Trends in the Differences Between Union and Nonunion Workers in Pay Using the Employment Cost Index

BY ALBERT SCHWENK

Over the past two decades, the differences in wage and compensation changes between union and nonunion workers fluctuated, sometimes to the advantage of union workers and sometimes to the advantage of their nonunion counterparts. During 1975-83 and again in the early 1990s, wages for union workers increased more rapidly than those of their nonunion counterparts, as measured by the Employment Cost Index (ECI). From 1983 through March 1991 and for the past 2 years, nonunion wage increases have been larger. By 1996, however, the pay advantage for union workers was slightly smaller than it was in the mid-1970s.

This article examines the differences in the size of the gap between the wages and compensation of union and nonunion workers as measured by the ECI, including the effects of foreign competition, industry deregulation, and the proportion of the work force that is unionized.

Trends in wages and salaries

From 1975, when wage change data from the ECI were first available, until the early 1980s, the union-nonunion wage differential grew steadily as wage increases for union workers almost always exceeded those of their nonunion counterparts. (See chart 1.) Other BLS data suggest that, in manufacturing, at least, the long string of years with relatively large union pay gains began in 1969 and that, by 1983, the union-nonunion differential was at a historic high.[1]

During the early 1980s, pay increases for both union and nonunion workers dropped sharply. The recession of 1981-82 contributed to the decline in pay increases for both union and nonunion workers, leading to wage freezes and pay cuts, and a lower rate of price increases. Although pay gains in the union sector continued to exceed those in the nonunion sector through the middle of 1983, the drop in the rate of increase was sharper for union workers, due in part to the growing importance of lump-sum payments offered in lieu of wage increases in union contracts.

From the end of 1983 until the early 1990s, nonunion wage increases consistently exceeded those for union workers. By the end of 1988, the union-nonunion differential in wage rates was smaller than it had been in 1975.[2] Chart 2 shows the progression of cumulative percent changes in wages for both union and nonunion workers.

During 1983-91, the decline in the difference between union and nonunion wages resulted from the

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Chart 1. Percent change in wages and salaries from the Employment Cost Index, private workers by union status, 1976-96

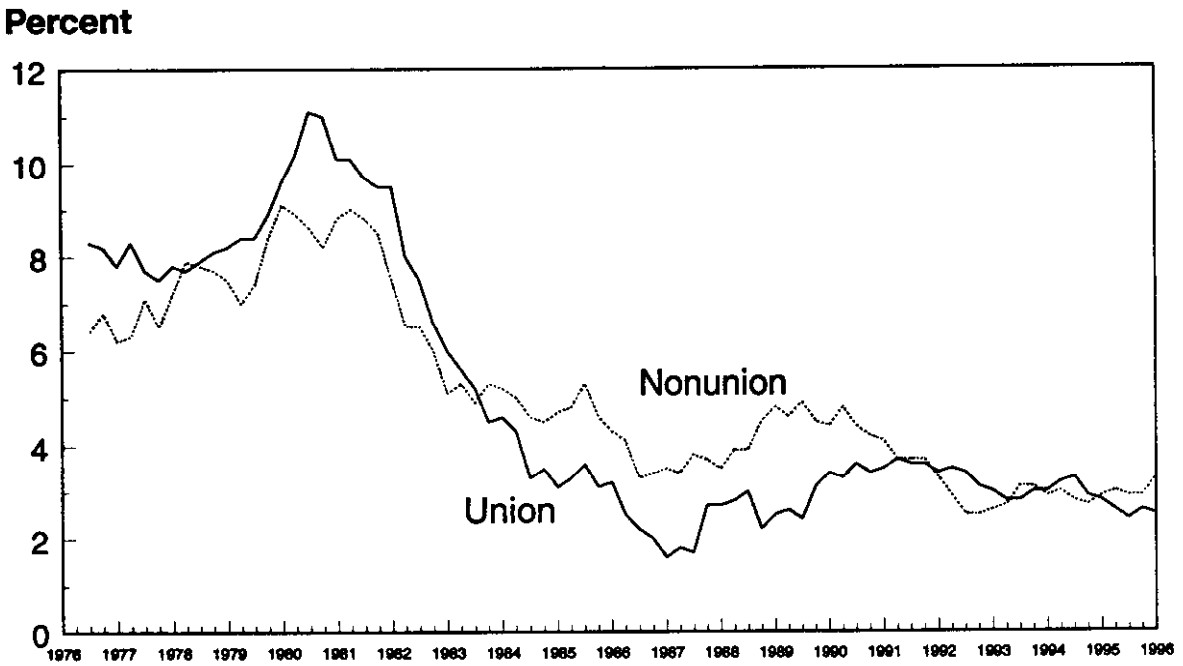
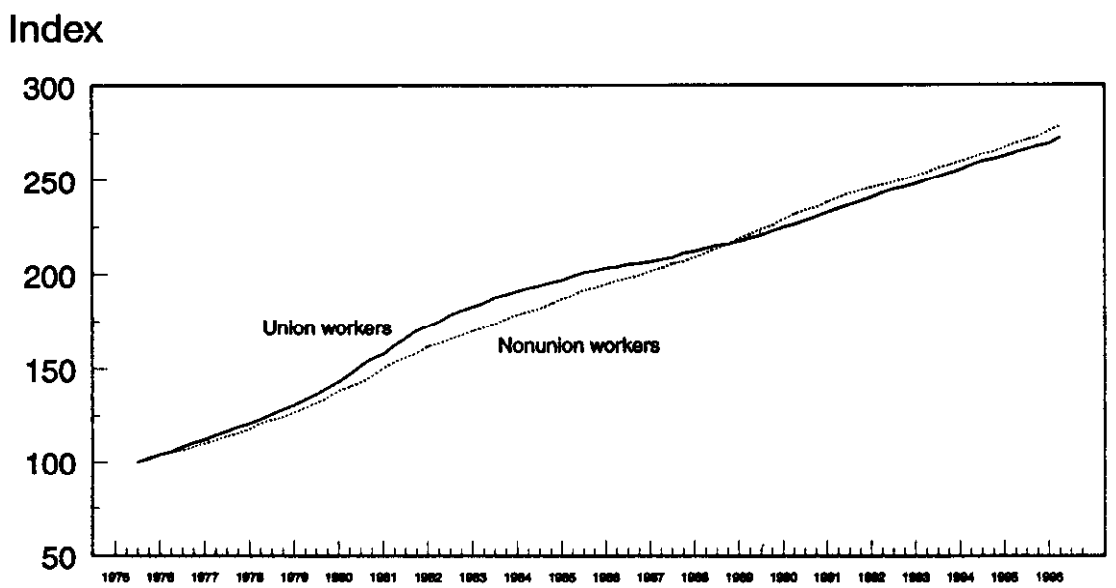


Chart 2. Indexes of wages and salaries, union and nonunion workers, private industry, 1975-96



confluence of several factors.[3] First, highly unionized industries lost some of their protection from competitive forces. Manufacturing industries, such as automobiles and steel, were strongly affected by foreign competition, while transportation industries, such as trucking and airlines, were affected by deregulation.

A second factor in the decline in the union-nonunion differential during 1983-91 is the difference in occupational composition of union and nonunion workers. White-collar workers are more likely to be nonunion workers, and during the 1980s their pay rose more rapidly than that of blue-collar workers, who are more likely to be unionized.

A third factor influencing changes was the size of the differential. The larger the union wage premium, the more likely the differential is to narrow for competitive reasons, and even as late as 1989, the union wage premium was closer to series highs than to series lows.[4]

Another factor was the steady decline in the percent of the work force that is covered by a union contract. That steady decline began around 1979 and continued through 1995, but the sharpest drop was in the early 1980s.[5]

By the early 1990s, the impact of these factors on wages diminished to varying degrees. For example, foreign competition and deregulation continued to influence the size of wage adjustments, but the difference in union and nonunion wages in the affected industries by then better reflected the new competitive environment.

From March 1991-94, union wage increases were, on average, larger than nonunion ones; but from March 1994-1996, nonunion workers had larger increases. However, throughout the 1990s, the sizes of the increases for both the union and nonunion sectors were not as large as in either the 1975-83 or 1983-91 periods. Furthermore, the union or nonunion advantages in wage increases were not as consistent across industries. (See table 1.) In goods-producing industries (including manufacturing), union pay increases continued to lag behind those of nonunion workers during the entire March 1991-96 period, whereas in service-producing industries, union increases were larger in March 1991-94.

Although it is not possible to make direct comparison of wage changes between union and nonunion workers for detailed industry groups, such as construction, because of insufficient sample size, it is possible to make broad comparisons for some industry groups using data on average wage changes from the Bureau's major bargaining settlements program in conjunction with ECI data.[6] (See table 2.) For example, if average wage changes from the major bargaining settlements program were lower than the ECI change for all workers in the industry group, this would suggest that nonunion increases were larger than union increases.

Table 1. Average annual percent changes in the Employment Cost Index of wages and salaries for union and nonunion workers, selected periods, 1975-96

Period and worker group	Union	Nonunion
September 1975-December 1983:		
All private industry	8.0	7.1
Goods-producing	7.9	7.0
Service-producing	8.3	7.2
Manufacturing	8.1	7.1
Nonmanufacturing	8.0	7.2
December 1983-March 1991:		
All private industry	2.9	4.2
Goods-producing	2.9	3.9
Service-producing	2.8	4.4
Manufacturing	3.1	4.0
Nonmanufacturing	2.7	4.3
March 1991-March 1994:		
All private industry	3.1	2.9
Goods-producing	2.8	3.1
Service-producing	3.6	2.8
Manufacturing	3.0	3.3
Nonmanufacturing	3.2	2.8
March 1994-March 1996:		
All private industry	2.7	3.1
Goods-producing	2.5	3.1
Service-producing	2.8	3.1
Manufacturing	2.7	3.2
Nonmanufacturing	2.7	3.1
September 1975-March 1996:		
All private industry	5.0	5.1
Goods-producing	4.9	5.0
Service-producing	5.2	5.2
Manufacturing	5.1	5.1
Nonmanufacturing	4.9	5.1

Table 2. Average annual percent changes in wages and salaries from the Employment Cost Index and "average wage changes," selected periods, 1975-95

Series	Sept. 1975-Dec. 1983	Dec. 1983-Mar. 1991	Mar. 1991-Mar. 1994	Mar. 1994-Dec. 1995	Sept. 1975-Dec. 1995
Total private industry:					
ECI, total	7.4	3.9	3.0	2.8	5.1
ECI, union	8.0	2.9	3.1	2.8	5.0
Average wage change	7.9	3.1	3.1	2.7	5.0
Manufacturing:					
ECI, total	7.5	3.7	3.2	3.0	5.1
ECI, union	8.1	3.1	3.0	2.6	5.1
Average wage change	7.8	3.3	3.1	2.5	5.0
Nonmanufacturing:					
ECI, total	7.4	4.0	2.9	2.8	5.1
ECI, union	8.0	2.7	3.2	2.9	4.9
Average wage change	7.9	3.0	3.1	2.8	5.0
Construction:					
ECI, total	6.6	2.8	2.2	2.6	4.2
Average wage change	7.6	3.0	3.2	3.0	4.9
Transportation and public utilities:					
ECI, total	8.4	2.8	3.4	3.5	5.2
Average wage change	8.3	2.6	3.0	2.7	4.9
Trade:					
ECI, total	6.9	4.0	2.7	3.3	4.9
Average wage change	7.5	3.0	3.1	2.6	4.8
Services:					
ECI, total	7.4	4.9	3.3	2.4	5.5
Average wage change	7.5	4.3	4.0	2.7	5.4

Average wage changes in collective bargaining settlements are not strictly comparable to ECI wage and salary changes for union workers, largely because such changes are based on data for all bargaining agreements covering 1,000 or more workers, whereas ECI union data are based on a sample of all workers whether or not they are covered by a collective bargaining agreement.[7]

Despite differences in the two series, average wage changes have been very similar to ECI union wage changes where comparison is possible—for all private industry workers and for manufacturing and nonmanufacturing. This similarity provides support for using the average wage changes as an indicator of ECI union wage changes in industries for which ECI measures are not available.

Comparisons of overall ECI wage changes with average wage changes by industry sector outside of manufacturing generally support the finding of relatively large union pay gains during 1975-83 and 1991-94 and relatively small gains during 1983-91 and 1994-95.[8] The exceptions are the transportation and public utilities industries during 1975-83 and 1991-94, construction during 1983-91 and 1994-95, and services during 1994-95. For transportation and public utilities in every time period reviewed, union increases (as measured by average wage changes) were lower than nonunion gains; for construction, the opposite relationship was true.

Compensation cost changes

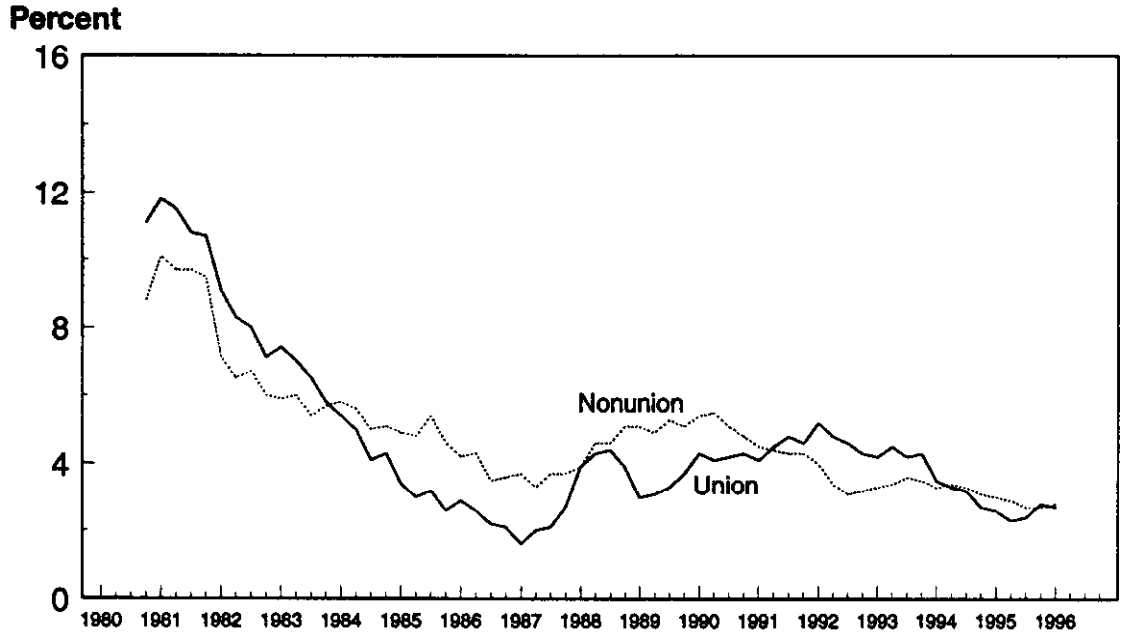
Data on wage and salary changes tell only part of the story. Comprehensive analysis of labor cost trends requires data on total compensation costs, which include benefit costs as well as wages and salaries. Chart 3 presents 12-month percent changes in compensation costs for the period since December 1980, when the data first became available.[9]

In addition to wages and salaries, compensation costs as measured by the ECI include paid leave, employer costs for private insurance and retirement plans, and their costs for legally required programs, supplemental pay, and other benefits. The supplemental pay category includes premium pay for work on weekends and holidays, shift pay, and nonproduction bonuses, including lump-sum payments made in lieu of wage adjustments.

Benefits differ in the degree to which they are related to wages. The cost of some benefits, such as paid vacations or holidays, is directly related to wages because the benefits are nearly always paid at the wage rate. Costs of other benefits, such as Social Security, are related to wages but also can be affected by factors outside the control of parties in the negotiations, such as legislated changes in tax rates or ceilings on taxable earnings.

Still other benefits, such as health insurance and pensions, show cost changes that are almost totally unrelated to wage movements.[10] Consider, for example, health insurance costs. During 1980-84, employer health insurance costs rose much more rapidly than wages and salaries. During 1985-87, insurance cost increases dampened dramatically, due to lower rates of increase in medical costs and cost containment efforts by employers. During 1988-92, they again rose much more

Chart 3. Percent changes in compensation for private industry workers by union status from the Employment Cost Index, 1980-96



rapidly than wages and salaries, but have recently dampened, probably due to cost shifting and cut-backs in plans.[11]

Another benefit for which cost does not rise at the same rate as wages and salaries is lump-sum payments, often paid in lieu of wage increases. Lump sum payments, which are considered a nonproduction bonus in the ECI, have been popular among employers because they do not alter base wages and may more easily be discontinued in future contract negotiations than wage changes.[12]

The relative importance of benefits differs substantially between union and nonunion workers. In March 1995, for example, benefits made up 28.4 percent of total compensation for all private industry workers, 35.7 percent for union workers, and 26.8 percent for nonunion workers. Furthermore, the union advantage, in terms of benefit costs as a percentage of compensation costs, was greatest for those benefits whose costs were least closely related to wages—insurance, supplemental pay, and pension and

Table 3. Average annual percent changes in the Employment Cost Index of compensation costs for union and nonunion workers, selected periods, 1975-96

Period and worker group	Union	Nonunion
June 1981-December 1983:		
All private industry	7.1	6.1
Goods-producing	6.6	5.6
Service-producing	8.0	6.4
Manufacturing	6.5	5.7
Nonmanufacturing	7.7	6.3
December 1983-March 1991:		
All private industry	3.4	4.6
Goods-producing	3.5	4.3
Service-producing	3.4	4.8
Manufacturing	3.7	4.4
Nonmanufacturing	3.2	4.7
March 1991-March 1994:		
All private industry	4.3	3.5
Goods-producing	4.3	3.7
Service-producing	4.2	3.4
Manufacturing	4.6	3.9
Nonmanufacturing	4.0	3.4
March 1994-March 1996:		
All private industry	2.7	2.9
Goods-producing	2.1	2.8
Service-producing	3.3	2.9
Manufacturing	2.1	2.9
Nonmanufacturing	3.1	2.8
June 1981-March 1996:		
All private industry	4.1	4.4
Goods-producing	4.0	4.2
Service-producing	4.3	4.5
Manufacturing	4.1	4.3
Nonmanufacturing	4.1	4.4

retirement costs. This pattern suggests that the union-nonunion relationship will be different for compensation cost changes than for wage and salary changes.

Although compensation cost changes show the same general pattern as wages and salaries—relatively large union gains until 1983 and during March 1991-94 and relatively small gains during 1983-91 and March 1994-96—there are important differences between the two measures. For example, during 1991-94, compensation costs increased faster for union than for nonunion workers in goods-producing and manufacturing industries, contrary to what was found for wages and salaries. Data on average annual percent changes in compensation costs are shown in table 3.

When one compares union and nonunion compensation trends, it is clear that the June 1981-December 1983 and March 1991-94 periods differ from the other periods, in that union compensation gains are larger than nonunion increases. In the other periods, the nonunion gains are larger. These patterns were true for all private industry workers and, with few exceptions, for the major industry categories.

Table 4. Benefit and insurance costs as a percentage of total compensation costs, by union status for selected industry and occupational groups, March 1995.

Series	Total benefit costs		Insurance costs	
	Union	Nonunion	Union	Nonunion
All private industry workers	35.7	26.8	10.0	6.0
Blue-collar	37.5	29.2	10.2	6.6
Manufacturing	39.3	30.6	11.0	7.4
Blue-collar	40.1	32.2	11.3	8.3
Nonmanufacturing	33.7	25.8	9.5	5.7

Table 5. Indexes of employment costs for wages and salaries, benefits, and total compensation costs of union workers relative to nonunion workers, March 1988 and March 1995

(Nonunion=100)

Series	Wage and salaries	Benefit costs	Compensation costs
Private industry workers:			
1988	125.3	186.0	140.8
1995	121.2	183.7	137.8
Blue-collar:			
1988	150.0	224.9	169.9
1995	144.2	209.2	163.2
Manufacturing:			
1988	98.2	131.1	107.9
1995	93.1	136.3	106.3
Blue-collar:			
1988	134.8	176.7	147.3
1995	122.1	172.0	138.3
Nonmanufacturing:			
1988	134.1	195.4	149.2
1995	132.6	194.2	148.4

Compensation cost levels

Despite variations in the magnitude of the differences between union-nonunion wages and compensation, a substantial gap remains, as shown in a review of employer costs for employee compensation.[13] Benefit costs, in particular, make up a larger percentage of compensation costs for union than for nonunion workers in March 1995. (See table 4.)

A major difference between the union and nonunion sectors is in employers' costs for insurance, which accounted for 10.0 percent of compensation costs for union workers, compared with 6.0 percent for their nonunion counterparts. This pattern is found even when the comparison is restricted to more narrow industry and occupational categories. For blue-collar workers in manufacturing, for example, insurance costs made up 11.3 percent of compensation costs for union workers and 8.3 percent for nonunion workers.

Wage, benefit, and compensation costs typically are higher for union than for nonunion workers, but the magnitude of the union premium depends on the time period, the measure of compensation, and the group of workers examined. (See table 5.) For all private industry workers in March 1995, wage and salary costs were about one-fifth higher for union than for nonunion workers, whereas compensation costs were more than one-third higher. And in manufacturing, the union compensation cost advantage was 6 percent for all workers and nearly 40 percent for blue-collar workers. In nearly all cases, the union premium was lower in 1995 than in 1988.

Clearly, when making union-nonunion comparisons, it is important to look at different time periods, total compensation rather than simply wages and salaries, and particular occupational categories rather than all workers combined.

Technical Note

An employment-weighted measure of labor costs, the ECI covers all nonfarm establishments (except private households and the Federal Government) regardless of size, and provides detail by industry, occupation, region, union status, and occupational group within industry categories.[14]

The advantage in using the ECI is that it publishes data on cost levels and changes for total compensation as well as for its components, wages and salaries and benefit costs.[15] A measure including both wages and benefits provides a more complete estimate of the differences in compensation between union and nonunion workers.

In the ECI, the basic unit of observation is an occupation within an establishment.[16] An occupation in an establishment is considered to be unionized if the workers are covered by a union contract.[17] Because both establishments and occupations are selected on a probability-proportionate-to-size basis, the sample reflects the distribution of union and nonunion workers in the economy.

—Endnotes—

[1] See Michael L. Wachter and William H. Carter, "Norm Shifts in Union Wages: Will 1989 Be a Replay of 1969?", *Brookings Papers on Economic Activity*, 1989:2, p. 245. The 1959-76 data on union wage changes were from the Bureau's Wage Developments in Manufacturing, which was discontinued in the late 1970s. The pre-1959 data on union wage changes, and the pre-1976 data on nonunion wage changes, were derived from average hourly earnings from the Bureau's Current Employment Statistics program.

[2] Robert J. Flanagan, "Wage Concessions and Long-term Union Wage Flexibility," *Brookings Papers on Economic Activity*, 1984:1, p. 187, has observed that "[i]t would take another decade of differences in union and nonunion wage growth of the size observed in 1983 to restore the relative union wage in manufacturing to its 1969 level."

[3] Reasons for the relative decline in the rate of union wage and benefit increases in the early 1980s are explored in Linda A. Bell, "Union Concessions in the 1980s," *Quarterly Review*, Federal Reserve Bank of New York, Summer 1989, pp. 44-58.

[4] Wachter and Carter, p. 246.

[5] Data on the proportion of private industry wage and salary workers covered by a union contract are available on a generally consistent basis only since 1983. In that year, 18.8 percent of those workers were covered. The percent dropped to 14.6 percent in 1987, 13.1 percent in 1991, and 11.4 percent in 1995. Data on union membership (which also includes government workers) as a percentage of wage and salary employment shows a drop of about 16 percent (from 24.1 percent to 20 percent) between 1979 and 1983. (Data on the proportion of workers covered by union contracts are from the Current Population Survey.)

[6] Average wage changes (formerly called effective wage adjustments) data were obtained from all union contracts covering 1,000 workers or more. They measured all adjustments in the reference year, regardless of the settlement date. The series was discontinued after December 1995 for budget reasons.

[7] The two series differ not only in the group of workers covered but also in the precision of the estimates. Because ECI data are based on a sample, wage (and compensation) change estimates from the survey have sampling errors associated with them; because they are based on data for the universe, "average wage changes" do not have sampling error.

[8] For this analysis, the most recent period ends in December 1995, because "average wage changes" are not available after that point.

[9] Data on 12-month changes in compensation costs by union status for the major industry categories are available only since June 1982.

[10] See Bradley R. Braden, "Increases in Employer Costs for Employee Benefits Dampen Dramatically," *Monthly Labor Review*, July 1988, pp. 3-7.

[11] It is not possible to determine from the ECI why the rate of increase in health insurance costs dampened.

[12] See Bell, "Union Concessions in the 1980s," p. 49.

[13] ECI data on compensation costs by union status are available once a year and only since 1988. Note that union and nonunion cost levels reflect a variety of influences, including coverage by a collective bargaining agreement and variation in distribution of union and nonunion workers among occupations and industries.

[14] Although the ECI is designed to be a fixed-weight Laspeyres index, indexes for series related to union status are more like Laspeyres chain indexes. See G. Donald Wood, "Estimation Procedures for the Employment Cost Index," *Monthly Labor Review*, May 1982, pp. 40-42. For more information about the ECI, see *Employment Cost Indexes and Levels, 1975-95*, Bulletin 2466, Bureau of Labor Statistics, October 1995.

[15] See Felicia Nathan, "Analyzing Employers' Costs for Wages, Salaries, and Benefits," *Monthly Labor Review*, October 1987, pp. 3-11. Separate data on cost levels for union and nonunion workers were not available until 1988.

[16] An establishment generally is a single physical location where business is conducted or where services or industrial operations are performed.

[17] If some workers in an occupation in the establishment are covered by a union contract and others are not, the two groups of workers are considered to be in different occupations, and one occupation is selected for the survey on a probability-proportionate-to-size basis.