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DEVELOPMENTS IN COLLECTIVE
BARGAINING IN CONSTRUCTION
IN THE 1980s AND 1990s

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ABSTRACT

This paper summarizes important developments in collective bargaining in the construction industry in the 1980s and 1990s. Workers in the industry have experienced high unemployment and a 17 percent drop in real wages. Union density has declined from 33 percent in 1981 to 22 percent in 1992, despite a sizable drop in the union-nonunion differential in wages and a tremendous reduction in the number of strikes. The main reasons for the decline in union strength are the adoption of strategies by contractors and owners to control labor costs and changes in the interpretation of labor laws that have given contractors more flexibility in determining their collective bargaining status.

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Firms in the construction industry build and renovate structures. The industry has four major sectors: residential, commercial (mostly retail and office space), industrial, and heavy and highway. Most construction is done by independent contractors who must continuously compete for new projects. Some are general contractors who bid for an entire project. Some general contractors hire all employees directly, but the more common practice is to subcontract most of the work to specialty trade contractors. This means that the mix of firms and employees working on a project is constantly changing from the initial stage of ground-clearing until the final touch-up of the interior.

Construction work has a number of unique characteristics that are reflected in its industrial and work organization. Construction jobs on a particular site are of relatively short duration. Job instability is exacerbated by technological and financial forces. Most of the work is done outside, so work schedules are often interrupted by the weather. A large share of construction projects is financed with borrowed money, making the industry extremely sensitive to interest rates and credit availability.

Construction work calls for a wide range of skills. Some tasks done by laborers require absolutely no training or previous work experience, whereas much of the work done by electricians requires years of training. Because most jobs are short term, employers have no incentives to provide training unless the costs can be shifted to another party. Most construction skills also are marketable outside the industry.

I. INDUSTRY DEVELOPMENTS

Value added from the construction industry directly accounted for 5 percent of the nation's output and employment throughout the 1980s. The value of construction projects put in place accounts for 9 percent of national output. This larger figure reflects the fact that output and employment in many other industries -- most notably lumber, cement, stone products, metal

products, and machinery -- is directly used as an input in construction.

The industry has gone through a bust-boom-bust cycle since 1979. Inflation soared to double-digit levels in that year, partly because of increased oil prices. Lenders required higher interest rates to offset the greater loss in purchasing power. The prime rate rose from 9 percent in 1978 to 13 percent in 1979 and 15 percent in 1980. To reduce inflation, the Federal Reserve Board pushed interest rates up even further. The prime rate peaked at 19 percent in 1981 and declined only modestly to 15 percent in 1982 (modest because inflation had dropped to 4 percent in that year). Other interest rates, including home mortgages, followed a similar pattern.

The consequences of high interest rates for the construction industry were disastrous. Real GNP in construction dropped by 8.4 percent in 1980, followed by further declines of 2.0 and 6.2 percent in 1981-82. Employment fell by 2.6 percent in 1980, 3.7 percent in 1981, and 7.0 percent in 1982. Unemployment for construction workers is always higher than in other sectors because of time needed to search for new work in between jobs. It increased from 10.1 percent in 1979 (compared to 5.8 percent for all experienced workers) to 14.4 percent in 1980 and 20.1 percent in 1982 -- the highest rate in any major sector of the economy since World War II.

The industry recovered, along with the rest of the economy, in the next four years. Output grew by 3.7 percent in 1983 and 9.1 percent in 1984. Most of the boost in 1984 came from two sectors: residential and commercial. Later in the 1980s, state and local construction also picked up. Federal construction stayed level throughout the decade and industrial construction activity stayed below its 1982 level for most of the decade. By 1985 construction employment had risen above its 1979 peak and continued growing through 1989.

Construction activity fell in both 1990 and 1991 and, at the time this

was written, output remains below the 1989 level.¹ Value put in place declined from an annual rate of \$464.4 billion in March 1990 to \$394.3 billion in June 1991. Employment dropped by 1.0 percent in 1990, 9.0 percent in 1991, and 1.8 percent in 1992. The unemployment rate for construction workers jumped upward in 1991 and 1992 to 15.4 and 17.1 percent.

The biggest decline in construction activity took place in the commercial sector. This was a consequence of overbuilding that took place in the 1980s, fueled by favorable changes in the tax treatment of structures in 1981 (later reversed by the tax reform bill in 1986) and speculative lending by savings-and-loans. Square footage put in place in commercial and industrial construction combined was lower in 1991 than in any year since 1961; almost all of this decline took place in the commercial sector. There also was a sharp drop in residential construction in 1990 and 1991.

The most notable trend in the composition of the industry is the rising share of commercial construction in the 1980s. This sector, which represented about 10 percent of all activity before the 1980s, grew to 17 percent in the latter part of that decade. Industrial construction has declined in importance. There also has been a slow but steady drop in the share of public construction from 30 percent in the late 1960s to 20 percent for much of the 1980s. Most of this drop comes from construction by state and local governments. The federal government's direct share fell by one percentage point in the 1980s. The change in its indirect share is impossible to gauge because there is no breakdown in the state and local construction series by whether the projects are fully or partially funded by the federal government.

What implications do these developments in the construction industry have for industrial relations? The most significant fact is that despite the growth in output and employment that took place between 1983 and 1989,

¹At the time of this writing, the Commerce Department has suspended publication of its real output by industry series since 1989. To document the industry's situation in the early 1990s, I use instead the data on value and square footage put in place, published on a monthly basis by the Commerce Department.

economic conditions largely have checked the pressure for wage increases. Unemployment in the industry never got below 10 percent in the 1980s, in contrast to 1966-69 when it got down to 6 percent. The peak year for commercial and industrial construction was 1985, but square footage put in place that year was below the previous peak in 1979 and comparable to the level observed at the 1973 peak. This indicates that even in the healthiest sector of the industry, there was less pressure on wages than in previous expansions.

Second, the declining share of public sector construction implies that a smaller share of construction jobs are being covered by prevailing wage laws.³ These laws still frequently require union wage scales to be paid to all workers, thereby discouraging nonunion contractors from bidding for this type of work. With fewer jobs being covered by these laws, the competitiveness of the open shop increased.

Third, even though increased commercial construction normally would mean more jobs for union workers, this may not have been the case in the 1980s. Much of the new office and retail space was put in place in new suburbs and almost all of this work was done by the open shop.

II. THE WORKERS

Changes in worker characteristics in the construction industry are reported in Table 1. Construction workers became younger, with the average age declining from 37.0 to 35.7 between 1977-78 and 1989. The trend in the overall labor force runs in the opposite direction because of the aging of the baby-boomers. Construction is an exception because of a large drop-off in the

³Prevailing wage laws set minimum wage rates that are usually well above the federal minimum wage for government-funded activities. The Davis-Bacon Act sets minimum wages for construction projects that are federally funded. Most states also have their own prevailing wage laws in construction. For discussions of the provisions of these laws and their economic impact, see Allen (1983) and Thisblot (1986).

percentage of workers 45 and over (from 31.1 to 23.7 percent of the labor force).

The racial mix of employment is an especially sensitive issue in construction. Even after the passage of the Civil Rights Act of 1964, many union locals continued to engage in overt discrimination by race. A number of policies were implemented to deal with this issue, including increased enrollment of blacks in apprenticeship programs, regulations setting minimal ratios for minority employment in publicly funded projects, set-aside programs for minority contractors, and, of course, litigation.

Despite these efforts, there was very little change in the racial composition of the construction labor force in the 1980s. The percentage of black employees did not change between 1977-78 and 1989. The union sector of construction has made very modest progress in hiring minorities, but there has been absolutely no progress in the open-shop. Tabulations from the public use tapes of the Current Population Survey show that the percentage of union employees who were white dropped modestly from 90.6 to 89.0 percent, whereas the percentage of nonunion employees who were white stayed at 91 percent in both periods.³

Schooling and occupation are signals of the skill level of the workforce. Schooling levels for workers in the industry rose in the 1980s. In 1977-78, 35.4 percent of the workers had not completed high school; this figure had dropped to 24.4 percent in 1989. A smaller share of workers is employed as managers and laborers, whereas a larger share is employed in skilled crafts.⁴ Because of changes in the occupational code used by the

³Ironically, underutilization of minorities in union construction is usually cited as an argument for repealing prevailing wage laws.

⁴The occupational code was changed between the 1977-78 and 1989 CPS. To make the codes comparable, the 1977-78 data were converted into the more recent coding scheme using a Census Bureau concordance mapping three-digit occupations under the old code to one-digit occupations under the new code.

Census Bureau, it is possible to make exact comparisons for a limited set.⁵ Carpenters dropped from 16.7 to 13.3 percent of the labor force and painters dropped from 5.6 to 4.0 percent, whereas electricians increased from 4.1 to 5.5 percent of the labor force. More importantly, the combined share in the traditional skilled occupations categories dropped from 36.8 to 32.6 percent. Although a larger share of construction workers were employed in skilled production jobs, a smaller share was employed in the traditional building trades. This is indicative of a transformation in the nature of work across traditional occupational lines. Further evidence in support of such a trend is the increase in the share of workers in a skilled trade but no specific occupation from 0.2 to 2.1 percent.

III. LABOR INSTITUTIONS IN CONSTRUCTION

Historical background. The birth of today's union movement in the building trades can be traced to Peter McGuire's launching of the United Brotherhood of Carpenters and Joiners in 1881. Most other international unions in the building trades were organized by the end of the 19th century. Union growth depended on organizing efforts and employer resistance. The building trades offered workers improved wages, hours, and working conditions, often along with benefits in case of illness or death, in return for an initiation fee, union dues, and loyalty.

Union growth in this era hinged not only on overcoming employer resistance, but also on ability to compete with other unions. This was an especially touchy issue in the building trades because of the jurisdictional issues that arose from their craft structure. Disputes over which union had jurisdiction over which types of construction work were the main reason that

⁵The mismatch rate in the concordance between the 1970 and 1980 codes for these occupations is 1 percent or less of the count of persons in those occupations. In terms of occupational shares, this amounts to an error rate that is well below 0.1 percent of all workers.

the American Federation of Labor created its Building and Construction Trades Department (BCTD) in 1908.

Although there are numerous historical accounts of the origins of the building trades unions, most of the focus is on personalities, strategies, and ideologies within the union movement itself; relatively little is written from the standpoint of the employer. Most shops were very small and many employers had been union members themselves. In areas where most workers in a trade were organized, employers had little choice but to deal with the union and its business agent. Agents were quick to size up the opportunities in a situation of such asymmetric bargaining power -- union racketeering became a serious problem in a number of cities.⁶ Secondary boycotts were frequently used when the building trades needed additional leverage. Segal (1970, p. 53) argues that the relationship was beneficial in some ways for the employer. The plumbers' union provided lobbying support on issues such as building codes and licensing; it also helped limit competition by setting uniform wage rates and limiting labor supply. Employer associations gradually were formed on a craft basis in most major urban areas and these became bargaining units.

Well before the Wagner Act, the prehire agreement was the principal instrument to commit contractors to use union labor. Under such an agreement, a contractor or an association of contractors would agree to hire union members at given wage rates and work rules over a specific time horizon. This practice continued to prevail even after passage of the Wagner Act because of the logistical difficulties of using elections to gauge employee preferences for union representation in the construction industry. High turnover precludes the stable attachment between a group of workers and an individual contractor that is necessary for an NLRB election; most construction jobs would be over long before the NLRB ever got around to counting the ballots.

Technically speaking, prehire agreements violated the Wagner Act because recognition was given to the union without the consent of the precise set of

⁶See Christie (1956) for an account of union corruption at the turn of the century.

individuals who would be the contractor's actual employees. This issue was ignored from 1935 to 1947. In 1948, the NLRB carried out a pilot program of construction elections and found, to no one's surprise, that the costs were staggering. Eventually prehire agreements were legally authorized when Title VII of the Landrum-Griffin Act of 1959 added section 8(f) to the NLRA.

The unions. Almost all unionized workers in the construction industry are represented by one of the 15 national unions in the BCTD.⁷ Since the time of the last IRRA-sponsored survey of industrial relations in the construction industry by Mills (1980), there have been two mergers within the Building Trades. On August 16, 1979, the International Union of Wood, Wire and Metal Lathers merged with the United Brotherhood of Carpenters and Joiners of America. On November 10, 1988, the Tile, Marble, Terrazzo, Finishers, Shopworkers, and Granite Cutters International Union merged with the Carpenters and Joiners. A former member of the building trades -- the Teamsters -- rejoined the fold in 1987, when the Teamsters reaffiliated with the AFL-CIO. The building trades are listed in Table 2, along with their membership in 1979 and 1989 as reported by the unions to the AFL-CIO.

Excluding the Teamsters, membership in the Building Trades unions dropped by 320,000 in the 1980s, a 9.9 percent decline. In absolute terms, the unions suffering the largest drops in membership were the electrical workers (81,000), the boilermakers (54,000) and the laborers (69,000). (Many of the losses of the first two unions took place in manufacturing.) In proportional terms, the unions losing the most members were the boilermakers (42 percent), bricklayers (21), iron workers (24), painters (20), and plasterers (22).

There are some notable exceptions to this overall pattern of declining membership. Two unions actually became larger in the 1980s: the elevator

⁷The only other major union that bargains for workers in the industry is the United Steelworkers of America, which absorbed the United Mine Workers' District 50 in a 1973 merger. The union represents 8,450 construction workers, most of whom do heavy-and-highway work in Pennsylvania, West Virginia, Kentucky, and New Jersey (ENR, April 26, 1990, p. 40). The union contains workers from all crafts, which, it claims, leads to greater efficiency by eliminating jurisdictional disputes.

constructors (6,000 increase) and the operating engineers (17,000). Two very large unions -- the carpenters and the plumbers -- saw their membership decline only slightly.

Management organizations. Most contractors are too small to have their own labor relations staff. If they join their local general or specialty contractor association, they get representation in contract negotiations and assistance with the resolution of grievances. Local contractor associations also help administer apprenticeship programs and provide services outside the labor relations arena, such as lobbying, public relations, and legal advice.

There are about 65 national associations that represent general or specialty contractors.¹ The most visible associations include the Associated Builders and Contractors, an open-shop organization of mostly specialty contractors; the Associated General Contractors, a group that is mostly union; and the National Association of Home Builders, the largest organization that is mostly open-shop. In addition to assisting their local chapters, these national organizations provide public relations, research and lobbying services.

The interests of the owners of construction projects were first represented in 1969 with the formation of the Construction Users' Anti-Inflation Roundtable, consisting of 200 of the nation's leading chief executive officers. This group merged in 1972 into the Business Roundtable, a broader organization that maintains a Construction Cost Effectiveness Task Force. The Business Roundtable has encouraged any and all steps that it feels would lower construction costs, including opening up bidding to open-shop contractors and bargaining to make adjustments in union contracts.

Bargaining structure. The unionized portion of the industry is concentrated in the commercial, industrial, and heavy and highway sectors. In most cases, especially in commercial construction, bargaining takes place at the local level between an association of contractors and either a local union

¹The January/February 1991 issue of Construction Review, published by the U.S. Department of Commerce, includes a directory of contractor organizations.

or a district council of locals. Usually local negotiations are limited to a single trade. When contracts for the various crafts expire at different times of the year, there is a heightened risk of a strike or lockout relative to other industries. A number of institutional mechanisms have evolved to deal with this risk, including formal negotiations involving several trades at once and contracts that expire at the same time across different trades. In the late 1960s and early 1970s, the staggered structure of bargaining in construction was blamed for unusually high wage settlements. Many locals followed a practice called "leapfrogging," where the negotiated settlement in one trade creates pressure for even larger settlements in negotiations for other trades in that area and in nearby areas.

Although local agreements are the most common practice, they are not universal. Often there is a statewide agreement for heavy and highway construction. The bargaining unit is national in pipeline and elevator construction, as well as some industrial construction projects.

Even when wages are negotiated locally, most unions have a national contract that applies to traveling contractors. These contracts tend to be short statements that the contractor will use union labor both directly and through all subcontracts and will pay union scale, either as specified in the local agreement or, if no such agreement exists, the national agreement. This arrangement protects the contractor from holdup problems with the local unions and it relieves the local unions from the risk of being unable to organize the project. Local unions and contractor associations have been known to complain, however, if during a strike or lockout an outside contractor continues working under the national agreement.

A practice that has become increasingly more common in the building trades is the project agreement. These agreements usually cover very large projects such as industrial or power plants construction where work goes on for many years. Typically these contracts are designed to make union labor more competitive by including a no-strike pledge, with specific procedures to settle any disputes, along with concessions on work rules. Between 1979 and

1981 there were 92 project agreements granted or pending, covering 83,344 employees. By 1986 there were 265 such agreements covering 117,185 employees.⁹

Human resource practices. Must workers complete an apprenticeship to enter a union in the building trades? Do unionized employers have to hire everyone through the hiring hall? Researchers who interview contractors find widespread misconceptions about which human resource practices actually are followed, not to mention their effectiveness.¹⁰

1. *Training.* Virtually all skills in the building trades are marketable across a wide range of employers. In this situation, according to Becker's model of investment in training, the employer has no economic incentive to train unless (1) the costs of training can be passed to the worker via lower wages and benefits or (2) no trained labor is available in the market, in which case the training cost is a substitute for a general wage increase. One unique aspect of apprenticeship programs is that they encourage investments in training by shifting some of the costs of training from the worker to other parties. Apprentices start at 50 percent of journeyman scale, with increases as they move through the program. Pay tends to be below productivity in the first year or two of the program, but above productivity near the end, so that the employer and the trainee share the costs. In addition, administrative costs are paid for by taxpayers and by all union workers, who are assessed a fee for each hour worked to fund apprenticeships.

Apprenticeship programs traditionally have produced well-rounded, highly skilled workers. Most programs run from three to five years and involve a combination of on-the-job and classroom training. A substantial majority of the programs in the building trades are affiliated with the unionized sector. The unions recognize that their members must be very skilled to command the

⁹National Construction Employers Council and the Building and Construction Trades Department, AFL-CIO (1986), p. 11.

¹⁰The most thorough and recent such study is Bourdon and Levitt (1980). The discussion below also draws from Mills (1972), Foster (1973), Northrup and Foster (1975), Marshall *et al.* (1975), Allen (1984), and Northrup (1984).

wages specified in the contract. If the skills of newly hired workers fall relative to those of experienced workers, the common wage scale cannot be maintained. At the same time, unions recognize that the apprenticeship program's size must be controlled. The size of today's program determines the supply of skilled labor in the future. In addition, unions have been wary that employers will use apprenticeship programs as a cheaper substitute for experienced labor.

Repeated studies have shown that most union members have not completed union apprenticeship programs. Apprenticeships are the main source of entry for bricklayers, plumbers, sheet metal workers, and electricians but not for carpenters and ironworkers. In the most carefully done quantitative study of this issue, Marshall *et al.* (1975) found that the two most important alternative sources of training were working as laborers or helpers on union job sites or informal on-the-job training in the open shop.

Union apprenticeship programs remain the most important source of training in the industry today, but this does not exempt them from criticism. Northrup (1984) argues that relatively few jobs require the multi-faceted skills taught in the programs. The Business Roundtable (1982b) study of apprenticeship programs criticized the practice of advancing through the programs based on time in the program rather than on skills mastered. It also criticized federal and state regulation of apprenticeship programs for setting standards that often limit government support to union programs.

Traditionally most workers in the open shop have received their training on the job. Business Roundtable (1982c) found that although the open shop had 60 percent of the construction market, it accounted for merely 10 percent of the expenditures on training. Apprenticeship programs are administered by the Associated General Contractors (AGC) and the Associated Builders and Contractors (ABC) Formal, but these remain relatively small. Large open-shop contractors such as BE&EK, Brown & Root, and Flour Daniel have conducted their own task-oriented programs for some time. Similar approaches have been developed by many ABC chapters via the Wheels of Learning program in the 1980s

and the current programs being operated by the Merit Shop Foundation.

2. *Hiring.* Most hiring by union contractors is done through informal mechanisms, such as applications "at the gate" and contacts made through friends and relatives. Contracts often call for all hiring to be done through the hiring hall, but in practice the hiring hall is most likely to be used when informal mechanisms fail to yield enough applicants. Hiring halls usually are capable of providing adequate numbers of workers who meet minimum competency standards, thereby reducing recruiting and screening costs for union contractors.

The Business Roundtable (1982a) criticized certain aspects of hiring procedures in the union sector, arguing that some locals impose restrictions on the selection of supervisors or use the hiring hall to put pressure on contractors by limiting the quantity or quality of referrals. The National Construction Employers Council and the Building and Construction Trades Department of the AFL-CIO (1985) addressed the foreman issue in its Market Recovery Program Handbook, which encouraged locals to give contractors responsibility for decisions involving foremen. Their 1986 study found that between 1980 and 1985 the share of local agreements that allowed management to choose foremen increased from 82 to 92 percent, whereas the share of contracts with no specified ratio of foremen to journeymen rose from 50 to 61 percent.

Obviously, employers in the open shop face no restrictions on their choices of recruiting methods or their selection of employees. Open shop contractor organizations have experimented with hiring halls, but most hiring is done through informal methods in smaller firms and through state-of-the-art screening methods in the largest ones.

3. *Work organization.* Work at union jobsites is organized around the principle of craft jurisdiction. Under this work system, each task is allocated to one of the building trades, in effect giving that trade property rights over a range of work assignments. The only benefit to employers from this system is that as long as the local maintains its skill and training standards for membership, it provides some protection against shoddy

workmanship, e. g., if a worker falsely claims he has a particular skill. This benefit is rather meager relative to the costs. Jurisdictional rules frequently dictate that skilled journeymen do work that could have been done by semiskilled and unskilled labor. In addition, they restrict flexibility in work assignments when two different trades are close substitutes.

Union contracts sometimes specify minimum crew sizes, forbid supervisors to pick up tools, or restrict the ratios of helpers and apprentices to journeymen. When enforced, these provisions can increase construction costs considerably. The case study evidence on this issue indicates that these provisions often are ignored and, even when they are enforced, tend to affect costs only on small projects. The Business Roundtable (1982a) estimated that crew size restrictions raise costs by \$42 million per year. Econometric evidence in Allen (1986c) shows that restrictions on substitution between different types of labor increase costs by 2 percent.

In a few areas, the building trades have restricted management from using the best available technology. In the early 1970s, only 12 percent of union contracts contained limits on prefabricated components or on tools and equipment. However, over 70 percent of the contracts with plumbers and sheet-metal workers had restrictions on prefabrication and over 80 percent of painters' contracts had limits on tools and equipment at that time. Ten years later, Business Roundtable (1982a) reported, "While a minor percentage of all contracts sampled contain prefabrication limits, these restrictive clauses were found in one-half of the pipefitter/plumber contracts." They estimated that across all types of construction these restrictions raised costs by \$30 million.

In the open shop contractors have complete flexibility in assigning tasks to workers and selecting materials, tools, and equipment. Without craft jurisdictions, workers are trained to learn skills that cut across a number of trades. Without ratios specified in the contract, the employer is free to use any mix of laborers, semiskilled, and skilled labor. This is always cited as the main competitive advantage of the open shop.

IV. UNION DENSITY

The Current Population Survey has contained a question about union membership in the May survey in 1970 and from 1973 to 1981; a question on contract coverage was added in 1978. Since 1983, these questions have been part of the monthly survey. The same union membership question appeared in 1966 in the Survey of Economic Opportunity. This information was used to calculate an internally consistent series in Table 3 of the percentage of all employees in the construction industry who are union members or who are covered by collective bargaining agreements.

Between 1970 and 1992, union density (the percentage of employees who report themselves to be union members) in the construction industry has fallen almost by half. In 1970, 42 percent of the employees in the construction industry were union members; in 1992, only 22 percent were. The downward trend in union density has been steady -- throughout the 1970s and the first half of the 1980s, it dropped by an average of one percentage point per year. Particularly large declines were observed between May 1977 and 1978 (4 percent) and May 1981 and 1983 (5 percent). This decline stopped after 1987; since then, union density has stayed at 22 percent. The pattern for coverage by collective bargaining agreements is quite similar.

Age. Union density follows a concave pattern with respect to age, growing rapidly for workers in their 20s and early 30s but then peaking out and remaining flat for workers in their 40s and 50s. This pattern reflects the fact that it takes three to four years to become sufficiently trained to become a union journeyman. Also, many young workers spend some time working in construction, especially as unskilled workers on open shop residential projects, but do not make a career of it.

Union density dropped across all age groups during the 1980s, with the largest declines taking place among younger and middle-aged workers. There are two aspects to this decline that are important to understand: (1) union membership still increases with age, but at a much slower rate, and (2) union

membership rates actually declined for most cohorts. Figure 1 breaks down the difference between union density in 1977-78 and 1989 for private wage and salary workers in blue-collar occupations into two components: (1) a within-cohort change, indicated by the distance between the line labelled "1989 actual" and that labelled "1989, no change within cohorts" and (2) an across-cohort change, indicated by the spread between the latter line and that labelled "1977-78."

Consider the drop in union density for workers aged 35 to 39 from 49 percent in 1977-78 to 26 percent in 1989. In 1977-78, 36 percent of all workers aged 25 to 29 were union members, so the within-cohort drop in union density is 10 percentage points. If the 1977-78 patterns for union density by age had held up, however, the union density rate for this age group would have been 49 percent. Thus, the failure of union density to increase with age for this cohort accounts for another 13 points of the decline.

Figure 1 shows that for workers between 40 and 54 in 1989, the within-cohort change accounted for most of the drop in unionization, whereas for workers under 40 the across-cohort effects dominated. This indicates that the decline in union density in the building trades is being driven by two very different forces. The odds that middle-aged and older construction workers would be union members are lower than they were for the same cohort 10 to 15 years ago. Although it is possible that this results from mobility of workers from other industries who were never organized, the more plausible explanation is that many of the nonunion workers who are 40 and over are former union members. The other force at work is that workers in the new generation of construction workers have not been organized. Because many of them are now in their 30s, it is unlikely that they will ever get the type of training that will qualify them for union journeyman status. The building trades have probably lost this generation of workers.

Other personal characteristics. The decline in union density was inversely related to education levels. Among workers who did not complete high school, union density dropped by 20 percentage points, in contrast to a

15 percentage point drop for those with high school degrees and an 11 percentage point drop among those with some college. Union membership rates for whites and nonwhites were more or less the same in both 1977-78 and 1989. A higher percentage of men belongs to unions than women in both years, but the proportional decline in union density was about the same for men (38 percent) and women (36 percent).

Occupation. In both the 1977-78 and 1989 samples, union density is much higher for skilled occupations than for handlers, helpers, and laborers. There are six craft occupations that (a) were defined in nearly the same way in both the 1977-78 and 1989 CPS and (b) had sample sizes of 100 or more in both years. The drop in union density is much larger for painters (30 to 11 percent) and roofers (36 to 11) than for brickmasons and stonemasons (44 to 32), carpenters (31 to 17), electricians (58 to 40), and plumbers and pipefitters (56 to 41). This is consistent with the pattern in Table 1 where the declines in membership of the painters and roofers unions were proportionally larger than the decline across all building trades. Painting and roofing are generally considered to be less skill-intensive than masonry, carpentry, plumbing and electrical work. Unless there are offsetting wage differentials, this would create a greater incentive for building owners and contractors to find nonunion substitutes in the less skilled occupations.

V. EXPLAINING THE DECLINE IN UNION DENSITY

Employers are most likely to sign and abide by collective bargaining agreements when three conditions hold. First, unions must have a near-monopoly on the supply of skilled labor, which is most likely in areas with active union apprenticeship programs. Second, the union must have enough solidarity to make strike threats credible and costly to employers. Because of workers' ability to work for a wide range of employers, including those outside construction, and the high costs of delays to builders, union strike

threats are quite powerful in a tight labor market. Third, union labor must be better trained and more experienced so that the employer gets higher productivity in return for higher wages. If this last condition does not hold, the employer has an incentive to renege on his relationship with the union.

The discussion here will examine four plausible explanations for the decline in union density: (1) wages and benefits have increased more for union than for nonunion workers; (2) the productivity advantage of union labor has eroded; (3) contractors and owners have adopted strategies to control labor costs; and (4) the labor laws have been re-interpreted to give contractors more flexibility in choosing their collective bargaining status.¹¹

Wages and benefits. Table 4 updates the estimates of union-nonunion wage gaps from Allen (1988a). The first column reports the estimates from that study for 1967, 1970, and May 1973-1983. The second column reports estimates for May 1973-1981 and the full year 1983-1986 from Linneman *et al.* (1990). The third column reports estimates for the full-year 1983-1992 that were generously provided by Professor Barry Hirsch of Florida State University, using a data base he developed with his colleague Professor David Macpherson. Even though the results are all obtained from the same data set (CPS), my estimates are somewhat larger than the others. This happens because of modest differences in control variables and model specification.¹²

The union-nonunion wage gap widened by a considerable margin in the late 1960s and the early 1970s. In 1967, union wages were 38 percent higher than

¹¹Another possible factor, changes in worker and employer characteristics, was examined in Allen (1988a) and found to be unimportant. This conclusion did not change when I updated the analysis.

¹²Linneman *et al.* (1990) estimated a model across workers from all industries with different intercepts for union and nonunion workers in construction, whereas I estimate a model over workers in the construction industry only. In effect I have complete interactions between industry and all coefficients in the model, whereas they have an industry-intercept interaction. The other difference is that I include controls for overtime hours and a set of regional labor market characteristics in their model, whereas I do not. Hirsch restricts his sample to construction workers, but uses a different set of control variables. He includes part-time status and veteran status, but does not include occupation.

nonunion wages, whereas by 1973 the gap had widened to 54 percent. Such a tremendous change in relative costs coupled with the weak attachments between workers and individual employers in the industry surely helped precipitate the decline in union density in the 1970s. In 1979 both sets of estimates drop by over ten percentage points, but they increase in the early 1980s so that by 1983 both are higher than in 1979 although well below what they were in 1973-78. The Hirsch results show that the union-nonunion wage differential dropped by nine percentage points from 1986 to 1992.

The wage differential between union and nonunion labor is much lower today than it was in the middle of the 1970s and is comparable to the wage differential in 1967. If wage differentials were the only factor driving the decline in union density, then the unionized sector would have started recovering market share in the 1980s instead of continuing to drop. Although a widening wage gap was no doubt a key factor behind the initial decline in union density, we must look elsewhere for an explanation of why that decline continued in the 1980s.

There are no data on benefit costs in construction broken down by union status. The most expensive voluntary benefits are health insurance and retirement plans. The CPS supplements on benefit coverage for May 1979 and 1988 were used to calculate the proportion of union and nonunion workers in construction who work for employers that provide these benefits. There has been no change in pension coverage or participation rates for either union or nonunion contractors. Pensions are provided by the employer of 90 percent of union members and 33 percent of nonunion workers in both years. Health insurance coverage is down from 89 to 80 percent among union members. The share of nonunion contractors that provide health insurance has gone up from one-half to two-thirds. The critical element that is missing from these data is the generosity of the pension and health plans. A large increase in pension and health care costs per covered worker in union contracts relative to the open shop would offset the narrowing of the gap in health care coverage.

Productivity. The competitiveness of union labor depends not just on the wage differential with the open shop, but also on the productivity differential. In an economy-wide study using data from the Census of Construction Industries, I found in Allen (1984) that in 1972 labor productivity is much higher in the unionized sector of the industry than in the open shop and that the estimated productivity difference between union and nonunion labor is about the same as the wage difference. This finding was further supported in my studies (Allen (1986a, 1986b, 1988b)) of commercial office buildings, private hospitals, and retail space. However, in public construction, my studies of schools and hospitals (Allen (1986a, 1986b)) find no productivity difference between union and nonunion contractors, which I attribute to prevailing wage laws that shelter union contractors from the open shop and insensitivity of the owners of these structures to their cost.

All of these studies use data that were collected between 1973 and 1977. I reexamined the situation with economy-wide data for 1982 in Allen (1988a) and found evidence that the union productivity advantage had eroded. The best available data set for revisiting the question of how union and nonunion productivity compare is the 1987 Census of Construction Industries. In previous studies using the 1977 and 1982 Census data, I was able to construct a data set in which each state would have three observations; one for each two-digit industry. The Current Population Survey no longer identifies two-digit industry for construction employees and this information is often suppressed in smaller states in the Census reports. As a consequence, the sample used here consists of 51 observations, one for each state. To facilitate comparisons between 1982 and 1987, I re-estimated the model for that year using the same aggregation scheme.

The point estimates of the union productivity advantage in both 1982 and 1987 are implausibly large -- 101 percent in 1982 and 76 percent in 1987, both figures are well above the range of the union-nonunion differential in wages. This indicates that the use of data aggregated by state is somehow producing a serious upward bias in the union coefficient. If this bias is the

same in the 1987 and the aggregated 1982 data, the change in the union coefficient will still indicate the direction in which the union-nonunion productivity difference is moving, admittedly a big if. The productivity advantage of union over nonunion contractors has a 95 percent confidence interval of 63 to 139 percent in 1982 and one of 52 to 100 percent in 1987. These results indicate that the odds of a decrease in the union productivity advantage are greater than the odds of an increase, but offer little insight into the magnitude of whatever change has taken place.

Management action. Partially in response to the high strike rates and rapid wage inflation of the late 1960s and early 1970s, the owners of construction projects and the contractors that they employ have taken a much more active role in controlling labor costs, steps that often involve switching from union to open-shop contractors. The Construction Users' Anti-Inflation Roundtable, which later evolved into the Business Roundtable, was established as a mechanism to help give large industrial firms better control over their construction costs.

The Roundtable has done two major studies highlighting problems in cost effectiveness in the industry. The 1974 study dealt exclusively with problems in the unionized sector of the construction industry: jurisdictional problems, hiring halls, scheduled overtime, and restoration of the role of management. The 1983 study was more wide-ranging. Although it dealt with collective bargaining, it also examined project management issues relevant to union and open-shop construction, as well as construction technology and government regulation.

The Roundtable also has acted in a lobbying capacity to deal with legal and regulatory issues related to construction costs. Although the Roundtable has not explicitly called for project owners to switch to the open shop, it has engaged in a number of activities that increase the likelihood of such switches. These include sharing information about union activities and educating managers about strategies to deal with union issues. The impact of the Roundtable on union density cannot be quantified, but that does not mean

it is negligible.

Many of the firms that decide to use union labor on a particular construction project do so to maintain good relations in their own collective bargaining arrangements. The overall decline in union density in the private sector has made it less likely that firms will unilaterally decide to use union labor when they build new offices and plants. This has happened in part because of simple shift-share factors and in part because the firms that still have unionized workforces are less likely to have company policies that automatically call for union contractors when construction needs arise.

Labor laws and their interpretation. The premise at the time that prehire agreements were legally recognized by Landrum-Griffin was that if employees decided to change their representative or to become open shop, they would follow the same procedure as in other industries, namely to file a petition and have an election.¹³ This introduced an asymmetry into the law with which some employers were never comfortable. They were free to enter into a prehire agreement, but they had to go through an NLRB election to get out of one.

In R.J. Smith Construction Co., 191 NLRB 693 (1971), the Board decided that either party could unilaterally pull out of a prehire agreement unless the union had proven that it represented a majority of a contractor's employees. The timing of this decision reflects two factors: (1) Republicans returned to the White House in 1969 and, with a lag, were able to influence the composition of the NLRB and (2) rising union wage rates and an unprecedented number of strikes in the late 1960s had created more pressure for a shift in bargaining power toward employers. This doctrine was amended in John Deklewa and Sons, Inc., 281 NLRB 184 (1987) to prevent unilateral repudiation during the period when the agreement was in effect. However, upon

¹³In writing this section of the paper, I have drawn heavily from Northrup (1989) and the testimony in U.S. Senate, Committee on Labor and Human Resources, Construction Industry Labor Law Amendments of 1987, Senate Hearing 100-220 (Washington, D.C.: U.S. Government Printing Office, 1987), especially the prepared statements of Arthur F. Rosenfeld, special assistant to the solicitor, U.S. Department of Labor, and Robert A. Georgine, president of the Building and Construction Trades Department, AFL-CIO.

expiration, contractors were not obligated to bargain for a new agreement.¹⁴

The unions received another serious blow in Peter Kiewit and Sons, Inc., 206 NLRB 562 (1973). Kiewit had an agreement with the Operating Engineers for highway construction in Oklahoma for years. In 1972, they brought in a subsidiary called South Prairie Construction Company, which started bidding for the same work in the same state on a nonunion basis. The subsidiary started getting contracts as Kiewit became increasingly reluctant to submit bids. The ruling in 1973 held that Kiewit had not violated the NLRA. The case then went to the Court of Appeals and the Supreme Court, which sent the case back to the NLRB.

The final NLRB decision (231 NLRB 76 (1977)) set up two tests to determine whether the practice of setting up a nonunion subsidiary, now called "double-breasting," was legally permissible. First, when a contractor has union and nonunion subsidiaries, it must be determined whether a "single employer" exists. This is a purely qualitative test that depends on the interrelation of operations, common management, and centralized control of labor relations. Second, there is the question of whether the workers in the subsidiaries have a sufficient "community of interests" to be in the same bargaining unit. In making this decision, the Board is to consider "the bargaining history, the financial integration of operations, the differences in the types of work and skills of employees, the extent of centralization of management and supervision, particularly in regard to labor relations, hiring, discipline, and control of day-to-day operations, and the extent of interchange and contact between groups of employees. (Kiewit 1977)"

Another interpretation of the act that is used in some cases is known as the "alter ego doctrine." Suppose a company transfers its assets and business to a nonunion affiliate. Even though the original company has disappeared in a legal sense, all that essentially has changed is the name of the firm and, of course, its collective bargaining status. It has the same equipment, ownership, management, and customers and sometimes the same employees. Under

¹⁴See Poltz (1990) for a more detailed discussion of Deklewa.

this doctrine, the successor company is the alter ego of the original company and cannot escape its collective bargaining obligations, regardless of whether there is a community of interests for the employees.

At the time of Kiewit, the practice of doublebreasting was relatively rare in the industry. Northrup and Foster (1975) mentioned the appearance of the practice in a number of areas and predicted that it would become widespread. Their gift for prophecy is documented in Northrup's (1984) follow-up book. By 1983, 43 of the 50 largest contractors in the United States were unionized; of these 43, 22 had doublebreasted affiliates.

The Smith, Deklewa, and Kiewit decisions reduced the cost of terminating a collective bargaining relationship. In their aftermath, a new market developed under which contractors could buy legal and strategic advice on how to switch to the open shop.¹⁵ The timing of these decisions coincides exactly with the beginning of the decline in union density. Except for the rather modest revisions to the Smith doctrine under Deklewa, the force of these decisions has not been diluted in subsequent years. They are clearly part of the explanation of declining union density because (1) they gave employers more flexibility in selecting their union status and (2) even employers who had no objections to unions on either economic or ideological grounds found themselves faced with rising competition from the open shop, no small part of which came from double-breasted contractors.

Allen (1993) presents econometric evidence that the impact of the Kiewit decision may be especially crucial. Before this case was finally resolved, the year-to-year variation in percentage union in the industry could be explained very well in terms of a single variable -- the unit cost difference between union and nonunion labor. After the Kiewit decision, union density drops and, more critically, the correlation between relative unit cost and union density vanishes.

Despite these legal shocks, two other factors should not be overlooked.

¹⁵For a good example of such advice, see the appendix by A. Samuel Cook, Esq. in Northrup (1984).

The construction industry has gone through two very depressed periods over the last 15 years and unemployment has been persistently high. In tighter labor markets, contractors who broke prehire agreements or went doublebreasted would have faced damaging strikes. In the 1980s the threat to withhold labor was not a credible one.

The public image of the building trades is another factor that certainly has not helped in their fight against the open-shop. Many baby boomers formed a highly unfavorable image when hardhats disrupted demonstrations against the Vietnam War. The reputation of discrimination against blacks and women remains despite data showing that the underutilization problem is slightly more severe in the open-shop. A few locals have resorted to violence to try to intimidate owners, contractors, and project owners. Finally, in New York City and other areas, the locals remain corrupted by organized crime.¹⁶

The Building Trades have pushed repeatedly for labor law reforms to restore the long-term recognition of prehire agreements and to eliminate doublebreasting. These bills were approved by the U.S. House of Representatives in the 99th and 100th Congress but never made it through the Senate.¹⁷

The 1980s also saw a number of legislative battles over prevailing wage laws. Under Senate Bill 1171, introduced in 1983, the dollar threshold for coverage by Davis-Bacon would have been increased from \$2,000 to \$100,000 and the definition of prevailing wage would have been changed to greatly reduce the odds that it would be set at union scale.¹⁸ This legislation met the same fate as the bills on doublebreasting and prehire agreements.

There has been more prevailing wage action at the state level. Until

¹⁶See Northrup (1984, pp. 351-371) for a discussion of union violence and Ichniowski and Preston (1989) for an examination of union corruption and racketeering in New York City.

¹⁷Hearings were held for H.R. 281 in 1985 and 1987 and for S. 492 in 1987.

¹⁸For a complete discussion of these amendments, see U.S. Congress, Senate Committee on Labor and Human Resources, Davis-Bacon Act Amendments, 1983, Senate hearing 98-337 (Washington, D.C.: U.S. Government Printing Office, 1983).

1979, 42 of the states had their own prevailing wage laws covering public construction that fell outside the jurisdiction of Davis-Bacon. Since 1979, nine states have repealed their prevailing wage law: Alabama, Arizona, Colorado, Florida, Idaho, Kansas, Louisiana, New Hampshire, and Utah."

Construction labor relations got some attention in the 1992 presidential campaign. In October 1992, President Bush issued two executive orders transparently designed to woo support from nonunion contractors. One suspended the Davis-Bacon Act in three states that suffered damage from Hurricane Andrew; the other barred contractors who enter into project agreements with unions from bidding on federal contracts. The lifting of both orders was one of President Clinton's first acts of office.²⁸

VI. COLLECTIVE BARGAINING OUTCOMES

Wage developments in the industry since 1973 are exhibited in Figure 2. The percentage increase in average hourly earnings for the entire industry wavered mostly between 5 and 7 percent through 1982, well below the inflation rate during that period. After 1982, wage growth was much slower, sticking between 1 and 3 percent, again somewhat below inflation. Between 1980 and 1992, average hourly earnings increased from \$9.92 to \$14.05, a 42 percent increase. At the same time the CPI-U increased by 70 percent, leading to a drop in real wages by 17 percent.

Benefits accounted for 29 percent of compensation in construction in 1991, costing \$5.23 per hour. Legally required benefits cost construction employers \$2.36 an hour, much more than the \$1.40 average across all industries. Legally required benefits cost much more in construction mainly

¹⁹For details, see Thieblot (1986) and Northrup (1989).

²⁸"Bush lets contractors in three states hire at below-union rates," Wall Street Journal, Oct. 15, 1992, p. A4 (Western edition); "Clinton cancels Bush orders about unions," Wall Street Journal, February 2, 1993, p. A2 (Eastern edition).

because of the greater cost of workers compensation in such a high risk industry with relatively many small employers.²¹ Between 1980 and 1991, total compensation per worker -- including payroll taxes and benefits -- grew by 58 percent, still below the rate of inflation.²²

Wage adjustments in collective bargaining agreements covering 1000 workers or more in the construction industry were greater than the growth in wages for the industry as a whole through 1981, often much greater. In 1974 bargaining agreements called for increases above 10 percent, whereas average wages grew 6 percent. A similar pattern is observed in 1980-81. Since 1982 it has been a completely different ballgame. Union wage adjustments have tracked very closely with industry-wide wage growth for the last 10 years.²³ These raw data are unadjusted for changes in worker or locational characteristics. Table 4 showed that the union-nonunion wage gap has declined substantially in the 1980s, implying larger increases in wages for open-shop than for union workers.

Important steps have been taken in the 1980s to remove contract provisions that make union labor noncompetitive. Construction Labor Research Council (1992) found that the excess costs associated with constraints in collective bargaining agreements had been reduced by 40 percent from 1980 to 1992. The main improvements have come from reducing wage premiums for overtime and Saturday work and dropping provisions that call for pay when not working.

Relationships between unionized contractors and the building trades seem to have improved in the 1980s and 1990s. As Section VII describes in some detail, there have been a number of cooperative efforts between labor and

²¹The source of this information is U.S. Department of Labor, Bureau of Labor Statistics, Employment Cost Indexes and Levels, 1975-91, BLS Bulletin 2389 (Washington, D.C.: U.S. Government Printing Office, 1991).

²²This information comes from BLS Bulletin 2389 and the October 1992 issue of Monthly Labor Review.

²³The source of this information is various March issues of Compensation and Working Conditions, formerly Current Wage Developments.

management at the national level, including establishment of committees and elimination of burdensome work rules. There is indirect evidence at the local level in the form of a sharp reduction in work stoppages. Historically, the strike rate in construction has been higher than in most other industries. From 1968 through 1975, construction became much more strike-prone -- 1 percent of estimated working time in construction was lost to strikes in contrast to 0.2 percent for all industries. This no doubt led many project owners and builders to seek alternatives in the open shop.

Since that time strikes have become low probability events in the United States and this is especially true in construction. Strike activity has fallen along all major dimensions -- number of strikes, workers involved, days idle, and percentage of working time lost. The percentage of working time lost to strikes fell to 0.3 percent between 1976 and 1981. Changes in the format used by the Labor Department to report strike statistics preclude precise comparisons for the industry before and after 1982. Through 1983, the strike rate remained higher, usually much higher, in construction than in all industries. Since 1984 this no longer has been true -- the strike rate is now lower in construction than for the economy as a whole. Given the severe decline in the aggregate strike rate in the 1980s, this is a remarkable turnaround.

VII. STRATEGIES FOR UNION RECOVERY

To recover market share, unions are following three strategies.⁴ First, their tactics for dealing with the open shop have become much more competitive. Thomas Owens, director of organizing for the building trades, has developed a data base to track all major construction projects nationwide. This lets unions know about work that is to be contracted in their area and

⁴Some of the following discussion is drawn from "Toning up union muscles," ENR, April 26, 1990, pp. 36-40 and Business Roundtable (1993).

provides feedback about progress in competing against the open shop.

Another approach is to charge different wage rates for different types of work. In many parts of the country there has been a longstanding practice of charging lower rates for residential construction. This has been extended to more types of work, including asbestos abatement.

Some unions have used a controversial tactic known as job targeting. Under this approach, the union gives a contractor a rebate covering part or all of the difference between union and open-shop rates so the contractor can land a particular project that otherwise would have gone to the open shop. This approach has proven popular in some locals because all members pay into the fund, thereby spreading the cost of the concession beyond those working at a particular job site.

In economic terms this practice is equivalent to price discrimination. It allows a seller with market power (in this case the labor union) to produce more than it would if a single price were charged to all customers, thereby making both parties better off. Even though price discrimination is a standard practice for businesses, job targeting has been challenged in court by the Associated Builders and Contractors, a mostly nonunion trade group, on the grounds that it is nothing more than a clever reincarnation of the kickback schemes used by corrupt business agents since the turn of the century. Metzgar (1988) points out that the subsidy "must be offered to whichever contractor wins the bid, whether union or nonunion; the union cannot pick and choose a specific contractor." Also those union members who will be affected by the subsidy must approve the practice. In 1989 the Wage and Hour Division of the Department of Labor ruled that job targeting violated the Davis-Bacon Act and cannot be used to obtain federally funded projects. The ABC has filed an antitrust case challenging the legality of job targeting for private sector work.

When Toyota started to build its plant in Georgetown, Kentucky, in 1986 and refused to sign a project agreement, the unions launched a corporate campaign, described in Erlich (1988). The BCTD ordered all locals to refuse

to work on the site, creating labor shortage in some crafts. The Kentucky Building Trades brought cases questioning the legality of the tax concessions that secured the plant. There were also mass demonstrations in a number of cities. After six months, Toyota signed a project agreement, recognizing the costs of fighting the campaign. The same tactics are being followed to organize the BMW plant being built in Spartanburg, South Carolina.²⁵

Some locals have "salted" the workforces of open-shop contractors with union members to either organize the project or disrupt it. A recent practice has been for union members to declare on job applications that they are union organizers, so that if they are not hired they can file unfair labor practice charges with the NLRB.²⁶ The company runs the risk of expensive back-pay assessments and penalties requiring preferential hiring on future projects if it does not have defensible hiring procedures and criteria.

The second strategy is labor-management cooperation. The unions have recognized that they need to work with contractors toward the common goal of building back market share. One step toward this was accomplished when the National Construction Employers Council signed an agreement with the BCTD to set up a "Market Recovery Program for Union Construction." One objective of this program was to develop "the collective bargaining program which ... will assist in recapturing and maintaining the work for union construction."²⁷ This involves developing guidelines at the national level for how local contract provisions should be adjusted to make unions more competitive with the open-shop. These include the standardization of work conditions across different trades (especially those involving work scheduling), elimination of inefficient work practices generated by either unions or management, reduction of down time, and special agreements for small commercial and industrial work.

A second objective of the program is to develop local labor-management

²⁵"Unions start BMW plant drive," *ENR*, April 12, 1993, pp. 6-7.

²⁶See Northrup (forthcoming) for a thorough discussion of this practice.

²⁷Building and Construction Trades Department, AFL-CIO, and National Construction Employers Council (1984), p. 1.

committees. Most of the face-to-face interaction between unions and management traditionally has taken place in confrontational situations, mainly grievances and bargaining. A key purpose of the local committees would be to get the groups together to focus on common goals. The committees would monitor the size and growth of the open-shop in their area, identify inefficient work practices, work to improve the collective bargaining process itself (e.g., contract duration, scope of bargaining units), and engage in public relations activities to win back project owners. The PRIDE program in St. Louis, which was set up in 1972, has been cited repeatedly as being successful in preventing erosion of market share. However, there is no systematic evidence on how these local efforts have worked out.

Another important step toward co-operation took place in 1987, when the National Constructors Association and the BCTD entered into the National Construction Stabilization Agreement. The agreement established a benchmark set of provisions to be used in project agreements. These provisions called for greater flexibility in work scheduling and assignments and a no-strike policy with financial penalties.²

The final strategy for dealing with the open shop challenge is political. With Democrats controlling the White House and Congress, the odds that there will be labor law reforms favorable to the building trades have risen. Increased spending on infrastructure should lead to a greater share of jobs going to union members, thanks to prevailing wage laws. The unions received an extra advantage in securing contracts for public sector work when the Supreme Court ruled in 1993 that state and local authorities were free to enter into union-only project agreements for publicly funded construction.² The case involved the \$6.1 billion cleanup of Boston Harbor.

²"Construction Industry Group, Labor Set Pact to Stem Job Losses to Nonunion Crews," Wall Street Journal, February 18, 1987.

²Building and Construction Trades Council of the Metropolitan District v. Associated Builders and Contractors of Massachusetts/Rhode Island, Inc., et al., 61 U.S.L.W. 4221 (March 8, 1993); "Unions Win Case Before Supreme Court For Control of Public Building Projects," Wall Street Journal, March 9, 1993.

Two counties and three cities in the San Francisco bay area passed prevailing wage laws governing private construction within those localities. Under these laws, prevailing rates are to be set by the California Department of Industrial Relations. These laws have been challenged in state and federal courts. A federal judge struck them down in 1991, ruling that they were "impermissible interference in the collective bargaining process" under the NLRA and also violated the Employee Retirement Income Security Act.²⁰

According to the Business Roundtable (1993), some local unions have been using the regulatory process to gain an edge on the open-shop. For instance, union members can threaten to pack public permit hearings and voice (sometimes less-than-sincere) environmental concerns that are likely to delay a project as a tactic to win a union-only project agreement. They also can solicit inspections of open-shop job sites by OSHA or the state board for craft licensing. Given the very high rate of unionization among the public sector workers who administer the regulatory apparatus, it is easy to understand management's apprehension about these tactics.

Despite these competitive, cooperative, and political efforts, union density is never likely to return to its 1970 level. The firms that have gone open-shop or double-breasted are unlikely to return, even under the most optimistic legislative scenarios. If there is to be a union comeback without radical revisions in the nation's labor laws, the building trades must capitalize on their strongest asset -- training. This is especially critical now, given the lack of success the unions had organizing and training younger workers in the 1980s. Because of technological change, the demand for skilled labor is rising throughout the economy. This would give well-trained union labor a competitive advantage as long as there is no return to the huge wage increases and high strike rates of the late 1960s and 1970s.

²⁰The sources of this information are L. Gordon Crovitz, "Stretching the Davis-Bacon," Barron's, April 15, 1991, p. 14, and "Private-Project Wage Laws Are Set Back," Wall Street Journal, June 26, 1991, p. B5 (Eastern edition).

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Table 1. Percentage distribution of construction industry employees by age, gender race, schooling, and occupation

| | May 1977-78 | 1989 |
|---|----------------|------|
| <u>Age</u> | | |
| Under 20 | 6.7 | 5.2 |
| 20-24 | 16.6 | 13.8 |
| 25-29 | 14.4 | 18.4 |
| 30-34 | 12.0 | 16.7 |
| 35-44 | 19.2 | 22.2 |
| 45-54 | 17.8 | 14.1 |
| 55-64 | 11.1 | 8.4 |
| 65 and over | 2.2 | 1.2 |
| <u>Gender</u> | | |
| Male | 93.0 | 90.4 |
| Female | 7.0 | 9.6 |
| <u>Race</u> | | |
| White | 91.4 | 90.5 |
| Black | 6.6 | 6.5 |
| Other | 1.9 | 2.9 |
| <u>Years of schooling</u> | | |
| Under 12 | 35.4 | 24.4 |
| 12 | 43.5 | 50.5 |
| 13-15 | 14.7 | 17.0 |
| 16 or more | 6.4 | 8.0 |
| <u>Major occupations</u> | | |
| Executive, administrative, and managerial | 11.6 | 8.0 |
| Professional specialty | 1.8 | 2.5 |
| Technicians and related support | 0.7 | 1.1 |
| Sales | 0.4 | 0.9 |
| Administrative support | 6.4 | 6.5 |
| Service and other | 0.8 | 0.8 |
| Precision production, craft, and repair | 52.0 | 55.1 |
| Machine operators, assemblers, and inspectors | 1.7 | 1.7 |
| Transportation and material moving | 9.4 | 9.3 |
| Handlers, equipment cleaners, helpers and laborers | 15.1 | 14.1 |
| <u>Selected crafts</u> | | |
| Brickmasons and stonemasons | 2.5 | 2.2 |
| Carpenters | 16.7 | 13.3 |
| Drywall installers | 1.5 | 1.6 |
| Electricians | 4.1 | 5.5 |
| Painters, construction and maintenance | 5.6 | 4.0 |
| Plumbers and pipefitters | 4.6 | 4.1 |
| Roofers | 1.7 | 1.9 |
| Total, selected crafts | 36.8 | 32.6 |

Source: CPS public use tapes.

Table 2. Membership of unions in the Building and Construction Trades Dept.,
AFL-CIO

| Union | 1979 | Membership (1000s) 1989 | Change |
|---------------------------|------|----------------------------|--------|
| Asbestos workers | 13 | 12 | -1 |
| Boilermakers | 129 | 75 | -54 |
| Bricklayers | 106 | 84 | -22 |
| Carpenters | 619 | 613 | -6 |
| Electrical workers (IBEW) | 825 | 744 | -81 |
| Elevator constructors | 16 | 22 | 6 |
| Engineers, operating | 313 | 330 | 17 |
| Iron workers | 146 | 111 | -35 |
| Laborers | 475 | 406 | -69 |
| Painters | 160 | 128 | -32 |
| Plasterers | 50 | 39 | -11 |
| Plumbers | 228 | 220 | -8 |
| Roofers | 28 | 23 | -5 |
| Sheet metal workers | 120 | 108 | -12 |
| Teamsters | * | 1161 | * |
| Tile, marble, terazzo | 7 | ** | ** |
| Sum, excluding Teamsters | 3235 | 2915 | -320 |

*Teamsters, Chauffeurs, Warehousemen, and Helpers of America affiliated on November 1, 1987.

**Tile, Marble, Terrazzo, Finishers, Shopworkers, and Granite Cutters International Union merged with United Brotherhood of Carpenters and Joiners of America on November 10, 1988.

Source: Gifford (1990)

Table 3. Percentage union members and percentage covered by collective bargaining in construction, 1966-1991

| Year | Percentage union members | Percentage covered by collective bargaining |
|------|--------------------------|---|
| 1966 | 41.4 | |
| 1970 | 41.9 | |
| 1973 | 39.4 | |
| 1974 | 37.2 | |
| 1975 | 37.0 | |
| 1976 | 35.7 | |
| 1977 | 35.7 | |
| 1978 | 31.9 | 37.5 |
| 1979 | 31.6 | 36.9 |
| 1980 | 30.8 | 34.8 |
| 1981 | 32.8 | 38.9 |
| 1983 | 27.7 | 30.1 |
| 1984 | 24.8 | 26.4 |
| 1985 | 23.5 | 25.2 |
| 1986 | 23.0 | 24.6 |
| 1987 | 22.0 | 23.7 |
| 1988 | 21.6 | 23.0 |
| 1989 | 22.0 | 23.3 |
| 1990 | 22.5 | 24.0 |
| 1991 | 22.5 | 24.1 |
| 1992 | 22.0 | 23.5 |

Sources: 1966-1981, Allen (1988); 1983-1992, Hirsch and MacPherson (1993).

Table 4. Estimates of the union-nonunion wage gap, 1967-1992

| Year | Allen | Linneman, Wachter, & Carter | Hirsch |
|------|-------|-----------------------------------|--------|
| 1967 | 37.7 | | |
| 1973 | 52.8 | 48.2 | |
| 1974 | 51.4 | 51.2 | |
| 1975 | 54.8 | 46.9 | |
| 1976 | 54.8 | 48.0 | |
| 1977 | 55.3 | 46.6 | |
| 1978 | 55.0 | 45.9 | |
| 1979 | 41.5 | 34.8 | |
| 1980 | 47.2 | 37.0 | |
| 1981 | 38.8 | 36.2 | |
| 1983 | 44.3 | 41.6 | 39.6 |
| 1984 | | 42.5 | 41.0 |
| 1985 | | 41.6 | 38.8 |
| 1986 | | 40.4 | 38.3 |
| 1987 | | | 34.3 |
| 1988 | | | 31.8 |
| 1989 | | | 33.4 |
| 1990 | | | 28.8 |
| 1991 | | | 30.2 |
| 1992 | | | 29.0 |

Sources: Allen (1988a), Table 5, columns 2 and 3; Linneman, Wachter, and Carter (1990), Table 4, row 2; Barry Hirsch, personal correspondence.

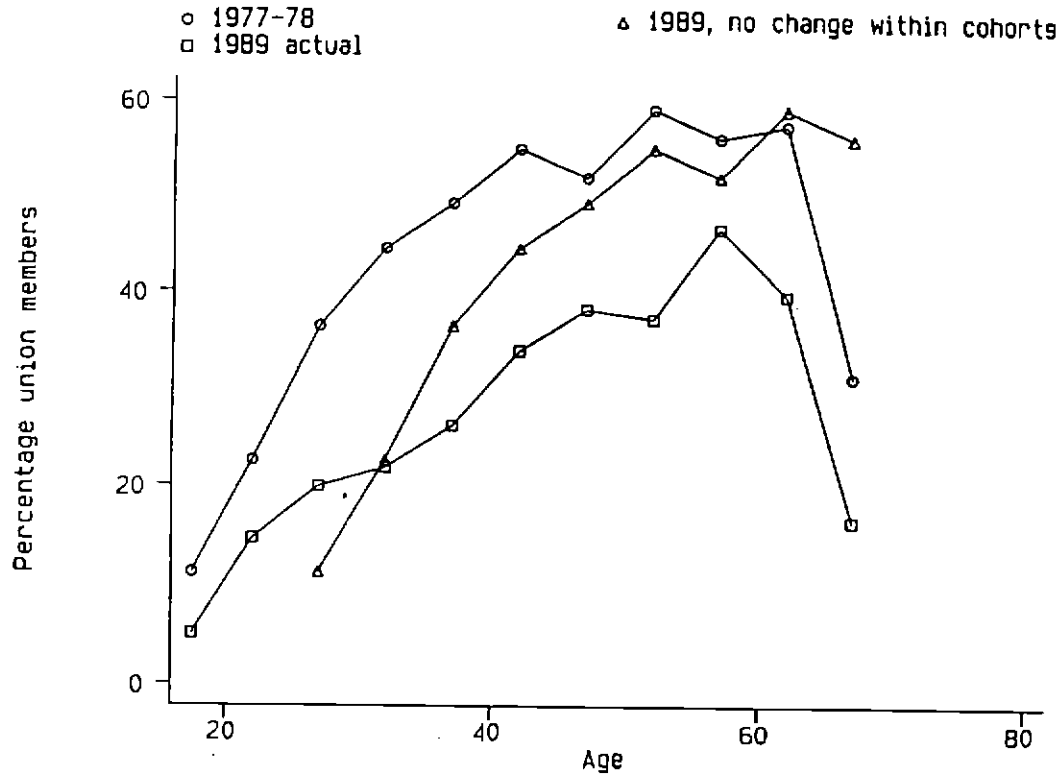


Figure 1. Percentage of construction workers in the private sector who are union members, by age group, May 1977-78 and 1989.

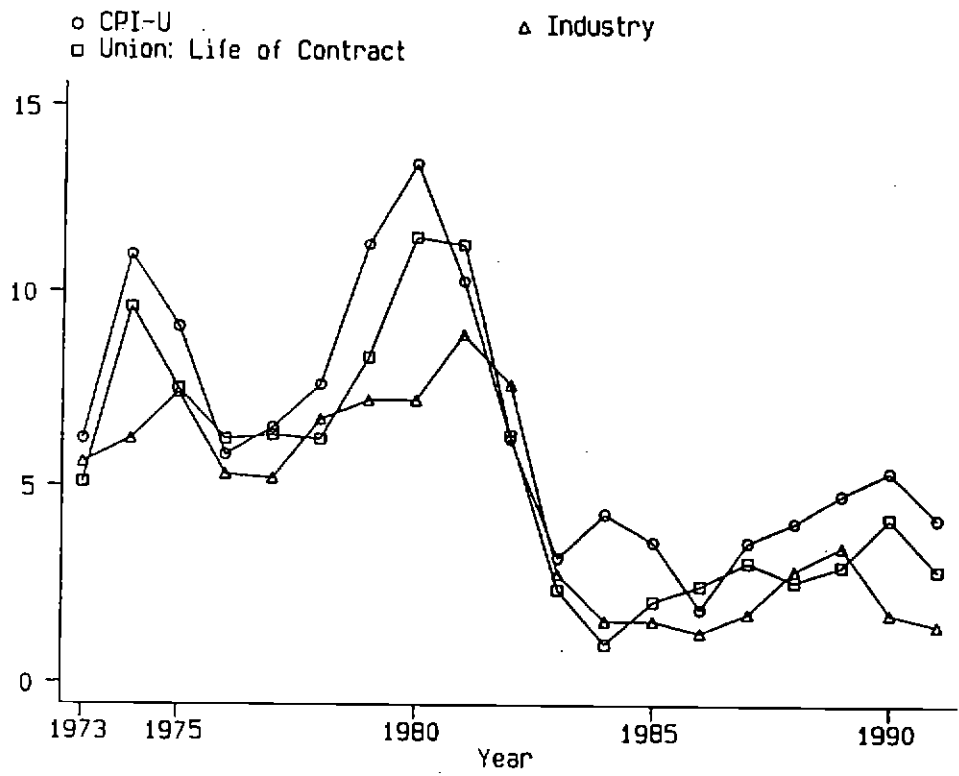


Figure 2. Percentage change in prices and construction wages, 1973-1991.