

Union COLA's on the Decline

By Stuart E. Weiner

Rising prices reduce the purchasing power of a given wage or salary. To protect against such losses, workers and firms often incorporate cost-of-living-allowance (COLA) clauses in their labor agreements. COLA's provide automatic wage adjustments whenever prices rise, that is, COLA's index wages to prices. Not surprisingly, the prevalence of COLA's rose during the 1970s as inflation accelerated. But since peaking in the late 1970s, COLA prevalence in the union sector has been declining, both in the number of workers covered and in the proportion of workers covered. Last year saw a particularly sharp decline in the prevalence of COLA's. And some industries have been more affected than others.

This article examines the decline in union COLA's and assesses its possible effects on the U.S. economy. The article argues that, though in theory a reduction in COLA's could have a large impact on an economy, in this case the impact is

likely to be small given the small and dwindling size of the union sector in the United States. The decline in union COLA's could have a significant impact at the industry and firm level, however, allowing businesses to meet head-on cost pressures associated with heightened domestic and foreign competition.

The first section of the article provides an overview of wage indexation in the United States. The second section documents the recent decline in union COLA's. The third section examines its possible causes. The fourth section explores the possible consequences of the decline.

An overview of COLA's

COLA's protect workers from unexpected price changes. Depending on the exact form of the COLA, the protection may be complete or incomplete, that is, a 1 percent increase in prices may lead to a 1 percent increase in wages or something less than 1 percent. Even in the latter case, however, COLA's remove some of the uncertainty facing a worker about his or her real (after inflation) earnings.

Stuart E. Weiner is a senior economist with the Federal Reserve Bank of Kansas City. David Zen, a research associate at the bank, assisted in the preparation of this article.

COLA's have the opposite effect on employers. Precisely because wage payments can vary according to what happens to prices, firms with COLA's in their labor agreements face added uncertainty over their labor costs. This uncertainty increases as the COLA protection becomes more complete. One possible advantage of COLA's to firms is that COLA's might entice workers to enter longer-term agreements than they would otherwise, reducing, in the case of union workers, the opportunity and perhaps the incentive to strike.

Coverage

COLA's have long been common in the union sector. As early as 1920, COLA's appeared in the printing industry. But COLA's have never been common in the nonunion sector.¹ Consequently, for the economy as a whole, COLA's are relatively rare. Estimates suggest that only about 10 percent of the total U.S. work force is covered by a COLA.

Even within the union sector, COLA coverage has varied from year to year. Table 1 shows the prevalence of COLA's among union workers in major contracts (those covering 1,000 workers or more) in private industry since 1957. As indicated, the number of workers covered by a COLA has ranged from under 2 million to as high as 6 million, and the proportion of workers covered has ranged from 22 percent to over 60 percent. At the beginning of this year, 3.5 million workers had COLA coverage, or 50 percent.²

¹ COLA's are rare among nonunion workers for two primary reasons. First, unlike union workers, nonunion workers typically have annual wage adjustments and thus face less real earnings uncertainty than union workers in multiyear contracts. Second, nonunion workers are without a strike threat, removing much of the incentive for firms to seek longer term agreements by offering COLA protection in those agreements. For further discussion of this point, as well as a survey of COLA's through U.S. history, see Wallace E. Hendricks and Lawrence M. Kahn, *Wage Indexation in the United States—Cola or Uncola?*, Ballinger Publishing Company, Cambridge, Mass., 1985, pp. 7, 13-76.

COLA's are not distributed uniformly across industries. Some industries are heavily indexed. Others are not. Table 2 presents COLA coverage among major contract workers by broad industry group for 1986. As indicated, COLA's are somewhat more common in goods-producing industries than in service-producing industries and much more common in manufacturing industries than in nonmanufacturing industries. And, postal workers aside, COLA's are virtually nonexistent among government workers. The near-absence of COLA's among government workers lowers coverage among all major contract workers—private plus government—to under 40 percent.³

This unevenness in COLA coverage is just as striking at narrower industry levels. Among manufacturing industries, for example, the tobacco, primary metals, transportation equipment, and stone, clay, glass, and concrete products industries all had 90 percent or more of their union work force covered by COLA's at the beginning of this year, while the lumber, paper, leather, and petroleum refining industries had less than 10 per-

² Coverage data for the years prior to 1957 are generally unavailable. Note that these data refer to major contract private workers only; data for nonmajor contract private workers (i.e., contracts covering less than 1,000 workers) and government workers are much more limited. Regarding nonmajor contract private workers, a comprehensive data base created by Hendricks and Kahn for the years 1966 to 1981 indicates that COLA coverage among these workers has roughly tracked that of major workers, albeit at somewhat lower levels (page 80). Regarding government workers, data for major contract state and local workers have been published for the past two years, with coverage at the beginning of this year at 1.8 percent. Data for nonmajor contract state and local workers and major and nonmajor contract federal workers have generally not been published. It is known, however, that at present all postal workers (655,000 major contract, 4,000 nonmajor contract) are covered by COLA's, while all nonpostal federal workers (major and nonmajor contract breakdown not available) are without COLA's.

³ As explained in the note to Table 2, this figure is derived from Bureau of Labor Statistics (BLS) data that exclude 655,000 major contract postal workers, all of whom have COLA coverage, and an unspecified number of major contract nonpostal federal workers, none of whom have COLA coverage. See also note 2.

TABLE 1

Prevalence of COLA's in private industry, major union contracts, 1957-86
(millions of workers)

<u>Year</u>	<u>Number Under Contract*</u>	<u>Number Covered by COLA</u>	<u>Percent Covered by COLA</u>	<u>Inflation Rate†</u>
	(1)	(2)	(3)	(4)
1957	7.8	3.5	45	3.0%
1958	7.8	4.0	51	1.8
1959	8.0	4.0	50	1.5
1960	8.0	4.0	50	1.5
1961	8.1	2.7	33	0.7
1962	8.1	2.5	31	1.2
1963	8.0	1.9	24	1.6
1964	7.8	2.0	26	1.2
1965	7.8	2.0	26	1.9
1966	7.9	2.0	25	3.4
1967	10.0	2.2	22	3.0
1968	10.6	2.5	24	4.7
1969	10.6	2.7	25	6.1
1970	10.8	2.8	26	5.5
1971	10.8	3.0	28	3.4
1972	10.6	4.3	41	3.4
1973	10.4	4.1	39	8.8
1974	10.2	4.0	39	12.2
1975	10.3	5.3	51	7.0
1976	10.1	6.0	59	4.8
1977	9.8	6.0	61	6.8
1978	9.6	5.8	60	9.0
1979	9.5	5.6	59	13.3
1980	9.3	5.4	58	12.4
1981	9.1	5.3	58	8.9
1982	9.0	5.1	57	3.9
1983	8.5	4.9	58	3.8
1984	7.9	4.5	57	4.0
1985	7.5	4.2	57	3.8
1986	7.0	3.5	50	—

*Contracts covering 1,000 workers or more. Data relate to information available late the preceding year. The construction, services, finance, and real estate industries were not included until 1967.

†As measured by CPI, December to December. Data beginning 1978 are for all urban consumers. Earlier data are for urban wage earners and clerical workers.

Sources: George Ruben, "Major Collective Bargaining Developments—A Quarter-Century Review," *Current Wage Developments*, U.S. Department of Labor, Bureau of Labor Statistics, February 1974, Table 1, p. 45; David J. Schlein, Phyllis I. Brown, and Fehmida Sleemi, "Collective Bargaining During 1986: Pressures to Curb Costs Remain," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, January 1986, Table 8, p. 32; *Economic Report of the President*, U.S. Government Printing Office, February 1986, Table B-58, p. 319; *Economic Report of the President*, U.S. Government Printing Office, February 1983, Table B-55, p. 225.

TABLE 2

Prevalence of COLA's by broad industry group, major union contracts, 1986
(thousand of workers)

<u>Industry Group</u>	<u>Number Under Contract*</u>	<u>Number Covered by COLA</u>	<u>Percent Covered by COLA</u>
Private nonagricultural	6,981	3,458	49.5
Goods-producing	3,926	2,108	53.7
Mining	130	22	16.9
Construction	1,064	116	10.9
Manufacturing	2,732	1,970	72.1
Service-producing	3,058	1,378	45.1
Transportation and public utilities	1,880	1,198	63.7
Wholesale and retail trade	648	78	12.0
Finance, insurance, and real estate	119	55	46.2
Other services	411	47	11.4
State and local government	2,149	39	1.8
Total	9,130	3,524	38.6
Addenda:			
Manufacturing	2,732	1,970	72.1
Nonagricultural nonmanufacturing	6,398	1,554	24.3
Private nonagricultural nonmanufacturing	4,249	1,515	35.7

*Contracts covering 1,000 workers or more. Data relate to information available in late 1985. Excluded are 655,000 major contract postal workers, all of whom have COLA coverage, and an unspecified number of major contract nonpostal federal workers, none of whom have COLA coverage. Due to rounding, sums of individual items may not equal totals.

Source: Derived from David J. Schlein, Phyllis I. Brown, and Fehmida Sleemi, "Collective Bargaining During 1986: Pressures to Curb Costs Remain," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, January 1986, Table 7, p. 31.

cent coverage. Among nonmanufacturing industries, the anthracite mining and railroad transportation industries had more than 90 percent coverage, while the bituminous coal industry and several wholesale and retail trade industries had less than 10 percent coverage.⁴ Not only does coverage vary among industries at any one time but also within industries over time. Several industries have seen sharp declines in recent years, the subject of the next section.

While 50 percent of all major contract private workers were covered by a COLA last year, COLA's appeared in only 30 percent of the contracts. The explanation for this is that large groups

⁴ Prevalence of COLA's among major contract private workers by two-digit SIC industry code has been published by the BLS since 1974. A complete table is available from the author upon request.

of workers are covered under national contracts with large companies.⁵ A related point is the concentration of COLA's in certain unions. In 1982, for example, five unions accounted for 57 percent of the major contract workers with COLA's. These were the United Autoworkers, the United Steelworkers, the Communication Workers, the Teamsters, and the Machinists.

Features

COLA's vary considerably from contract to contract. Formulas differ, limitations differ, the number of reviews differ, and price indexes differ, with the result that a typical COLA does not exist.

With regard to the adjustment formula, the most common type last year granted a 1 cent hourly wage increase for each 0.3 point increase in the Consumer Price Index (CPI). Other common formulas granted a 1 cent wage increase for each 0.26 point increase in the CPI or a 1 cent increase for each 0.175 percent increase in the CPI. Some formulas also permitted wages to be adjusted downward in the event the price level fell, an occurrence not uncommon in the past year or so.⁶

Many COLA's imposed limitations on these formulas. "Caps," which prevent COLA increases from exceeding a certain maximum level, are common. So are "triggers" and "corridors," the former specifying minimum CPI changes necessary before COLA's are activated, the latter specifying limited CPI ranges in which COLA's are allowed to operate.

Frequency of review and the reference price index also vary from contract to contract. At the

beginning of this year, roughly 40 percent of workers had COLA's calling for annual reviews, another 40 percent called for quarterly reviews, and the remainder called principally for semi-annual reviews. Regarding the price index used, over 90 percent of workers had COLA's tied to the national CPI. Most of the remainder had COLA's tied to the CPI for an individual city.

This variation in the design of individual COLA's generates a wide divergence in inflation protection. Some COLA's offer full protection against price increases, while others offer virtually none at all. The majority fall somewhere in between.

At the aggregate level, since 1968, the Bureau of Labor Statistics has published data on average COLA wage adjustments for all major contract private workers receiving such adjustments. By comparing these adjustments with the rise in prices, it is possible to calculate the overall inflation protection offered by COLA's to these workers. This protection, in percentage terms, has varied from a low of 28 percent in 1969 to a high of 89 percent in 1971. At no time has it equaled 100 percent. Thus, on an average aggregate basis, indexation has only been partial over the last 18 years.⁷

Although COLA protection has not been complete, real earnings of union workers have not plummeted. Wages can increase not only through the operation of COLA's but also through negotiated guaranteed adjustments. Such adjustments, in combination with COLA adjustments, have allowed workers to roughly keep pace with inflation since 1968. Workers have lost purchasing power in some years (for example, in 1973-74 and 1979-80 following large increases in oil prices)

⁵ For example, the Autoworkers' contract with GM covers 350,000 workers and the Communications Workers contract with the "old" AT&T covers 500,000 workers.

⁶ Such formulas typically permit wages to be lowered only to the original base, however, effectively prohibiting first-year adjustments. Lawrence Kahn and David Schlein provided useful discussion on this point.

⁷ Average COLA wage adjustment data are drawn from H.M. Douty, *Cost-of-Living Escalator Clauses and Inflation*, Council on Wage and Price Stability, Washington, D.C., 1975 and various issues of *Current Wage Developments*, BLS. Inflation data refer to fourth-quarter to fourth-quarter changes in the CPI.

but have gained purchasing power in other years. So incomplete COLA protection need not imply declining real earnings.⁸

The decline in union COLA's

COLA coverage among union workers in private industry major contracts has declined since 1977. As indicated in Table 1, the decline has come in terms of both the number of workers covered and the proportion of workers covered. In 1977, 6.0 million workers were covered by a COLA, but by 1986 only 3.5 million were covered. Similarly, in 1977, 61 percent of workers had COLA coverage, but by 1986 only 50 percent had coverage.

Table 1 also reveals that much of the decline in COLA coverage came last year. Seven hundred thousand major contract private workers lost their COLA's in 1985, reducing overall COLA prevalence by a full seven percentage points. COLA coverage is now at its lowest level since the early 1970s.

This decline in union COLA coverage has two fundamental sources: a decline in the number of union employees and an outright elimination of COLA's in contracts covering those employees. As indicated in column (1) of Table 1, the number of union workers in private industry major contracts peaked in 1970, at 10.8 million, and has been declining ever since. The figure is down to 7.0 million this year, representing a decline of 3.8 million workers, or a 35 percent decline in 15 years. The second fundamental source, the elimination of actual COLA's, is reflected in the percentage declines in column (3).

⁸ The average wage data underlying these calculations are for all major contract private workers, not just those receiving COLA adjustments. Data are drawn from H.M. Douthy, *Cost-of-Living...*, and various issues of *Current Wage Developments*. Inflation data refer to fourth-quarter to fourth-quarter changes in the CPI.

Table 3 documents the decline in COLA coverage by industry, showing the change in the number of major contract workers covered from 1977 to 1986 and from 1985 to 1986. Note that available data permit the latter comparison to be extended to state and local government workers. The total change for a given industry is broken down into its two fundamental components: the change due to shifting employment patterns and the change due to COLA eliminations or originations. The first change is the change one would expect given the overall increase or decrease in union employment in that industry. The second change is the actual change over and above the expected change, that is, the "pure" change reflecting COLA eliminations and originations.⁹ For example, of the 118,000 food and kindred product workers who lost their COLA's between 1977 and 1986 (see first row), 76,000 represented declines due to falling union employment in that industry while 42,000 represented declines due to COLA eliminations.

Over the 1977 to 1986 period, 34 industries lost some COLA coverage. Two saw no change and 5 registered gains. On net, 2.5 million workers lost their COLA's. Sixty-nine percent of this decline was attributable to employment shifts while 31 percent was attributable to COLA eliminations.

Thirteen industries lost 50,000 or more COLA workers over the nine year period. Ranked in descending order, they were as follows: (1) motor freight, (2) food stores, (3) transportation equipment, (4) primary metals, (5) nonelectrical machinery, (6) electrical machinery, (7) railroad

⁹ The change attributable to shifting employment patterns is calculated by applying the base year's (1977 or 1985) coverage proportion to the current year's (1986) employment level and then subtracting the resulting "expected" coverage level from the base year's coverage level. The pure change attributable to COLA eliminations and/or originations, in turn, is calculated by subtracting this employment-based change from the actual change.

TABLE 3

Change in COLA coverage by industry, major union contracts, 1977-86 and 1985-86*
(thousands of workers)

Manufacturing Industry	1977-86			1985-86		
	Total	Due to Shifting Employment Patterns	Due to COLA Eliminations/Originations	Total	Due to Shifting Employment Patterns	Due to COLA Eliminations/Originations
	(1)	(2)	(3)	(4)	(5)	(6)
Food and kindred products	-118	-76	-42	-71	-23	-48
Tobacco manufacturing	-9	-10	1	-1	-1	0
Textile mill products	-5	-4	-1	0	0	0
Apparel and other finished products	8	-75	83	-81	8	-89
Lumber and wood products	2	0	2	0	0	0
Furniture and fixtures	-8	-6	-2	-1	0	-1
Paper and allied products	0	0	0	0	0	0
Printing and publishing	-25	-18	-7	-7	-5	-2
Chemicals	-26	-18	-8	-1	-1	0
Petroleum refining	0	0	0	0	0	0
Rubber and plastics	-52	-50	-2	-20	-17	-3
Leather and leather products	-8	-5	-3	0	0	0
Stone, clay, glass, and concrete products	-16	-24	8	-2	-2	0
Primary metals	-236	-219	-17	-22	3	-25
Fabricated metal products	-20	-26	6	-1	-5	4
Nonelectrical machinery	-166	-158	-8	-17	-10	-7
Electrical machinery	-153	-151	-2	-59	-51	-8
Transportation equipment	-276	-258	-18	-59	-58	-1
Instruments and related products	-12	-8	-4	-1	-1	0
Miscellaneous manufacturing industries	-2	-2	0	-1	0	-1

Sources: Author's calculations (see footnote 9) derived from Douglas LeRoy, "Schedule Wage Increases and Escalator Provisions in 1977," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, January 1977, Table 4, p. 24; Joan D. Borum and David J. Schlein, "Bargaining Activity Light in Private Industry in 1985," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, January 1985, Table 7, p. 24; and David J. Schlein, Phyllis I. Brown, and Fehmida Sleemi, "Collective Bargaining During 1986: Pressures to Curb Costs Remain," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, January 1986, Table 7, p. 31.

Nonmanufacturing Industry	1977-86			1985-86		
	Total (1)	Due to Shifting Employment Patterns (2)	Due to COLA Eliminations/ Originations (3)	Total (4)	Due to Shifting Employment Patterns (5)	Due to to COLA Eliminations/ Originations (6)
Metal mining	-28	-25	-3	0	-1	1
Anthracite mining	-1	-1	0	0	0	0
Bituminous coal and lignite mining	-120	-15	-105	0	0	0
Building construction	10	-12	22	-1	-1	0
Nonbuilding construction	-23	-25	2	-9	-2	-7
Special construction	-45	-25	-20	-2	-1	-1
Railroad transportation	-123	-94	-29	-45	-16	-29
Local and urban transit	-99	-92	-7	-4	1	-5
Motor freight	-411	-251	-160	-315	-149	-166
Water transportation	-4	-6	2	2	-3	5
Transportation by air	-85	6	-91	-3	0	-3
Communications	-76	-44	-32	-1	-4	3
Electric, gas, and sanitation	8	1	7	-3	-1	-2
Wholesale trade—durables	—	—	—	0	0	0
Wholesale trade— nondurables	—	—	—	-1	-1	0
Retail trade—general	-9	-8	-1	2	0	2
Food stores	-363	-59	-304	1	2	-1
Automotive dealers and service stations	-6	-4	-2	0	0	0
Apparel and accessory stores	-2	-1	-1	0	0	0
Eating and drinking places	-3	-2	-1	0	0	0
Miscellaneous retail stores	-2	-2	0	0	-1	1
Finance, insurance, real estate	1	25	-24	9	10	-1
Services	-13	11	-24	1	1	0
State and Local Government	—	—	—	-8	2	-10
TOTAL	-2,516	-1,731	-785	-721	-327	-394

* Contracts covering 1,000 workers or more.

Note: Dashes represent unavailable data.

transportation, (8) bituminous coal, (9) food and kindred products, (10) local and urban transport, (11) transportation by air, (12) communications, and (13) rubber and plastics. For five of these industries (transportation equipment, primary metals, nonelectrical machinery, electrical machinery, local and urban transport) the decline was overwhelmingly employment-based, for another five (motor freight, railroad transportation, food and kindred products, communications, rubber and plastics) it was primarily employment-based, for two (food stores, bituminous coal) it was primarily a pure COLA loss, and for one (transportation by air) it was overwhelmingly a pure loss.

As already noted, a significant portion of the 1977-86 decline in COLA coverage occurred last year. Overall, 26 industries lost some COLA coverage in 1985 while 13 saw no change and five registered gains. Of the 20 manufacturing industries, 15 lost some coverage, five saw no change, and none gained. The total net loss in COLA coverage last year was 721,000 workers, with 55 percent of that attributable to pure COLA eliminations. So while a majority of the COLA decline over the entire 1977-86 period has been employment-based, a majority last year was due to pure COLA givebacks. The large seven percentage point decline in column (3) of Table 1 tells the same story.

The industries hardest hit last year, again ranked in descending order, were as follows: (1) motor freight, (2) apparel, (3) food and kindred products, (4) electrical machinery equipment and transportation equipment (tie), (5) railroad transportation, (6) primary metals, and (7) rubber and plastics. The decline in the transportation equipment industry was overwhelmingly employment-based, the declines in the electrical machinery and rubber and plastics industries were primarily employment-based, the declines in the motor freight, railroad transportation, and food and kindred products industries were primarily

pure COLA losses, and the declines in the primary metals and apparel industries were overwhelmingly pure COLA losses.

Possible explanations for the decline

Why the decline in COLA coverage? Or more to the point, given the two fundamental sources, why the decline in the number of union employees and why the decline in COLA's among those employees?

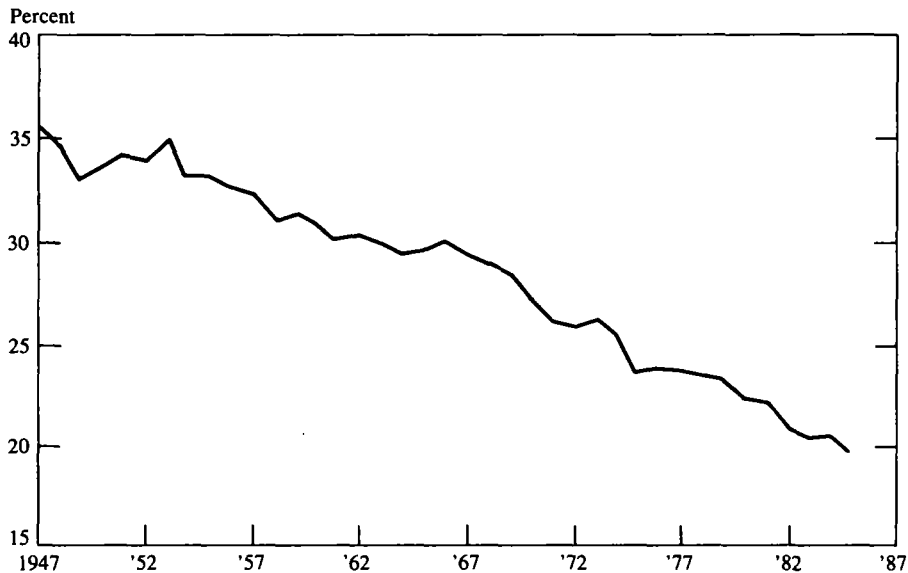
The answer to the first part of the question is at least partially clear. Union employment has declined in part because employment has shifted out of manufacturing industries into nonmanufacturing industries. As shown in Chart 1, manufacturing's share of total employment in the United States has declined steadily over the postwar period, from roughly 34 percent in the late 1940s and early 1950s to under 20 percent in 1985. Since union presence is greater in manufacturing than in nonmanufacturing—a point made in Table 4—a reduction in manufacturing's importance would be expected to depress union employment growth. Such sectoral shifts have apparently played a major role in the COLA declines in the transportation equipment, primary metals, nonelectrical machinery, electrical machinery, and rubber and plastics industries, manufacturing industries that, as noted above, have had predominantly employment-based COLA losses.¹⁰

But the move out of manufacturing is not the entire explanation for unions' dwindling size. Even within manufacturing, unions have lost ground. As shown in Table 4, unions' share of employment in manufacturing has declined three percentage points over the past two years alone. And vir-

¹⁰ This shift out of manufacturing has by no means been completely exogenous—several of these industries have suffered employment losses in part because of cost pressures associated with increased foreign competition. A question that arises is whether more pure COLA losses in some of these industries might not have resulted in fewer employment-based losses.

CHART 1

Manufacturing employment as a percentage of total nonagricultural employment



Source: Nonagricultural payroll employment, establishment survey, U.S. Department of Labor, Bureau of Labor Statistics.

tually every other industry group has seen declines as well. Union membership as a percentage of total nonagricultural employment has fallen below 20 percent, its lowest level in 50 years (see Chart 2).

The second part of the question, why the outright elimination of COLA's in union contracts, has many possible answers. These include the disinflation of the 1980s, the recessions of the 1980s, and heightened domestic and foreign competition.

The sharp inflation decline of the past few years is undoubtedly one contributing factor to the elimination of COLA's. As documented in Table 1, inflation accelerated through the 1970s, reaching over 13 percent at decade's close. Since then, however, inflation has declined dramatically, dropping to under 4 percent. And just as important as the low level itself is the fact that this level has been sustained for four years now. Theoretical

models suggest that it is not the inflation level per se that influences the desire to have COLA protection but rather uncertainty over that inflation level. The more predictable inflation is, the more comfortable workers are in abandoning their COLA's, confident that they can protect their real earnings with negotiated first year and deferred wage increases. Lower, more stable inflation has led to COLA eliminations before, for example, after the Korean War, and probably has been a factor this time as well.¹¹

¹¹ Inflation's role in promoting COLA's is modeled by Jo Anna Gray in her influential article, "On Indexation and Contract Length," *Journal of Political Economy*, February 1978, pp. 1-18. Empirical studies examining the issue include Hendricks and Kahn, *Wage Indexation...*, pp. 159-170, and Stephen G. Cecchetti, "Indexation and Incomes Policy: A Study of Wage Adjustment in Unionized Manufacturing," *Journal of Labor Economics*, forthcoming.

TABLE 4
Union presence by broad industry group, 1983-85
 (percent of employees belonging to unions)*

<u>Industry Group</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Private nonagricultural	16.8	15.5	14.6
Goods-producing	27.5	25.3	24.1
Mining	20.7	17.7	17.3
Construction	27.5	23.5	22.3
Manufacturing	27.8	26.0	24.8
Service-producing	11.3	10.5	9.8
Transportation and public utilities	42.4	38.7	37.0
Wholesale and retail trade	8.7	7.9	7.2
Finance, insurance, and real estate	2.9	2.7	2.9
Other services	7.7	7.3	6.6
Agricultural	3.4	2.6	2.1
Government	36.7	35.8	35.8
Total	20.1	18.8	18.0
Addenda:			
Manufacturing	27.8	26.0	24.8
Nonmanufacturing	17.9	16.8	16.1
Nonagricultural nonmanufacturing	18.2	17.1	16.4
Private nonagricultural nonmanufacturing	12.7	11.7	10.9

*Or employee associations similar to unions.

Sources: Derived from *Employment and Earnings*, U.S. Department of Labor, Bureau of Labor Statistics, January 1985, Table 53, p. 209; and *Employment and Earnings*, U.S. Department of Labor, Bureau of Labor Statistics, January 1986, Table 58, p. 214.

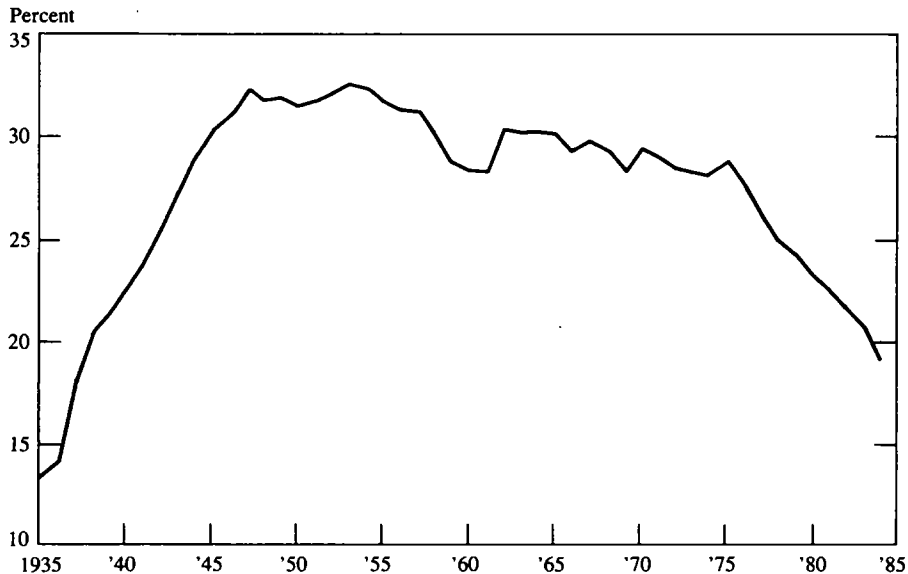
A second possible explanation for the pure decline in COLA's relates to the dual recessions of the early 1980s. The U.S. economy experienced a brief recession in 1980 and a much more serious recession in 1981 and 1982. Sales fell, production fell, and workers were laid off, putting considerable pressure on workers to lower their wage demands. Although it is possible some COLA's were dropped in response to this recessionary environment, it must be remembered that the largest pure decline in COLA's came last year, when the economy was in its third year of expansion. Rather

than reflecting general business cycle developments, the pure decline in COLA's can more often be traced to developments in individual industries.

Increased cost pressures stemming from heightened domestic and foreign competition in a multitude of industries is the third principal explanation for the pure decline in union COLA's. Deregulation and inroads by nonunion firms have forced unions in several industries to take a hard look at their compensation packages, including COLA's. Increased foreign competition, fueled by

CHART 2

Union membership as a percentage of total nonagricultural employment



Source: Leo Troy and Neil Sheflin, *Union Sourcebook*, Industrial Relations Data and Information Services, West Orange, N.J., Appendix A. Union membership includes members of employee associations.

a strong dollar, has forced unions in other industries to do the same. Job security has emerged as a key union goal, and COLA's have increasingly been seen as expendable in negotiating that security.

Several of the industries noted earlier that have experienced the largest pure COLA declines fall into these categories. Retail food stores and the meat packing industry (the latter included in the food and kindred products industry) have had to face serious inroads from nonunion firms in recent years; both have had large pure COLA declines. Similarly, the airline industry (transportation by air) and the trucking industry (motor freight) have had to contend with deregulation, and they, too, have had significant pure COLA declines. Among those industries facing stiffening foreign competition, the apparel industry has recently seen substantial pure COLA declines.¹²

This is not to say that workers have not been reluctant to eliminate their COLA's. On the contrary, outright elimination of COLA's has been one of the last chips on the bargaining table. Various concessions have been made in pressured industries for several years now, including concessions making COLA's less lucrative and concessions deferring or even suspending COLA

¹² The pure COLA losses experienced in these industries are consistent with the predictions of theoretical models that link diminished COLA prevalence to increased relative price variability. Nonunion inroads, deregulation, and foreign competition might all be expected to lead to more volatile product prices. For a theoretical discussion of the effects of relative price variability (or more generally, of industry-specific shock variability), see Jo Anna Gray, "On Indexation...", and Alan S. Blinder, "Indexing the Economy Through Financial Intermediation," in *Stabilization of the Domestic and International Economy*, Carnegie-Rochester Conference Series on Public Policy, vol. 5, 1977, pp. 69-106.

payments entirely.¹³ But the outright elimination of COLA's from contracts has only accelerated in the last year or so. Continued progress against inflation has no doubt made such a concession more palatable.

Consequences of the decline

Economywide effects

In theory, a COLA reduction could have a major impact on aggregate wages and aggregate employment. Whether that impact would be beneficial or detrimental depends on the primary source of general price movements.¹⁴

To the extent that general price movements emanate from the demand side, reflecting increased or decreased aggregate spending, wage indexation is desirable and so any reduction in COLA's is regrettable. Indexation is desirable in the sense that it insulates the economy from these

purely nominal disturbances, preventing unwanted deviations in employment.

To see this point, consider first an increase in aggregate spending that causes prices to rise throughout the economy (i.e., inflation). With indexation, wages will rise as well. Assuming this indexation is complete, workers will be no better or no worse off than before because their real wages—after accounting for the increase in general prices—will be unchanged. Similarly, firms will be no better or no worse off because, although they are now paying their workers higher wages, their product prices will have presumably risen as well, leaving their real wage—after accounting for the increase in product prices—unchanged. Firms will demand the same amount of labor and workers will willingly supply that amount.

In the absence of indexation, though, the situation is much different. Real wages as perceived by workers will decline as general prices rise but their wages do not. Similarly, real wages as perceived by firms will decline as their product prices increase but their wage payments to workers do not. Workers will become cheaper to firms, and firms will consequently demand more labor. Assuming workers are contractually bound to provide that labor, workers will be supplying more labor than they really want to at their prevailing real wage, causing an undesired increase in employment.¹⁵

A comparable situation will hold when aggregate spending decreases, causing prices throughout the economy to rise less rapidly (i.e., disinflation) or even to fall (i.e., deflation). If wages are indexed, the economy will again be insulated, with no undesired employment fluctuations. But if wages are not indexed, real wages (as perceived by both workers and firms) will rise, labor demand will fall, and employment will fall.

¹³ For a discussion of earlier concessions, see Robert S. Gay, "Union Settlements and Aggregate Wage Behavior in the 1980's," *Federal Reserve Bulletin*, Board of Governors of the Federal Reserve System, December 1984, pp. 843-856, and Daniel J.B. Mitchell, "Shifting Norms in Wage Determination," *Brookings Papers on Economic Activity*, 1985:2, pp. 575-608. For a discussion of settlements in 1985, see George Ruben, "Labor and Management Continue to Combat Mutual Problems in 1985," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, January 1986, pp. 3-15; and Joan Borum and James Conley, "Wage Restraints Continue in 1985 Major Contracts," *Monthly Labor Review*, U.S. Department of Labor, Bureau of Labor Statistics, April 1986, pp. 22-28.

¹⁴ A rich literature exists on this issue, including Milton Friedman, "Monetary Correction," in *Essays on Inflation and Indexation*, edited by H. Giersch, American Enterprise Institute, Washington, D.C., 1974, pp. 25-61; Jo Anna Gray, "Wage Indexation: A Macroeconomic Approach," *Journal of Monetary Economics*, April 1976, pp. 221-235; Stanley Fischer, "Wage Indexation and Macroeconomic Stability," in *Stabilization of the Domestic and International Economy*, Carnegie-Rochester Conference Series on Public Policy, vol. 5, 1977, pp. 107-147; and Robert J. Gordon, "Alternative Responses of Policy to External Supply Shocks," *Brookings Papers on Economic Activity*, 1975:1, pp. 183-205.

¹⁵ Following Gray, "Wage Indexation..." it is assumed here that employment is demand-determined, a reasonable assumption for unionized U.S. labor markets.

Unlike the indexed case, price declines will not be automatically transmitted into wage declines and, as a result, unemployment will increase.

Wage indexation is thus beneficial when the economy is subjected to demand disturbances. But exactly the opposite is true when the economy is subjected to supply disturbances. To the extent that general price movements emanate from the supply side—for example, from oil price shocks, crop failures, or productivity shifts—wage indexation is not desirable and so any COLA reduction is to be welcomed.

To see this, consider a hypothetical oil embargo that forces the price of oil much higher. General price indexes like the CPI will register gains and, with indexation, wages will rise accordingly. As a result, real wages as perceived by workers will be unchanged. But real wages as perceived by firms will be higher because firms will be paying higher wages to their workers even though their product prices will not have risen. Labor will thus become more expensive, and firms will respond by reducing their demand for that labor, causing a decrease in employment and an increase in unemployment. Similarly, a positive supply shock, that is, one that lowers the price level, will lead to an undesired increase in employment. So while wage indexation insulates an economy from demand disturbance, it leaves it more vulnerable to supply disturbances, making judgments on the desirability of COLA reductions theoretically ambiguous.

With regard to the decline in union COLA's, however, this is really a moot point. Any economywide impact this decline has is likely to be small given the small size of the union sector. As noted earlier, less than 20 percent of the total U.S. work force is unionized and less than 40 percent of the unionized work force—private plus government—have COLA coverage.¹⁶ And among the 40 percent or so that have coverage, protection is incomplete. Studies suggest that COLA's have had only a limited effect on U.S. aggregate

wage movements, so any decline in these COLA's can be expected to have a similar limited effect.

A recent study based on 1980 data, for example, estimates that only 10 percent of general price movements are passed on to aggregate wages through COLA's, that is, the overall impact of COLA's is quite limited.¹⁷ Similarly, an earlier study for 1957 to 1973 estimates that, even after allowing for possible spillover effects into non-COLA sectors, the response of COLA-related wage movements to overall price movements is no more than 31 percent and may be as small as 5 percent.¹⁸ In an economy such as Israel's, where COLA's are nearly universal and COLA responsiveness is perhaps near 100 percent, a reduction in COLA's could have a major impact.¹⁹ But in the United States it will not.

The reduction in union COLA's could also in theory lead to more strike activity. There are two channels through which more strikes might occur. First, contracts could become shorter as COLA's

¹⁶ Strictly speaking, this 40 percent figure applies to a subset of major contract workers only, as explained in note 3. When postal workers and estimates for major and nonmajor contract nonpostal federal workers and nonmajor contract state and local workers are included as well, true COLA coverage in the total union sector is probably even lower.

¹⁷ Wayne Vroman, "Cost-of-Living Escalators and Price-Wage Linkages in the U.S. Economy, 1968-80," *Industrial and Labor Relations Review*, January 1985, pp. 225-235.

¹⁸ Lawrence M. Kahn, "Wage Indexation and Wage Inflation in the U.S.," unpublished manuscript, University of Illinois, reported in Hendricks and Kahn, *Wage Indexation...*, p. 125. In fact, consideration of possible spillover effects imparts an upward bias since the focus of attention conceptually is the effect of automatic wage adjustments, not discretionary adjustments that might result from automatic adjustments.

¹⁹ Assaf Razin and Judith Lusky, in "Partial Wage Indexation: An Empirical Test," *International Economic Review*, June 1979, pp. 485-494, estimate that Israeli COLA responsiveness over the years 1956 to 1975 was between 86 and 112 percent. For further discussion of wage indexation in Israel, see Alex Cukierman, "General Wage Escalator Clauses and the Inflation Unemployment Trade Off," *Economic Inquiry*, January 1977, pp. 67-84.

were eliminated, resulting in more frequent negotiations and therefore more frequent opportunities for strikes. There is ample evidence that non-COLA contracts do tend to be of shorter duration.²⁰ Second, COLA-less workers could be expected to be less conciliatory at bargaining time to the extent that unanticipated inflation occurred, lowering their real earnings.

But there are theoretical counterarguments as well. It can be argued that the longer contracts made possible by COLA's actually increase the probability of strike because worker grievances build up over a longer time. And in a disinflationary environment, workers with COLA's could become less conciliatory at bargaining time to the extent that they experienced lower real earnings gains than their COLA-less counterparts.²¹

Little empirical work has been done on the relationship between COLA's and strike activity. One study that was recently completed found that COLA's with caps tend to be associated with more strike activity while COLA's without caps tend to be associated with less strike activity.²² This suggests that the recent decline in union COLA's could conceivably alter strike activity, with the direction of impact depending on whether the lost COLA's were predominantly capped or not. Of course, with both types of losses occurring, any net impact would be dampened.

²⁰ According to a BLS study of 1,550 major contracts in force on January 1, 1980, 12.0 percent of contracts of duration two years or less had COLA's while 55.8 percent of contracts of duration greater than two years had COLA's. Similarly, Hendricks and Kahn, examining 1966-81 data covering both major and non-major contracts (see note 2), report that contracts with COLA's were on average four to five months longer than contracts without COLA's, in *Wage Indexation...*, Table 3-6, p. 90.

²¹ For further discussion of the possible effects of COLA's on strike activity, see Hendricks and Kahn, *Wage Indexation...*, pp. 126-127, 221-237, as well as Bruce Kaufman, "Bargaining Theory, Inflation, and Cyclical Strike Activity," *Industrial and Labor Relations Review*, April 1981, pp. 333-335, and Martin Mauro, "Strikes as a Result of Imperfect Information," *Industrial and Labor Relations Review*, July 1982, pp. 522-538.

Industry effects

Although the reduction in union COLA's will likely have only a limited effect on the overall economy, it could have a significant effect at the industry level. COLA eliminations potentially reduce labor costs and certainly reduce labor cost uncertainty, permitting industries and firms to more effectively meet domestic and foreign competition. As previously noted, such a response is evident in several industries.

Last year, for example, 101,000 workers in the cotton garment industry gave back their COLA's, reversing a decade-long rise in COLA coverage in the apparel industry. Why the giveback? Presumably to help management counter massive foreign inflows. Similarly, last year 150,000 workers in the trucking industry gave back their COLA's. Why? Presumably to help management counter heightened nonunion competition stemming from 1980's Motor Carrier Act deregulation. Other workers in other industries—for example, the airline industry, the meat-packing industry, and the retail food store industry—have faced similar challenges and responded in a similar way.

It will be interesting to see if this trend continues. Large segments of the aluminum and steel industries negotiate this year. Will workers in these industries, hard pressed by foreign competition, be willing to give up their COLA's? The communications industry also bargains this year, with former Bell System employees negotiating separate contracts for the first time. Will workers in this industry, facing a newly deregulated environment, be willing to give up their COLA's? Workers and firms are searching for ways to compete more effectively, and COLA's are increasingly becoming a negotiable item.²³

²² Hendricks and Kahn, *Wage Indexation...*, pp. 221-237.

²³ As this article goes to press, COLA preservation has indeed emerged as an issue in the aluminum, steel, and telephone negotiations.

Summary

COLA's protect workers from unexpected price changes. At the same time, they make firms' labor costs more uncertain. COLA's are not that common economywide, but they are common in the union sector. In the past, as many as 60 percent of major contract private workers have had COLA coverage.

Since peaking in the late 1970s, however, COLA prevalence in the union sector has been declining, both in terms of the number of workers covered and in the proportion of workers covered. The decline last year was particularly sharp. And some industries have experienced sharper declines than

others. Disinflation, recession, deregulation, and dollar appreciation have probably all played a role in reducing the prevalence of COLA's.

In theory, a reduction in COLA's could have a large impact on an economy. Prices would be transmitted to wages at a reduced pace, with implications for both aggregate wages and aggregate employment. In the present case, however, the decline in COLA's is likely to have only a small impact because of the small and dwindling size of the union sector in the United States. Nevertheless, the decline in union COLA's could have a significant impact at the industry and firm level, allowing businesses to better cope with heightened domestic and foreign competition.