	51	+ 5	+ 2
Countries with Stable/ Decline Density					
Norway	59	60	61	+1	+1
United Kingdom	51	58	52	+7	-6
Austria *	64	59	61	- 5	+2
Japan *	35	32	29	- 3	-3
Netherlands	39	43	37	+ 4	-6
United States	31	25	18	- 6	-7

* No Change in share of total employment due to fall in agriculture employment.

Note: Union Density as a percent of nonagricultural wage and salary employees.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology, Division of Foreign Labor Statistics and Trade, July 1986.

Center for Labour Economics OECD Data Set.
Respective Country Statistical Abstracts.

A third country to which I would like to draw attention is the United Kingdom, where density fell in the 1980s, probably at rates above those shown in the Exhibit (the union figures come from the unions, who exaggerate membership in a period of decline); where organization in the strongest union structure, the closed shop (which requires workers to be union), fell sharply; where an increasing proportion of private manufacturing firms operated nonunion; where employment grew more rapidly in low-union density than in high-union density plants; and where proportions covered by collective contracts also fell noticeably.⁵ Because density increased in the 1970s in the United Kingdom, however, these changes have not produced anything like an American-style drop through 1985.

Overall, the patterns of change shown in Exhibit 4 highlight the fact that de-unionization is largely, if not exclusively, a U.S. development.⁶ This fact has important implications. First, it disallows any broad explanation of the decline of the form, say, that "unions have become obsolete in the modern 'post-industrial' market economy" (whatever those grandiose terms mean). Second, it constitutes powerful evidence against the structuralist argument that changes in the composition of the work force and jobs from (traditionally union) male blue collar labor to (traditionally nonunion) female, white collar, and service labor underlie the drop. If "post-industrial" or structural changes inexorably reduce unionization, density would have fallen in Canada and other developed capitalist countries, all of whom have experienced essentially the same structural changes as the United States, as well as in the United States. Finally, the divergent country trends also cast doubt on any general macro-economic explanation of U.S. de-unionization: it is hard to argue that the economic problems that followed the oil shock, the inflation of

the 1970s, or ensuing deflation caused unions to decline in the U.S. when the same forces did not reduce union density elsewhere. Put differently, the international data direct attention away from worldwide economic developments to the particulars of American labor relations.

II. How American Workers Organize

"No. no! The adventures first." said the Gryphon in an impatient tone: "explanations take such a dreadful time." -- Lewis Carroll

Before evaluating proposed explanations for the change in union density in the U.S. it is important to understand the way in which workers are organized. In contrast to some countries such as the United Kingdom where unionization is left largely to private parties, state governments in the United States regulate extensively the process of union representation in both private and public sectors.

The National Labor-Management Relations Act (NLRA) of 1935, amended in 1947 (Taft-Hartley Act) and afterwards, establishes secret ballot representation elections for private sector workers to choose whether or not to become union and regulates the labor relations conduct of employers and unions in several ways. The Act forbids employers to discriminate against workers for union activity and forbids unions to engage in certain tactics deemed unfair as well, such as secondary boycotts.⁷ Under the National Labor Relations Board process, unionization currently takes the following form: a union petitions for an election by producing the signatures of 30 percent or more (in practice a union will petition for an election only if two-thirds of so the employees are willing to request an

election. The NLRB decides the set of workers eligible to vote, and, subject to legal objections and appeals that can delay the actual election for several months, supervises the voting. If a majority votes for the union the NLRB will certify it as the collective bargaining representative of the work force, which obligates the employer to bargain, though not to come to agreement. To resolve impasses, workers can strike while employers can lockout employees or hire strikebreakers. The NLRB also supervises secret-ballot "decertification" elections for unionized workers who wish to reconsider their status.

The key to understanding the process is to recognize that although only workers vote in a representation election, management plays an active role in most campaigns, generally trying to convince workers to reject unions. One study of some 200 organizing campaigns in 1982-83, for example, estimated that the direct supervisors of workers played a "sizeable" or "extreme" role in two-thirds of the elections, while abstaining in just 6 percent (AFL-CIO, Appendix, p.37). Many managements employ labor-management consulting experts ("union-busters") to convince workers to vote against the union. Determining union status through an adversarial election framework which accords management a major role is a distinctly American process which has contributed, I will argue, to the observed decline of private sector union density.

The fact that each state has its own public sector labor law means that there is no uniform method by which workers unionize in the public sector. Indeed, while some states enacted NLRA-type laws that create secret ballot election procedures for workers to decide union status and that require employers to negotiate with the unions, often mandating compulsory arbitration to resolve disputes, other states outlaw unions or

collective bargaining.⁸ Because state laws often mimic the NLRA, however, the situation is not as chaotic as might first appear. A reasonable generalization is that in states with comprehensive public sector labor laws, the de jure process of unionization in the public sector is much like that in the private sector, with workers deciding union status through government sponsored voting procedures. As the method for unionization is comparable between the public and private sectors, an explanation of divergent sectorial trends must explain why comparable processes produce different outcomes in the two sectors.

U.S. labor law establishes representation elections for workers to choose union status but does not outlaw private agreements between workers and management regarding unionization. Unions and employers can agree that a given workplace will be organized (as GM, Toyota, and UAW have done for the Fremont, California plant) with an understanding that if the workers or another union seek an election, management will remain neutral or encourage workers to choose the preferred union. Unions can also sign up workers and demand recognition, threatening a strike should management refuse. In some sectors, moreover, employers are union because they hire from union hiring halls. While non-NLRB modes of organization are likely to become more important in the future, representation elections have been the predominant mode of organization in the past thirty years, making the outcome of the election process critical to union growth in the period under study.

Relating New Organization to Density

The discussion thus far has dealt with the process by which workers choose to unionize and hence with the flow of new union members. As our ultimate concern is with changes in union density it is essential to relate

the flows to the "stock" of union members. The following identity, which makes total union membership a function of the changes in existing membership and of "investment" through organizing activity, relates the flows to the stocks:

$$\text{UNION}(t) = \text{UNION}(t-1) - r \text{UNION}(t-1) + \text{NEW}(t)$$

UNION is the number of union members (persons covered by collective bargaining contracts) in a given year t .

r is the rate of change in membership due to changes in employment in organized establishments. The "natural" process by which some union plants close yearly while new plants are born nonunion suggests that r will be positive, implying a natural depreciation in union membership, even in a growing economy.

NEW is the number of new members obtained through organization of new workplaces or lost through decertification of unions at existing workplaces in the period from $t-1$ to t . For reasons of data availability NEW is best thought of as net members gained through NLRB elections, though in principal one would like to include the result of all new organizing activity.

Dividing both sides of the identity by the number of employees in year t to measure union density (UDENS), and manipulating, we obtain:

$$\begin{aligned} \text{UDENS}(t) &= [1/(1+g)][(1-r) \text{UDENS}(t-1) + \text{PCTNEW}(t)] \\ &\approx (1-r-g) \text{UDENS}(t-1) + (1-g) \text{PCTNEW}(t) \end{aligned}$$

where PCTNEW is the ratio of workers organized to the work force in $t-1$;

g is the rate of growth of total employment;

$-(r+g)$ is the net depreciation or appreciation of union density

The steady state level of union density implied by this difference equation is:

$$UDENS = PCTNEW / (r+g)$$

which shows that the permanent level of union density changes whenever $r+g$ or $PCTNEW$ change; that is, whenever economic conditions cause union plants to contract/expand relative to the growth of total employment or when the rate of union organization changes over time. For example, if unions organize 1% of the work force per annum, as they did in the 1950s, and suffer a net depreciation of density of 4%, the union share of employment would stabilize at 25%. If, alternatively, new organization fell to .7% of the work force, as it did in the 1960s, and $r+g$ remained the same, the union share would drop to 17.5% in the long run.

How important are changes in new organization versus changes in the rate of depreciation of existing union membership in the recent collapse of private sector union density? Crude calculations applying our difference equation to private sector union membership and number of workers won through NLRB elections show a rising trend the depreciation rate in recent years: estimated compound annual rates of $r+g$ for the 1950s of 4.0 percent; for the 1960s, 3.4 percent; for the 1970s, 4.7 percent; and for 1980-85, 6.1 percent.⁹ Two factors are likely to underlie the increase in $r+g$ in the 1970s and 1980s: the concentration of unionism in slow-growth areas and potential increased death of union plants due to the rising union wage premiums of the seventies. The crudeness of the data underlying the estimates of $r+g$ makes one leery, however, of taking estimated changes too seriously. What should be taken serious is the negative value of $-(r+g)$,

which implies that unions, like the Red Queen in Through the Looking Glass for whom "it takes all the running you can do, to keep in the same place," must organize large numbers of workers each year to maintain private sector density.

That unions have failed to do this through the NLRB electoral process is evident from the statistics summarized in Exhibit 5. Columns 1 and 2 measure the success of unions in organizing workers through NLRB representation elections in selected years from 1950 to 1983: column 1 gives the absolute number of workers won by unions in representation elections while column 2 gives the number of workers won relative to the work force. These data show that union success in representation elections has declined to the point where virtually no workers are organized through NLRB procedures. Whereas in the early 1950s unions organized 1 percent to 2 percent of the work force via government-sponsored elections, in the 1960s they organized about .7 percent; in the 1970s, about .5 percent; and in 1983, just .1 percent: 91,000 workers in a work force of some 90 million! Even these figures, moreover, understate union inability to gain members through NLRB elections in the 1980s for a union electoral victory does not guarantee that workers will obtain a collective bargaining contract. In recent years, in fact, workers voting to unionize failed to gain a contract approximately a third of the time (Weiler, 1985), and thus worked under management-determined rather collectively bargaining conditons. The implication is that in 1983 perhaps only 60,000 workers gained union representation through the electoral process. When account is taken of the 25,000 or so workers who chose to decertify unions in elections (NLRB, table 13), it is apparent that the legally established mode of organizing labor in the private sector of the U.S. has run dry for trade unions.

EXHIBIT 5: Organizing Success of Unions Through NLRB Elections

	<u>Workers Won</u> (in thousands)	<u>Workers Won/ Nonagr Emp</u>	<u>% of Elig in Union Wins</u>	<u>Elig Workers/ Nonagr Emp</u>
1950	754	2.0	84	2.4
1955	343	1.0	73	1.4
1960	286	.7	59	1.2
1965	316	.7	61	1.1
1970	301	.6	52	1.2
1975	204	.4	38	1.1
1980	173	.2	37	.5
1983	91	.1	43	.3

Source: NLRB Annual Reports.

Columns 3 and 4 of exhibit 5 decompose the number of workers won by unions in representation elections relative to the work force into: a measure of the union success rate -- the number of workers in elections won by unions relative to the number of workers eligible to vote (column 3); and a measure of the extent of electoral activity -- the number of workers eligible to vote in elections relative to the work force (column 4).¹⁰ The figures in column 3 show that one factor in the decline in workers organized through representation elections has been a fall in the proportion of workers in elections won by unions (which reflects declines in union win rates and in the average size of union victories.)¹⁰ The figures in column 4 show, however, an even greater proportionate drop in the extent of electoral activity: in 1960 some 6000 NLRB elections covered 1.2 percent of the work force; in 1983 4400 elections covered a bare .3 percent of the work force. Had unions won all of these elections they would not have gained enough members to increase density.

Turning to the public sector, there are good reasons to believe that both terms in our equation for union density -- the net depreciation of existing density $[-(r+g)]$ and success in organizing new workers -- played a role in the speed with which unionisation and/or collective bargaining representation grew in the 1970s and 1980s. First, because few government departments, union or nonunion, go out of business, that the loss of density due to closure of union workplaces (reflected in r) will be small. Second, the relatively moderate growth of public sector employment into new areas implies that existing unions do not have to appeal to workers outside their traditional jurisdictions to maintain their share of employment, which also should make $r+g$ smaller in the public than in the private sector, so that any given organizing effort will maintain a larger

union density. Third, organizing workers into unions has undoubtedly been much easier in the public sector. In part this is because many workers have been historically organized into employee associations, which were readily transformed into unions without a massive organizing campaign. More importantly, however, organization is easier in the public sector because politicians and public sector managers do not contest unionization to the extent that private employers do, for reasons to be laid out shortly. Finally, state laws that require employers to negotiate and mandate impasse procedures guarantee that workers who vote union ultimately receive union representation. Hence, in the public sector, once workers choose union representation, they get what they choose.

With this and the information in the preceding section as background, let us now turn to proposed explanations for the changed union density.

III. Potential Causes of Change

"It's rather hard to understand . . . Somehow it seems to fill my head with ideas -- only I don't know exactly what they are! However, somebody killed something: that's clear, at any rate."

Alice, as reported by Lewis Carroll.

Researchers have proposed a wide variety of factors to explain the changes in unionization in the U.S. Among the hypothesized causes for the decline in private sector density are: structural shifts in the composition of the work force and mix of jobs; changes in public attitudes toward unions reflected in opinion polls; increased governmental regulation of the labor market substituting for union protection; "positive labor relations" by nonunion firms; the performance of unions in representing workers and

allocating resources to organizing drives; anti-union policies of the Reagan administration evinced in the air traffic controllers strike and selection of members to the NLRB; anti-union campaigns by managements.

Among the factors said to cause the spurt in public sector unionism are: extension of NLRA type laws to public sector workers in many states; extension of some union rights to federal workers by executive order; pent-up demand for unions by workers whose organizational level was exceptionally low by U.S. and world standards.

By examining the impact of factors on the changes in the private and public sectors at once, and requiring that the factors have a consistent effect, I eliminate some hypotheses and highlight the role of others.

Structural Changes

Because the proportion of the work force in traditionally nonunion occupations (white collar), demographic groups (females, college graduates), industries (service, trade, etc.) and regions (the South) has increased rapidly, various analysts have explored the possibility that the changing structure of the work force underlies the drop in union density. The tool for this exploration is a fixed coefficient model which decomposes the workforce into a number of groups with varying degrees of unionization at some base time, and explores the impact of changes in the relative size of the groups on aggregate union density under the assumption that the density of each group is fixed at its level.

Fixed coefficient analyses covering the 1960s through 1980 attribute 50 percent to 70 percent of the decline in private sector union density to compositional factors (Dickens and Leonard, 1985), with the increase in white collar employment having a particularly sizeable depressant effect on

density. While these calculations would appear to go far toward explaining the decline in unionization, I believe the structuralist analysis is misleading and should be rejected. There are three reasons for rejecting it.

First, the structuralist hypothesis is inconsistent with the rise in union density in other countries (notably Canada) which had structural changes in the work force similar to those in the United States. Second, surveys of worker desire for unionism show that structural changes cannot explain the decline in union success in NLRB elections, since the groups whose proportion of the work force increased (such as women and young workers) have as great or greater desire to unionize as do white prime-age male workers (Freemant and Medoff, 1984, p. 228). Third, I reject the structuralist hypothesis because it assumes that the union share of workers in a sector should remain fixed over time. That assumption is inconsistent with the history of union growth, which is one of expansion into nonunion areas, as occurred in the public sector in the period under study. The claim that public sector workers organized because of pent-up demand for unionization, indeed, implies that unionism "naturally" grows in new sectors over time. Fixed coefficient calculations sidestep the key issue in the decline in U.S. unionisation, which is why unions failed to organize historically nonunion workers in the private sector while doing so in the public sector and in other countries.

Public Opinion Toward Unions

The decrease in favorable attitudes toward unions shown in public opinion polls offers another possible explanation for the decline of unionism in the private sector (Lipset, 1986). While public opinion data should not be dismissed out of hand, I do not find this hypothesis persuasive. The timing of the change in opinions and union density are

weakly related, with public support of unions as measured by the Gallup Poll climbing from 62 percent in 1949 to 75 percent in 1953, falling to 64 percent in 1962, rising to 70 percent in 1965, falling to 55 percent in 1981, and rebounding slightly to 58 percent in 1985. Public favorableness toward unions was 59 percent in 1973 and 58 percent in 1985, but union density fell sharply during that time. More damaging to this thesis, perhaps, are responses to the behaviorally more meaningful question of whether workers would vote for a union at their work place, which show no decline in worker desire for unions: in both 1977 and 1984 about a third of nonunion workers said they wanted unions at their workplace.¹¹ Finally, a public opinion explanation of union decline is inconsistent with unionization of the public sector, where public opinion could be expected to be especially important.

Substitutes for Union Protection

Workers join unions for protection against unfair treatment, including low wages, by management. This motivation suggests that the development of substitute modes of protection in the form of welfare state interventions in markets (Neumann and Rissman, 1984) or of better personnel practices by management might reduce worker desire for union representation. If government activities substitute for union protection one would expect: unionism to decline most in countries with the greatest welfare state and restrictions on management, in American states with extensive protective labor legislation, and in periods of declining governmental interventions, as in the 1980s. Further, unions should appeal least to workers who enjoy special legal protections, such as blacks, women, and public sector employees protected by civil service rules. Changes in union density by country, by states, and over time, and the desire for unions by blacks,

women, and public sector workers are uniformly inconsistent with these implications (Freeman, 1986). Hence, I reject the view that governmental regulations and growth of the welfare state underlie the decline in density.

The possibility that "positive labor relations" practices adopted by many major companies (but too expensive for smaller ones) -- paying union level wages and instituting union-style personnel practices such as seniority, job bidding and posting, grievance systems (Foulkes, 1980) -- has reduced worker desires for unions at these workplaces finds better support in the data. Studies of organizing drives show that companies with good personnel practices are more successful than others in defeating unions (AFL-CIO, 1984; Kochan, McKersie, and Chalykoff, 1986), although the largest effect of such practices must be in deterring drives in the first place. The increased wage premium associated with size of establishment in the 1970s (Brown and Medoff), which could be expected to make unionization less attractive to those workers, is, moreover, consistent with the declining success of unions in NLRB elections involving large establishments.¹² Still, I doubt that positive labor relations can explain much of the overall decline in union density. Large employers account for a decreasing share of jobs in the U.S. and unions could increase density greatly without organizing the IBMs of the world.

Government Industrial Relations Policies

Government industrial relations policies have been cited as causing unions to decline in the private sector and to expand in the public sector. For the private sector, some blame (credit) the Reagan Administration's cooperation of the NLRB and destruction of the Professional Air Traffic

Controllers Organization (PATCO) as inducing an anti-union climate in the business community. The fact that union density began falling in the private sector before the Reagan Administration and that collective bargaining coverage has increased in the public sector during the 1980s would seem to rule out this hypothesis, though it is possible that administration actions may have contributed to the acceleration of the decline in the 1980s.

The argument that state policies toward unionism have played a major role in the expansion of collective bargaining in the public sector has, on the other hand, considerable research support. Numerous studies have found that public sector unionization and collective bargaining contracts are more likely in states with favorable labor laws than in other states (Freeman, 1986). Other studies -- perhaps more persuasive -- have shown that unionism has spurted in cities following passage of favorable laws (Ichniowski, forthcoming; Saltzman, 1985, forthcoming). Even within a city, departments for whom state laws are more favorable toward collective bargaining end up with contracts more frequently than "brother" departments operating under less favorable state law (Freeman and Valletta, forthcoming). At the minimum, we have an empirical regularity: public sector collective bargaining coverage and union density increase markedly in the presence of laws favorable to collective bargaining. This finding raises, however, two further questions: why comparable laws induce different outcomes between the public and private sectors, with which I will deal in detail shortly, and why many states enacted laws favorable to unions while "labor law reform" failed at the national level, which I believe is due in part to the simple fact that a minority of senators, representing states that are unfavorably disposed to unionism, can stop

national legislation but cannot, course, undo legislation in states that are favorably disposed to unionism.

Union Performance

Union performance may have contributed to the decline in union density in three ways. First, unions may have represented members poorly, discouraging nonunion workers from organizing. This hypothesis has little empirical support; it is inconsistent with union success in obtaining wage and benefit increases exceeding those of other workers in the 1970s and with opinion poll data showing union members to be reasonably satisfied with their unions (Kochan, 1979). Second, unions may have failed to allocate sufficient resources to organizing activity in the 1960s and 1970s. This claim has some a priori validity, as organizing expenditures deflated by wages (organizing is labor-intensive) have failed to keep pace with the growth of the increasingly nonunion labor force and have been concentrated in sectors in which unions were already strong rather than in new and growing industries (Paula Voos, 1985, 1986). Because decisions to allocate resources to organizing depend in part on the organizing environment and the perceived benefits and costs of organizing campaigns, however, I am leery of attributing a large independent role to union organizing efforts. Union failure to embark on major organizing campaigns may simply reflect rational responses to the low expected success rates. Third, and paradoxically from the perspective of analyses that treat unionization as a worker decision, the success of unions in raising union wage premiums in the 1970s may have contributed to the decline in density by raising the cost of unionization to firms and thereby intensifying the anti-union activity of management -- to which I turn next.

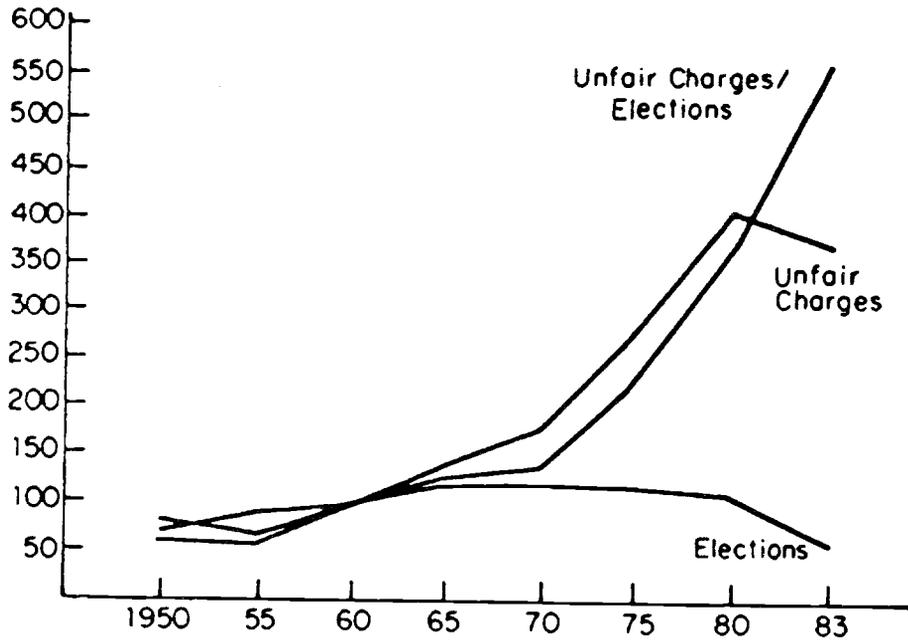
Aggressive Anti-Union Management

Given that the NLRB electoral process allows management to influence results, and that management is likely to prefer to operate nonunion, it is logical to seek an explanation for declining union success in the behavior of management. Did anti-union activity by management increase in the private sector in the period studied? How have public sector managers behaved?

Exhibit 6 shows graphically that one indicator of management anti-union activity -- "unfair" labor practices under the law -- has skyrocketed. While the NLRB data in the exhibit measure charges of unfair activity rather than actions found illegal in court (raising the possibility that unions may simply be filing more unfair charges), the proportion of charges upheld has been roughly constant at 30 to 40 percent over time (Weiler, 1983), and NLRB statistics on numbers of workers discharged for union activity and ordered reinstated by the NLRB and courts show increases comparable to those in the figure. As for legal management opposition, a Conference Board survey reveals that 45 percent of firms in their Personnel Practices Forum had operating union free as a labor policy goal in 1983 compared to 31 percent in 1977, indicating that even over a short period management opposition to unionization has grown substantially (Kochan, McKersie and Chalykoff, 1986).

In the public sector, by contrast, there has been no outburst of anti-union activity by management. Charges of unfair labor practices concern interpretation of state bargaining laws -- whether a particular topic is subject to collective bargaining or is a management prerogative -- not to the existence of unionism per se. Public sector managers rarely hire union-preventing firms to discourage organization by their workers. Because

EXHIBIT 6: Indices of Change of Unfair Labor Practices
Against Management and NLRB Elections (1960 = 100)



Data for Exhibit 8:

Date:	elections	unfair charges	unfair charges/elections
1950	87	56	67
1955	66	56	85
1960	100	100	100
1965	110	140	120
1970	122	176	144
1975	122	260	216
1980	110	405	366
1983	67	375	580

Source: NLRB Annual Reports

of changes in state laws, moreover, the trend in the public sector is toward less rather than more management opposition to collective bargaining.

On the basis of these facts, I argue that the anti-union management offensive in the private sector is the key to de-unionization of the United States, and that its absence from the public sector explains the successful organization of public employees. Moreover, I claim that the differential behavior of management in the public and private sectors is explicable by the incentives facing them.

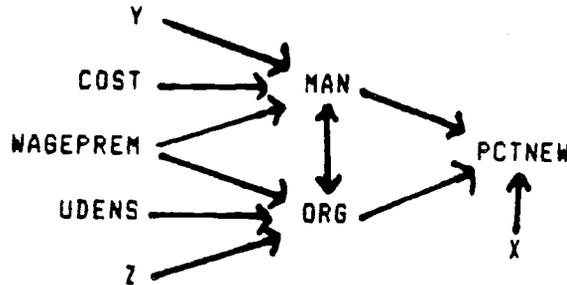
IV. Management Offensive, Union Wage Premia, and Cost of Opposition

My proposed explanation can be most easily represented with a simple schematic model (see Exhibit 7), which diverges from many models of union organization by stressing the role of management in unionization and the endogeneity of both management opposition and union organizing. I postulate three basic relations.

The first relation is a 'production function' for organizing success. It relates the number of workers newly organized relative to the labor force to the resources devoted by management to opposing unions, the resources devoted by unions to organizing, and a vector of all other factors that might influence the outcome.

The second relation links the resources management devotes to opposing unionization to economic factors likely to affect the profitability of such activity. One such factor is the union wage premium, which is assumed to reduce profits and increase management opposition. Another is the cost of opposing unionism in an NLRB election, which will depend on the

Exhibit 7: Determinants of Union Organizing Activity and Management Opposition and Their Effect on Unionization of New Workers



Determination of Organizing Success: $PCTNEW=f(MAN,ORG,X)$

where $PCTNEW$ =number of workers organized/labor force;

MAN =resources devoted by management to opposing unions;

ORG =resources devoted by unions to organizing;

X =other factors that influence outcomes

Management Opposition: $MAN=g(WAGEPREM,COST,ORG,Y)$

where $WAGEPREM$ =union wage premium;

$COST$ =cost of opposing union in NLRB elections;

Y =other relevant factors, largely relating to product market

factors such as deregulation of industries, etc., which

determine affect of unionism on profitability.

Union and Worker Organizing Effort: $ORG=h(WAGEPREM,MAN,UDENS,Z)$

where $UDENS$ =union density at the beginning of the period;

Z =other relevant factors, largely relating to labor market.

"technology" of battling unions at workplaces, which has changed greatly in the past fifteen years due to the advent of labor-management consultants who specialize in training supervisors to pressure workers to oppose unions and in running anti-union propaganda campaigns; and on the legal penalty for committing unfair labor practices. In the private sector the legal penalty is minuscule: the law requires that management reinstate workers unjustly fired for union activity, pay the workers back pay less whatever income they earned in the period, and post a notice that the firm will not engage in such illegal activity again. However, reinstating workers often occurs only after the representation election and many choose not to return. Posting a notice about past illegal activity on the part of the firm which often has the effect of warning workers how far management is willing to go to defeat unions rather than convincing them that management will forego such tactics in the future. Finally, the management decision is also assumed to depend on the resources the union devotes to organizing, and, on other unspecified factors, largely relating to product market conditions, that can be expected to make anticipated union wage premiums more or less expensive in terms of lost profits.

The third relationship in my analysis links union (and worker) organizing activity to: the wage premium, presumed to raise the attractiveness of unions to workers and thus increase organizing activity; the existing density of union workers, with a lower density assumed to reduce organizing activity because the cost of organizing each nonunion worker is higher to existing union members when there are proportionately fewer unionists among whom to spread the cost; the amount of resources management devotes to opposing unionism; and a catch-all vector of other relevant factors, largely relating to labor market conditions.

One important feature of this model is that the union wage premium affects the decisions of both the management and union (workers). In the management equation, a higher premium induces more anti-union activity and thus reduces union organizing success. In the union equation, a higher premium induces additional organizing activity and thus raises union organizing success. Given opposing tendencies, is the wage premium likely to be positively or negatively correlated with actual outcomes? To the extent that unions extract rents from firms through monopoly wage increases, the money loss to firms will exceed the transfer to workers (due to the 'triangle' inefficiency), giving management a potential incentive to spend more resources to prevent unionisation than unions/workers spend to organize (Freeman, 1986b). If expenditures by the two sides have equal effects on outcomes, higher union wage premium will reduce organizing success.

A second important feature of the model is the inclusion of management and union activity in the equations determining the behavior of the other side. This highlights the interactive nature of the organizing struggle-- which can be viewed as a two person (three person, if one distinguishes workers at an organizing cite from the union) game -- and thus directs attention to the potential payoff from game-theoretic analyses of union and management strategic behavior that goes beyond the scope of this essay.

A third aspect of the analysis that deserves attention is the inclusion of union density in the equation for union organizing activity, for it raises the possibility that a fall in union density will produce a cumulative decline, as the increased cost of organizing induces unions to lower organizing activity, while, conversely, rises in union density will have the opposite cumulative effect.

How might one use the model embedded in these relationships to explain

the decline in private sector union density?

The most reasonable hypothesis, given the evidence in section III, is that management opposition to unionism, induced by changes in the cost of unionization and the union wage premium, reduced union organizing success, with cumulative effects on union density and organizing effort. For this explanation to be valid, it is necessary that management activity have an important impact on organizing success; and that this activity respond to economic incentives.

With respect to the effectiveness of management opposition, studies by a diverse set of researchers ranging from management groups to the General Accounting Office to the AFL-CIO to academics all find that management activity reduces union success in NLRB representation elections and organizing drives (see Exhibit 8). The sole exception (Getman, Goldberg, and Herman) has been the subject of considerable controversy, with Dickens convincingly reversing their conclusion in a re-analysis of the underlying data. Even absent this, however, the preponderance of the evidence is that the extent of management opposition substantially determines the outcomes of organizing campaigns, as posited. As management devotes considerable resources to opposing unionization, and presumably acts rationally, this makes intuitive sense.

Because the studies in Exhibit 8 focus on representation elections/organizing drives, rather than on the workers gained relative to the work force (PCTNEW) that enters the union density equation, and do not provide estimates of the extent to which the downward trend in union success can be attributed to management opposition, I have estimated the impact of the one indicator of management opposition for which time series data exists -- unfair labor practices -- on workers won by unions as a share of nonagricu-

Exhibit B: Summary of Studies Of Effects of Management Activity
on NLRB Representation Election Results

<u>Study and Sample</u>	<u>Measurement of Management Activity</u>	<u>Does Activity Has Effect?</u>
1. National Industrial conference Board, 140 union organising drives of white collar workers, 1966-67	Amount of communication by management	Yes
2. AFL-CIO, 495 NLRB election, 1966-67	Amount of opposition by management	Yes
3. Prosten, analysis of probability of union win in 130,701 elections in 1962-77	Amount of time delay between election and petition	Yes
4. Lawler, 155 NLRB elections, 1974-78	Company hires consultant	Yes
5. Drotning, 41 elections ordered void and rerun by NLRB	Amount of communication by management	Yes
6. Roomkin-Block, 45155 union representation cases, 1971-77	Delay between petition and election	Yes
7. Seeber and Cooke, proportion of workers voting for union representation by state, 1970-78	Employers object to election district	Yes
8. US General Accounting Office, analysis of 8(a)(3) illegal firings or other discrimination for union involvement in 368 representation elections	Employer committed unfair labor practice	Yes
9. Aspin study of 71 NLRB elections in which reinstatements were ordered,	Employer fired worker for union activity	Yes, unless reinstated before elect
10. Getman, Goldberg, and Herman analysis of 1293 workers in 31 elections in 1972-73	Campaign tactics employer.	Not stat significant
11. Dickens study of 966 workers in 31 elections in 1972-73 (using data set in #10)	Legal and illegal campaign tactics by employer	Yes
12. Catler, study of 817 NLRB elections	Unfair labor practices and delay	Yes
13. Kochan, McKersie and Chalykoff, 225 firms,	Employer emphasizes union avoidance strategy	Yes

ltural employment. My analysis uses pooled state (industry) time series data, with time dummies included to control for omitted trend and cyclical factors and state/industry dummies to control for omitted state (industry) effects, and diverse control variables. The results, summarized in Exhibit 9, show that unfair labor practices reduce the numbers unionized relative to the work force and that the trend in unfair labor practices can account for roughly half of the observed drop in that outcome measure. To the extent that unfair practices substitute for lawful management anti-union activity, this estimate, while sizeable, understates the full impact of management's fight against unions. Alternatively, however, if the growth of unfair practices is positively correlated with the growth of legal management opposition, my estimates overstate the impact of illegal management activity on the decline in union success, though they may accurately measure the impact of management opposition, in total.

The role of changes in the relative cost of union deterrence in stimulating the management offensive has not been the subject of extensive research, making conclusions here more speculative. Time series calculations show that some of the rise in unfair practices is explicable by the rise in union wage premiums in the 1970s, but the series is short and the measures are crude (Freeman 1986b). Estimates of the relation between decline of union density and union premiums at a one-digit industry level indicate that where the premium has risen most, union declines have been greatest (Linneman and Wachter), which may reflect reduced organizing success or a greater death rate for union plants in those sectors. As for other factors likely to raise the cost of unionism to firms, it is highly plausible that such product market developments as the growth of foreign competition and deregulation have made existing union wages more expensive

Exhibit 9: Estimates of the Effect of Management Unfair Labor Practices on Percentage of the Nonagricultural Workforce Newly Organized in the NLRB Elections

Comparison of Union Success:	Impact of 10% Increase in Unfair Practices/ Election on Proportion of Workers Newly Organized in NLRB Elect.	Estimated % Decline in Workforce Organized in NLRB Election Due to Increased Management Unfair Labor Practices
1. Across States, 1950-78	-2.5	28
2. Within States Over Time, 1950-78	-3.4	38
3. Across Industries, 1965-80	-3.5	36
4. Within Industries Over Time, 1965-80	-6.2	62
5. In US Over Time, 1950-80	-4.6	51

Source: Lines 1 and 2 from R. Freeman and J. Medoff, *What Do Unions Do?*, Basic Books, 1984, p.238.

Lines 3 to 5 from R. Freeman, "The Effect of the Union Wage Differential on Management Opposition and Union Organizing Success," *American Economic Review*, May 1986.

in terms of lost profits. As increased nonunion competition and management policies against unionised firms in construction indicates, however, new product market competition from any source, not simply trade or deregulation, can significantly reduce union density. Finally, with respect to the determination of union organizing efforts, the major work here -- by Paula Voos -- suggests that one can treat organizing behavior as rational decision-making.

Is this analysis consistent with the increase in public sector density?

There are three basic facts to explain regarding the spread of collective bargaining to the public sector: the geographic variation in unionization associated with different labor laws; the spurt in unionization that followed passage of the laws; and the different behavior of public than of private sector managers under comparable laws. If the benefits to management of operating with a union relative to the cost of opposing unions are lower in the public than in the private sector, and those costs have decreased over time, we could account for these facts in the same framework used to explain developments in the private sector: in terms of the incentives and options for management to oppose unions.

In fact, the incentives for management to oppose unions do appear to be lower in the public sector. First, public sector workers constitute an especially active political group able to punish or reward the politicians who are their employers at the ballot box, even though they are only a small proportion of voters in most areas. Second, the cost of illegal opposition is likely to be greater for public than for private officials, as public officials who break laws are likely to face possible removal from office. Third, unions can help public sector employers increase budgets

through lobbying for additional public expenditures, creating a greater jointness of interest than in the private sector. Fourth, wage premiums tend to be smaller in the public sector (see Lewis, forthcoming; Freeman, 1986). Put crudely, management opposition to unions can gain profits in the private sector; in the public sector it can cost votes. Given this, and the fact that states passed laws favorable to unionization in the 1960s and 1970s that increased the cost of management opposition in the public sector, the spurt of unions there is consistent with the model.

Finally, is this analysis consistent with the differential experience of Canada? While private sector managers are likely to have similar profit incentives to oppose unions in Canada as in the United States (there is no evidence that union wage effects are smaller in Canada than in the U.S., Anderson and Gunderson), the Canadian system for organizing workers differs from the American system by giving management less option to express opposition. Canadian labor boards rely largely on "card checks" in which unions sign up workers to determine representation at a work place rather than on adversarial elections and impose harsher penalties on managements that break the laws (Weiler, 1983; Meltz), with the result that Canada has not experienced anything like the massive outburst of management unfair labor practices that characterizes U.S. labor relations. The difference in institutional procedures highlights the fact that the decline in private sector unionism in the U.S. required two factors: increased incentive for management to oppose unions, and the opportunity to turn that incentive into action.

Conclusion

As the reader will undoubtedly have observed, not all the pieces for a complete explanation of the decline in private sector union density and rise in public sector density in the United States are in place. But the available evidence seems consistent with an explanation for private sector decline that stresses increased management opposition to union organization, motivated in part by profit-seeking behavior, and augmented by trade union responses; and an explanation of growth in the public sector that stresses reduced management opposition due to passage of comprehensive collective bargaining laws and motivated in part by vote-seeking behavior.

As for the likely impact of the change in unionization on the performance of the economy, two points are worth attention. The first is that the increasingly public sector locus of American unionism is likely to produce different union effects and modes of operation than have been found for the traditionally private sector union movement. Public sector unions have, for example, smaller wage effects and strike rates than private sector unions and appear to increase rather than reduce employment in union activities (see Freeman and Ichniowski, forthcoming). Second, without making any judgment of whether a less unionized private sector will perform better or not, one thing should be perfectly clear: analysts who have attributed national economic problems ranging from unemployment to wage inflation to low productivity to unions will have to find a new culprit to blame: unless there is a remarkable renaissance in unionism, critics won't have unions to kick around any more.

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ENDNOTES

1. The Meany quote is given in Leo Kramer, Labor's Paradox--the American Federation of State, Council and Municipal Employees, 1962, p.14.
2. Estimates of organization in the public sector differ somewhat among sources, though all data show greater organization than in the private sector. See Freeman, Ichniowski, and Zax (forthcoming) for a detailed analysis of the various statistics.
3. U.S. employment data come from two basic sources: Current Population Survey data on individuals and establishment data from the Bureau of Labor Statistics. The 85 percent figures comes from the establishment survey.
4. These data are from the Survey of Governments, which differ from those in the Current Population Survey, as described in Freeman, Ichniowski and Zax (forthcoming).
5. Millward and Stevens (1986) report a rise in the percentage of manufacturing establishments operating nonunion from 18 percent to 29 percent (pp. 58-59) and a drop in the percentage with a closed shop from 30 percent to 18 percent (p. 103).
6. This is not to say that unions throughout the West do not face serious problems in adjusting to the changing economic climate. They do. The difference between the United States and most other countries is that only in the United States have these problems taken the form of massive de-unionization of the private sector.
7. That is, situations where a union tries to pressure an employer by placing economic pressure on a third party, for instance a customer or supplier
8. The changes in laws are reviewed in Freeman (1986) and in Valletta and Freeman (forthcoming) in greater detail. The NBER has a computer file on regulations across states, departments, and time, which is available to researchers on request.
9. These estimates are based on the private sector union membership numbers of Troy and Sheflin for 1950, 1960, 1970, 1980, and a projected 1985 figure based on his 1983 (updated using CPS figures on the percentage change in membership from 1983 to 1985); estimates of private nonagricultural wage and salary workers exclusive of private household workers from the BLS;

and the number of members won by unions in NLRB elections in 1951-1960, 1961-1970, 1971-1980, 1981-1985 (with 1984 and 1985 assumed to be the same as 1983). I calculated the compound annual rate of depreciation in union membership by comparing actual membership in, say 1980, with membership in 1970 plus the number of workers won from 1971-1980, and then subtracted the compound annual rate of growth of the relevant employment.

10. One can use various identities to decompose the decline in members won/employment (Freeman, 1985).

11. The figures for 1977 are from the Quality of Employment Survey. Those for 1985 are from the Harris Poll.

12. In the 1950s unions had a better record in large units than in smaller ones, but this pattern of success was reversed in the 1970s. The small number of elections in large units in recent years makes the 1980s figures spotty. For data on union win rates by size of unit, see Goldfield, 1987.