Working Paper Series - 98

THE DEVELOPMENT OF COST-OF-LIVING ESCALATORS IN THE UNITED STATES*

by

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*Revised Version

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Draft: November 1985

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*The author wishes to thank the UCLA Institute of Industrial Relations for providing financial support. A short version of this paper was presented to the 36th Annual Meeting of the Industrial Relations Research Association, Dallas, Texas, December 1984.

A characteristic feature of collective bargaining in the United States is the prevalence of long-duration contracts having a fixed term, usually three years. In other advanced industrial nations, bargaining is conducted on an annual or intermittent basis, the major exception being Italy, where most contracts have a duration of three years. Because bargaining occurs more frequently, European and Japanese unions are quicker than their American counterparts in responding to economic events that were unanticipated at the time they negotiated their current contracts.[1]

One way that a number of American unions have gotten around this problem is by using cost-of-living adjustment clauses (COLAs) that automatically link wages to unanticipated future price changes. (Anticipated price increases presumably are taken into acount when the contract is negotiated). That COLAs are a mechanism for facilitating long-duration agreements is illustrated by the strong link between contract duration and COLA clauses: In 1977, the mean duration of non-escalated contracts in the United States (26 months) was considerably lower than the mean duration of escalated contracts (36 months).[2] Moreover, neither Japanese nor European unions rely to any great extent on wage indexation. Significantly, the only exception here are the Italian unions, with their scala mobile.

In the United States, written collective bargaining agreements were a post-Civil War phenomenon and became increasingly popular toward the end of the nineteenth century. By fixing wages and working conditions for a definite period, each party assured the other that it would not take advantage of seasonal or cyclical swings in production to secure more favorable rates than those negotiated. Unionized workers were guaranteed a steady wage and the employer could guarantee the product prices advertised to customers. Most importantly, by minimizing the risk of a strike, the employer avoided a costly disruption of production and possible loss of market share. The union's no-strike promise was the quo it offered for the employer's fixed quid (and for the recognition conferred by a written agreement).[3]

In the early stages of bargaining, employers were reluctant to sign lengthy agreements because they hadn't fully accepted the union as a permanent feature of the environment and were skeptical of the union's integrity with regard to its no-strike promise. But as bargaining relationships matured, employers switched from a short-run strategy of eliminating the union to a long-run strategy that minimized the cost of what was now perceived as a quasi-permanent relationship. Historically, therefore, the pressure to lengthen contract durations primarily came from employers seeking to minimize their strike and negotiation costs.[4]

As part of an ongoing study of union contracting practices, a colleague and I have collected over eight hundred collective bargaining agreements negotiated prior to World War II.[5] As the data in Table 1 show, extended duration contracts were in use long before the post-World War II period. They were most prevalent in industries that had a long history of contracting with unions, such as mining, apparel, and printing. For example, our contract file shows that in the printing industry, the proportion of long-duration agreements reached modern levels as early as 1920. Hence it is surprising to discover that, although long-duration agreements have been in use since the turn of the century, very few of them contained COLA clauses until the 1950s (Table 1). This paradox provides the jumping-off point for the present article, which examines the development of COLA clauses in the pre-World War II period in the United States, and then discusses reasons for their sudden popularity in the 1950s and afterward.

I. Origins and Development

In the United States, the practice of tying wages to the cost of living goes back to the early seventeenth century, when colonial wage-fixing bodies set maximum wage levels according to the prices of those commodities deemed necessary for "Life and Comfort." Although this mercantilist sort of wage regulation died out by the 1700s, extensive wage and price controls were temporarily adopted during the Revolutionary War, and maximum wage levels again were fixed "in Proportion to the rates of the Necessaries of Life." Unlike modern COLA clauses, these were discretionary, rather than automatic, linkages between wages and prices.[6] Yet one can find examples of automatic plans in the premodern world.

In 1795, the English poor authorities adopted the controversial Speenhamland scale, which tied levels of monetary poor relief (actually wage subsidies) to fluctuations in the price of bread. A more comprehensive indexing scheme was put forth in 1822 by the English economist, Joseph Lowe. Lowe was disturbed by what he called the "anomalies arising out of unforeseen fluctuations in our currency," such as the fact that during the Napoleonic War, English workers' wages lagged behind rising prices, while after the war employers were unable to reduce wages as quickly as prices fell. To prevent the social conflict caused by these lags, and to give "other contracting parties the means of maintaining an agreement [over time]," Lowe proposed that wages, salaries, and rents be hitched to a cost-of-living index.[7] Finally, the sliding scale agreements negotiated by unions in the iron and steel (1865-1935) and anthracite coal (1869-1912) industries were the first automatic wage adjustment devices used in collective bargaining in the United States. Under these agreements, which were initially developed by English unions, wages rose and fell in line with the selling price of iron or coal. However, sliding scale agreements were intended as a kind of profit-sharing arrangement rather than a device to stabilize real wages (although an attempt was made in 1874 to set the base of the iron scale in terms of the prices of nine consumer commodities "used for living").[8]

Prices and Poverty

Despite these precedents, wage adjustments based explicitly on the cost of living remained a rarity for most of the nineteenth century but then began to proliferate in Europe and the United States during the two decades preceding World War I. There were two reasons for this change. First, the mid-1890s marked the end of a long deflationary period, after which prices gradually rose throughout the industrialized world. In the U.S., the consumer price trend turned upward after 1896 for the first time since the early 1800s (excluding the Civil War years.)[9] Growing interest in the cost of living led the Bureau of Labor Statistics to publish in 1903 a detailed study of the consumption patterns and living habits of 25,000 working class families, broken down by family size and region. The following year the BLS issued a retail food price index with annual figures going back to 1890.[10]

In industries were arbitration was used to settle wage disputes, such as the railroads, private arbitrators and state arbitration boards began to rely on these data to decide cases in which the rising cost of living was a disputed issue. The cases typically arose in years during which consumer prices unexpectedly climbed above their trend (e.g., 1902-03, 1910-13). The awards made discretionary use of price data; none provided for automatic future wage increases tied to prices. For example, when in 1902 striking coal miners justified their wage increase demands by referring to the high cost of living, the Anthracite Coal Strike Commission simply based its award on the rise in food costs (as reported by the BLS) during the preceding three years. Even when arbitration was not involved, unions formulated their collective bargaining demands during these years on the basis of higher living costs, as when New York City printers in 1902 complained to employers that "the book and job printer has been called upon to pay an increased price for the necessaries of life despite the fact that his income has remained at a figure ridiculously low." However, none of the contracts negotiated during this period utilized COLA clauses. A few long-duration agreements contained provisions for discretionary contract reopenings, although these never were explicitly tied to the cost of living (Table 1).[11]

Second, this period witnessed a world-wide discovery of poverty as a social rather than an individual problem. Social reformers in the United States published numerous studies of working class life, including local budget studies that yielded the first estimates of the extent of poverty in an area. Although these studies defined the poverty line somewhat arbitrarily, they did develop the idea that there existed a "living wage" which would give workers an income sufficient to bring them out of poverty.[12] Around 1890, an international movement began to press for laws that would require employers to pay this subsistence wage. Australia (1896), Great Britain (1909), and a host of other nations enacted minimum wage laws that protected unorganized workers. But laissez-faire traditions and union opposition prevented reformers from making much headway in the U.S.: Only 15 states enacted minimum wage laws between 1912 and 1923, and these laws were limited to women and children.[13]

Nevertheless, passage of these laws in major industrial states focused public attention on the relationship between the cost of living and the standard of living. Each minimum wage board held periodic hearings and conducted budget studies to determine its state's minimum wage levels. Rates then were periodically revised in line with consumer price changes as reported by the

BLS or by state agencies established for this purpose, such as the Massachusetts Commission on the Necessaries of Life. (None of the boards, however, adopted the British practice of "pegging" the minimum wage by automatically adjusting it to fluctuations in consumer prices.) In addition, state and municipal wage commissions used the data gathered by these boards, together with their own studies, to determine "living" wage levels for public employees under their jurisdiction.[14]

Although labor unions opposed minimum wage legislation, they were quick to adopt the "living wage" slogan, which was vague enough to support a variety of claims. Unions used the phrase to refer not to a subsistence wage but to a family wage sufficient for a worker to maintain himself and his dependents at their customary standard of living. A living wage, said Samuel Gompers, would keep the worker's family "in comparative comfort commensurate with his economic and social surroundings." In other words, the slogan stood for whatever wage level organized workers had come to consider decent or fair. The demand for a living wage sometimes found its way into arbitration, spurring efforts to define the concept more precisely. Arbitrators found most of the available budget studies an inadequate guide to the living costs of union members because they were based on the consumption patterns of a poorer class of workers. Hence they turned to university professors for assistance, as when Berkeley economist Jessica Peixotto developed budgets and cost of living figures for street railway workers ("two steps higher than the subsistence level") to help settle a 1917 Oakland dispute. Again, however, these "living wage" awards did not provide adjustments based on future changes in the cost of living.[15]

War and Reconstruction

Until World War I, wage adjustments tied to consumer prices were a sporadic phenomenon of rather minor importance. But this changed dramatically after 1916, and during the next four years the practice became widespread, spurred by an unprecedented annual inflation rate of about 20 percent. The cost of living was made a key factor in nearly every wage decision reached by private arbitrators, state arbitration panels, and Federal labor adjustment boards such as the National War Labor Board. By taking account of the cost of living in their decisions, these boards effectuated the wartime agreement reached by national employer representatives and the AFL to maintain labor standards -- including real wages -- for the duration.

A typical arbitration award entailed a wage increase commensurate with the rise in a group's living costs, although there was considerable variation in the weights that arbitrators assigned to the cost of living. At first these cost of living awards were intended to be permanent. But the high wartime rate of inflation forced the adjustment boards to recognize that an award would quickly become outdated unless it contained provisions for future price increases. As a result, many boards adopted the practice of allowing an award to be reopened after six months if conditions had changed. Sometimes a specific price increase figure was picked as a reopening "trigger", although the boards usually were vague about what constituted a change in conditions. Felix Frankfurter's Conference Committee of Labor Adjustment recommended to the President that all awards be adjusted semiannually provided that living costs had increased at least 10 percent since the last review, but the war ended before this rule could be adopted. Of course, real wages would have been better protected against inflation had the adjustment boards followed their European counterparts by providing automatic future wage increases tied to the cost of living, although none of the boards chose to do this. They did, however, permit real wage increases (despite the informal freeze) by use of the living wage principle, which meant setting award levels high enough to provide a "decent" standard of living. The NWLB had its own Cost of Living Section which, together with the BLS, gathered budget data from 92 localities. These were used to determine "minimum subsistence" levels (unskilled labor) and "minimum comfort" levels (skilled labor) for living wage awards.[16]

Even without government compulsion, employers were willing to reopen and revise long-duration contracts that had been signed before the war. There were exceptions - building contractors in New York resolutely refused any change in existing agreements - but the combination of high prices and scarce labor made this an atypical response. During this period there was a large increase in the proportion of contracts containing wage reopener clauses, and a number of these explicitly linked reopenings to price developments (Table 1). A handful of contracts went even further than this and - for the first time in American bargaining history - provided for automatic wage increases tied to the cost of living.[17] Except for a Cleveland garment workers' agreement, the COLA clauses all came from the printing and publishing industry, where there was a relatively high proportion of long-duration agreements. The clauses called for either annual or semiannual wage adjustments in line with the consumer price index (sometimes set off by a "trigger").

In Chicago, long-duration contracts first came to the book and job branch of the printing industry in 1909 and 1910. At the time, the industry's various unions had somewhat reluctantly agreed to employer requests for three and five year contracts in return for which they received higher pay, shorter hours, and stricter apprenticeship rules. These contracts were renegotiated several times and were in effect when consumer prices started to climb sharply in 1917. For the next two years, the industry experienced a number of strikes intended to force employers to reopen contracts and raise wage rates.

Although several supplemental wage agreements were signed, each eventually became obsolete in the face of persistent inflation. In July 1919, after having recently promised not to reopen any agreements until 1920, the unions requested yet another cost of living increase. Although the employers agreed to grant it, they now asked that all future adjustments be made on an automatic basis. A month later, after statisticians representing each side had resolved the matter of an appropriate price index, automatic COLA clauses were inserted into all of the industry's agreements.[18]

Outside of printing, however, unions during the postwar period were highly critical of COLA clauses and of arbitral adjustments based strictly on the cost of living. In 1920, when the Federal government was arbitrating major disputes in the anthracite and bituminous coal mining industries, the unions attacked the cost of living principle on the grounds that it would have the effect of "perpetuating the deplorable conditions which existed before the war." They called instead for a living wage, with the slogan now standing for adjustments that would permit rising real wage levels. When prices began to decline after June 1920 -- falling by about 11 percent over the next year -- even the printing unions began to criticize the cost-of-living priciple and attempted in various ways to circumvent the wage cuts required by their COLA clauses. In Chicago, they hired economist Paul H. Douglas to present their case to the employers' association. Douglas argued that, since in the past wages had not immediately risen in line with prices because of the COLA clause's six-month adjustment lag, wages should not now immediately be reduced. Nevertheless, the unions lost their case in arbitration, and wages were cut. When the printing contracts were renegotiated in 1923 and 1924, not one of them contained a COLA clause.[19]

1930s and 1940s

Between 1923 and 1948, there were several other periods during which prices rose above their trend. Each time that this happened -- the mid-1930s, the early 1940s, and the immediate postwar years -- the results resembled the World War I period: Parties with long-duration contracts responded to unanticipated inflation by adopting wage reopener clauses, some specifically conditional on inflation; very, very few went for COLA clauses. In 1948, when General Motors and the UAW signed their historic two-year agreement containing a COLA clause, there were reported to be only 13 other agreements nationwide containing COLA clauses. Moreover, although the 1948 GM-UAW agreement generated tremendous publicity, surveys taken at the time found that COLA clauses were opposed by most employers (83%) and union leaders (92%).[20]

Despite this opposition, COLAs were a moot issue for a number of the industrial unions formed during the 1930s, since in their early years these unions signed only one-year agreements. They disliked COLAs simply on principle, or for extra-contractual reasons (as when the CIO in 1941 passed a resolution condemning COLAs and calling for government-imposed price controls to protect real wages). After 1948, however, matters changed as the parties in these new bargaining relationships followed the GM-UAW pattern by increasing their contract durations to two years. Even so, these new agreements rarely contained COLAs. Instead they relied on reopening clauses to adjust wages to any unanticipated price developments (Table 1).

Thus on the eve of the Korean War, the COLA clause in the GM-UAW agreement had few imitators, which is hardly surprising. Even the UAW had been opposed to a COLA clause when GM managers first proposed it in 1948 as part of a package including a five-year agreement and deferred wage provisions (the annual improvement factor or AIF). Although the union succeeded in whittling down the contract's duration to two years, its bargaining position was too weak in 1948 to reject the COLA portion of management's offer. Unfortunately for the UAW's leaders, the COLA clause proved to be a source of embarrassment when GM workers were forced to take three COLA-induced pay cuts during the mild deflation of 1949-50. After receiving a barrage of criticism from its members and from other unions, the UAW announced in 1950 that it had no intention of renewing the COLA clause during the upcoming negotiations.

At the 1950 bargaining sessions, GM again proposed an agreement term of five years in return for which it offered a modified union shop and a heftier AIF clause. The union very much wanted what GM was offering and realized that it couldn't get these items without a five-year agreement. The union also realized that it would be risky to sign an agreement for such a long period unless it contained some mechanism for protecting real wages. A wage reopening clause was unacceptable to GM because it undermined the logic of a long-duration agreement. That left COLAs. As in 1948, management still was insisting that COLAs be included in the agreement, and the union still was concerned about the possibility of COLA-induced pay cuts. But GM's proposed sweetening of the AIF clause (from 3 to 4 cents per year), when combined with the COLA clause's "floor" on downward adjustments (5 cents per year), made it unlikely that a COLA clause could do much damage to real wage levels. Consequently, in May 1950 the union signed a five-year agreement that retained the COLA clause. The Korean War began a few months later.[21]

<u>The 1950s: A Turning Point</u>

Automatic COLA clauses spread rapidly during the first few months of the Korean War. Companies in the UAW orbit matched the GM agreement during the summer of 1950. Then President Truman hinted in a September speech that COLAs would be exempt from any future wage controls. That announcement, coupled with widespread anticipation of labor shortages and inflation, perked both sides' interest in COLA clauses. In a surge of COLA adoptions, over 2 million workers were brought under COLA contracts between the signing of the GM-UAW agreement and the formal announcement in March 1951 that the Wage Stabilization Board would sanction COLAs.[22]

At their peak in 1952, COLA clauses covered about 3.5 million workers. The bulk of these new COLA clauses followed the GM-UAW "cents for points" formula, which was intended to give larger percentage wage increases to workers in the lower wage brackets. As in earlier periods, COLAs tended to be found in long-duration contracts, although a significant new phenomenon was the preponderance of GM-style agreements containing both COLAs and deferred wage adjustment clauses.[23]

Despite the sudden turn to COLA, unions and employers still were leery of them. Moreover, by the end of the war inflation rates were low and declining and some feared a postwar deflation. Consequently, during 1953 and 1954 -- when inflation was running under 1 percent annually -- there was a sizeable shift out of COLAs. By 1955, the number of covered workers had fallen by nearly 50 percent, although this was a far cry from the wholesale abandonment of the early 1920s.[24] In fact, although the number of workers covered by COLAs has fluctuated since 1955, it has never fallen below the nadir reached in that year (Table 1). Thus by the mid-1950s, COLAs were here to stay.

II. Opposition to COLAs

One does not have to search for reasons why the parties were so reluctant to adopt COLAs prior to the 1950s; each side repeated the same anti-COLA arguments in the late 1910s, 1930s, and 1940s. First, both employers and union leaders feared the consequences -- chiefly worker dissatisfaction and strikes -- of a COLA-induced pay cut. These fears were justified, given that pay cuts historically have evoked strong reactions, such as occurred in printing (and elsewhere) in 1921. During World War I, one nonunion company tried to minimize this problem by giving their employees two pay envelopes: one contained regular earnings while the other -- marked "H.C.L." or high cost of living -- contained a COLA payment.[25]

Second, neither employers nor unions liked being hemmed in by non-discretionary wage rules such as COLA formulas. Union leaders called COLAs "a substitute for bargaining," meaning that they expected to receive less credit from the rank and file when an automatic COLA adjustment was made than when a pay increase resulted from say, bargaining during a wage reopening. Employers disliked the idea of guaranteeing real wage levels in advance without knowing whether future business conditions would warrant them.

Finally, unions were especially concerned that COLAs, as well as arbitral adjustments based on prices, would have the effect of freezing real wages at an inadequate level for the duration of the agreement. To us this fear may seem irrational, since unions today frequently receive intracontractual real wage increases via deferred adjustments. But historically, there were good reasons to be concerned: For the sixty year period prior to the 1948 GM-UAW agreement, only one contract had ever been signed that contained both COLA clauses and deferred wage increases. And despite the influentiality of the GM-UAW agreement, less than 3% of a group of managers surveyed in 1949 said that they favored both types of clauses.[26]

III. Reasons for the Change

Given that the parties had criticized COLAs for so many years, what accounts for the rather sudden shift in COLA usage after 1950? There are a number of explanatory factors:

Inflationary expectations. Although definitive evidence is unavailable, it is likely that long-run price expectations had changed by the early 1950s.[27] With the exception of three slight annual dips, consumer prices increased each year between 1934 and 1950; the average annual inflation rate for the period was about 2 percent. By historical standards, this was an unusually long and strong stretch of upward price momentum. Long-run price expectations may also have been shaped by the post-1933 adoption of macroeconomic stabilization policies (e.g., Keynesian demand management, unemployment insurance, etc.), which decreased the likelihood of deflationary price movements. The upshot was that by the 1950s, the parties had less reason than before to expect COLA-induced pay cuts.

It is also possible that increased price variability led the parties to adopt COLAs because they felt less confident of their ability to correctly anticipate inflation. Indeed, prices fluctuated more during the 1940s than during the 1910s, although the difference in standard deviations is not large (10.7 versus 8.2).

Deferred adjustments. After 1950, numerous companies adopted GM's pioneering wage formula that combined COLAs and deferred wage adjustments. By so doing, employers eased labor's concern that accepting COLAs meant acceptance of a real wage freeze. As at GM, management's willingness to pay deferred adjustments stemmed from an optimistic appraisal of long-term productivity trends and possibly from a greater willingness to share productivity gains with employees.

Reopening costs. Managements also came to prefer automatic pay mechanisms like deferred adjustments and COLAs because of the rising cost of contract reopenings. For many years, union contracts were simple documents no more than a page or two in length. But by the early 1950s, they had grown enormously -- both in length and complexity -- making them costlier to negotiate and renegotiate. Even a reopening limited to wages involved complicated and costly negotiations. Moreover, the increase in average contract durations that began in the late 1940s suggests that employers were seeking to stabilize industrial relations and minimize their strike costs. It is unclear whether this search was brought about by a rise in strike costs or simply by a changing, more "mature" perception of those costs.[28] In either case, the effect was the same: there was a substitution of automatic pay formulas for discretionary and potentially destabilizing mechanisms like wage reopeners.

Patterns. For many parties in the early 1950s, collective bargaining still was a new and sometimes perplexing experience. Each side searched for models to guide them, and the GM-UAW agreements of 1948 and 1950 were exemplars. The dissemination of the GM-UAW wage formula can be attributed, in part, to the prominent leadership positions held by the UAW and by GM in their respective communities. A related phenomenon was the wave of COLA adoptions in anticipation of wartime wage controls. By the end of the war the parties had become familiar with COLAs, and some no doubt decided that COLAs were more useful than they previously had supposed.

IV. The COLA Years, 1955-1985

Since the mid-1950s, wage escalators have remained an important feature of collective bargaining in the United States: the proportion of workers covered by COLA clauses in major collective barganing agreements has never fallen below 20 percent. However, COLA coverage has fluctuated considerably during these years. There have been two major COLA growth periods (1956-1958 and 1972-1976), and each of these has been followed by periods of declining COLA coverage (1959-1962, and the concession bargaining years of 1980-1982).

The 1956-1958 build-up was a replay of previous developments at General Motors in that employers in several major industries (including steel and the railroads) encouraged the adoption of COLAs as part of a shift toward longer contract durations. Compared to GM's experience, however, these employers found unions readier to accept wage escalation, both for the reasons discussed previously and because of the fact that prices rose unexpectedly above their trend in 1956 and 1957. Indeed, during the subsequent and more prolonged outbreak of unanticipated inflation and heightened inflation uncertainty that occurred in the 1970s, it was organized labor that took the initiative in pressing for COLA clauses.

The elimination or curtailment of COLA clauses occurred during periods of management "hardening" -- recessionary episodes that saw unionized employers taking a "hard" line in bargaining. Between 1959 and 1962, employers sought to reduce their unit labor costs by quickening the pace of technological change and by cutting back on pay. They stressed the necessity of placing restraints on recent practices like pattern bargaining and COLAs, each of which was thought to have driven a wedge between a company's wage levels and its ability to pay. These employers, in other words, felt that they had offered too high a price for the peace and stability provided by long-duration contracts, and that earlier *quid pro quos* would have to be renegotiated. Yet none of them shifted back to shorter contract durations.[29]

Patterns similar to the early 1960s were observed during the recent wave of concession bargaining, when employers engaged in a broad-based effort to pare their compensation costs. For instance, in 1982 -- a year fraught with "give-backs" -- numerous COLA restrictions were observed: Of those contracts containing wage freezes or cuts, 11 percent dropped their COLA clauses, 17 percent totally froze or suspended their COLAs, and 21 percent diverted or limited their COLA payouts. As in the earlier period, however, long-run contracts were preserved. In fact, the relatively high basal level of COLA coverage during the past thirty years has been maintained by a continuing shift toward longer contract durations, as well as a heavier use of deferred wage adjustments (Table 1). By 1970, the COLA-plus-deferred combination had largely replaced wage reopening clauses in long-duration contracts.[30]

Despite recent union contract concessions, it is unlikely that COLA clauses will become an endangered species. First, note that an important set of economic and institutional changes occurred after World War II that established a strong link between COLA clauses and long-term contracts. Since most of those changes persist to this day, and since managements continue to value long-term contracts,[31] one can reasonably expect that COLAs will remain with us in the future. Second, while some employers currently view profit sharing and other gain-sharing plans as a potential substitute for COLAS, unions are likely to resist anything that involves a high degree of downward wage flexibility. As occurred in printing in the early 1920s, in autos in the late 1940s, and as is evidenced by the floors in most COLAs today, there is continuing union dislike of nominal wage cuts (as compared to other cyclical adjustment mechanisms, like layoffs and work-sharing). This conundrum has yet to be satisfactorily explained.

Table 1. Contract Characteristics
(percentage of contracts)

	Escalators (covered workers, in millions)		Reopener Clauses (conditional on inflation)		Deferred adjustments	Duration Over 23 mos.	Duration Over 35 mos.
1900-1914	0	-	6	(0)	4	34	18
1915-1920	0	-	22	(6)	9	38	15
1921-1934	0	-	27	(3)	8	41	18
1935-1942	1	-	31	(6)	4	26	8
1948	-	(.25)	40		-	25	0
1950	2.4	(.80)	60		-	55	2
1952	25	(3.5)	60		20	69	29
1954	20	-	-		-	-	-
1955	-	(1.7)	-		-	-	-
1957	-	(3.5)	36		33	81	38
1959	32	(4.0)	-		-	-	-
1961	28	(2.8)	28		58	91	44
1963	16	(1.9)	-		-	-	-
1965	12	(2.0)	13		72	91	51
1970	34	(2.8)	12		87	93	71

1900-1942: Based on data from 718 contracts in author's file. COLA data is for workers under major contracts, from: Current Wage Developments (February 1974), p. 45; BLS Bulletin No. 1022 (1951), p. 28, and No. 1425-4 (1963), p. 6, and No. 1686 (1970), p. 30; BLS Report No. 17 (1953), p. 3, and No. 75 (1954), p. 3; Monthly Labor Review (December 1958), p. 1350, and (December 1960), p. 1258, and (December 1964), p. 1372. Reopener, deferred, and duration data from: 22 LRRM 3 (1948), and BNA, Basic Patterns in Union Contracts (1954, 1957, 1960, 1966, and 1971).

FOOTNOTES

1. The economic implications of these contractual differences are discussed in Jeffrey Sachs, "Wages, Profits, and Macroeconomic Adjustment: A Comparative Study," Brookings Papers on Economic Activity, 2:1979, 269-332.

2. Sanford M. Jacoby and Daniel J.B. Mitchell, "Does Implicit Contracting Explain Explicit Contracting?", Industrial Relations Research Association, Proceedings of the Thirty-Fifth Annual Meeting, December 1982, 319-328.

3. U.S. National Labor Relations Board, Division of Economic Research, Bulletin No. 4, "Written Trade Agreements in Collective Bargaining" (Washington, 1940), passim; Warren R. Van Tine, The Making of the Labor Bureaucrat: Union Leadership in the United States, 1870-1920 (Amherst, 1973), 57-84.

4. Occasionally this had unintended results. In 1928, a group of New York City employers was anxious to obtain a five-year agreement, which the union was opposed to. The union finally was enticed when the employers promised to give a wage increase in January of each year that the contract was in effect, through 1933. Sumner Slichter, "The Contents of Collective Agreements: The Wisdom of Hindsight," Society for the Advancement of Management Journal, 3 (January 1938), 19.

5. Contract sources include the Sumner H. Slichter Papers at Harvard, and industrial relations libraries at California Institute of Technology, Cornell, and Princeton. The sample is roughly consistent with the industrial distribution of trade union members in each of the subperiods shown in Table 1. However, contracts from the apprarel and printing industries

are overrepresented, while contracts from the construction industry are underrepresented, in the sample.

6. Richard B. Morris, Government and Labor in Early America (New York, 1946), 59, 108.

7. Mark Blaug, "The Myth of the Old Poor Law and the Making of the New," Journal of Economic History, 23 (June 1965), 151-179; Donald N. McCloskey, "New Perspectives on the Old Poor Law," Explorations in Economic History, 10 (Summer 1973), 419-436; Joseph Lowe, The Present State of England in Regard to Agriculture, Trade, and Finance (London, 1823), 334-337.

8. Jesse S. Robinson, The Amalgamated Association of Iron, Steel and Tin Workers (Baltimore, 1920), 145; Horace B. Davis, Labor and Steel (New York, 1933), 69-70; Waldo E. Fisher, "Anthracite", in Harry A. Millis (ed.), How Collective Bargaining Works (New York, 1945), 283-294.

9. Data on price trends from U.S. Bureau of the Census, Historical Statistics of the United States: Colonial Times to 1970 (Washington, 1975), 210-211; and Paul H. Douglas, Real Wages in the United States, 1890-1926 (New York, 1930), 60. During these years, the high cost of living for the first time became an issue of national concern. See U.S. Senate, "Report of the Select Committee on Wages and Prices of Commodities," Pts. 1 and 2, 61st Cong., 2d Sess. (Washington, 1910); and Frederick C. Howe, The High Cost of Living (New York, 1917).

10. U.S. Bureau of Labor, Eighteenth Annual Report of the Commissioner of Labor, "Cost of Living and Retail Prices of Food" (Washington, 1904); U.S. Bureau of Labor, Bulletin No. 54, "Cost of Living and Retail Prices in the U.S., 1890-1903" (Washington, 1904). A decade earlier, the Bureau published two large budget studies, but these were an outgrowth of the

tariff debates of the late 1880s. See the sixth (1891) and seventh (1892) annual reports of the Commissioner of Labor.

11. Elma B. Carr, "The Use of Cost-of-Living Figures in Wage Adjustment," issued by the U.S. Bureau of Labor Statistics, Bulletin No. 369 (Washington, 1925), 129-155, 229-233, 242, 259; Joseph Noble Stockett, *The Arbitral Determination of Railway Wages* (Boston, 1918), 77-128; U.S. Bureau of Labor, Bulletin No. 46, "Report of the Anthracite Coal Strike Commission" (Washington, 1903); George A. Steven, "New York Typographical Union No. 6: Study of a Modern Trade Union and Its Predecessors," Report to the New York State Department of Labor (Albany, 1913), 342; U.S. Senate, "Report of the Select Committee to Investigate Wages and Cost of Commodities," Vol. 1, 61st Cong., 3d. Sess. (Washington, 1911), 52, 161.

12. Representative studies include Robert Coit Chapin, *The Standard of Living Among Workingmen's Families in New York City* (New York, 1909) and Louise Bolard More, *Wage-Earners' Budgets: A Study of Standards and Cost of Living in New York City* (New York, 1910). Also see National Industrial Conference Board, Research Report No. 41, "Family Budgets of American Wage Earners: A Critical Study" (New York, 1921), 13-50; and Robert H. Bremner, *From the Depths: The Discovery of Poverty in the United States* (New York, 1956).

13. Elizabeth Brandeis, "Labor Legislation," in John R. Commons and Associates, *History of Labor in the United States, 1896-1932*, vol. 4 (New York, 1935), 501-539; Bremner, *From the Depths*, 230-243; John R. Commons and John B. Andrews, *Principles of Labor Legislation* (New York, 1916), 189-199.

14. U.S. Department of Labor, Women's Bureau Bulletin No. 61, "The Development of Minimum Wage Laws in the United States, 1912 to 1927"

(Washington, 1928), 153-155; Harry A. Millis and Royal E. Montgomery, Labor's Progress and Some Basic Labor Problems (New York, 1938), 178-324; Carr, "Cost-of-Living," 97-128, 156-199.

15. Testimony of Samuel Gompers in U.S. Industrial Commission, Report on the Relations and Conditions of Capital and Labor, Vol. 7 (Washington, 1901), 614; John T. Dunlop, Wage Determination Under Trade Unions (New York, 1950), 52; W. Jett Lauck, The New Industrial Revolution and Wages (New York, 1929), 27-30; Paul H. Douglas, Wages and the Family (Chicago, 1925), 3-10.

16. Don D. Lescohier, "Working Conditions" in History of Labor, 64-78; Carr, "Cost-of-Living," 7-96; U.S. Department of Labor, National War Labor Board, "Report of the Secretary of the National War Labor Board to the Secretary of Labor for the Twelve Months Ending May 31, 1919" (Washington, 1920), 27-28, 94-104; National War Labor Board, "Memorandum on the Minimum Wage and the Increased Cost of Living" (Washington, 1918); Alexander M. Bing, Wartime Strikes and Their Adjustment (New York, 1921), 131, 153, 191-195; Lauck, New Industrial Revolution, 42-66.

Note that the wartime demand for better price data led the BLS to initiate a semi-annual consumer price series in 1917, with figures going back to 1914. This was the forerunner of today's CPI.

17. A few nonunion employers also made regular use of COLA pay plans. Carr, "Cost-of-Living," 339-430.

18. Ibid., 9-23, 200-229; Louis Levine, The Women's Garment Workers (New York, 1924), 367-369; J.H. Batchelor, "A Wage Adjustment Based on Cost of Living Changes," Bulletin of the Taylor Society, 5 (April 1920), 50-51; Francis H. Bird, "The Cost of Living as a Factor in Recent Wage Adjustments in the Book and Job Branch of the Chicago Printing Industry,"

American Economic Review, 11 (December 1921), 622-642; Emily Brown, Book and Job Printing in Chicago (Chicago, 1931), 157-172.

The author's contract file shows that between 1915 and 1920, 50% of printing contracts had a duration of three years or greater, versus 15% elsewhere.

19. Samuel Gompers, "The Development and Accessibility of Production Records Essential to Intelligent and Just Determination of Wage Rates," The Annals, 100 (March 1922), 54-55; Lauck, New Industrial Revolution, 67-76; Carr, "Cost-of-Living," 436-444; Herbert Feis, Principles of Wage Settlement (New York, 1924), 185-338; Brown, Printing in Chicago, 173-214; William F. Ogburn, "The Standard-of-Living Factor in Wages," American Economic Review, 13 suppl. (March 1923), 118-128.

At its 1921 convention, the AFL denounced the cost-of-living principle as "a violation of the whole philosophy [of] progress and civilization . . . utterly without logic or scientific support of any kind." Report of the Proceedings of the 41st Annual Convention of the American Federation of Labor, Denver, June 1921, 68.

20. The companies that adopted COLAS during the mid-1930s were large nonunion employers (Standard Oil of New Jersey, General Electric, U.S. Steel) who belonged to the Special Conference Committee, a group devoted to using enlightened personnel policies as a union avoidance strategy. But during the early 1940s and postwar years, COLAs were firmly associated with the organized sector. Milton Derber, "Electrical Products," in Harry A. Millis (ed.), How Collective Bargaining Works (New York, 1945), 751-753; Francis H. Bird, "Adjusting Wages to the Cost of Living Index," Personnel, 14 (February 1937), 74-78; "Wage Adjustment Provisions in Union Agreements," Monthly Labor Review [hereafter MLR], 50 (January 1940), 6-15;

National Industrial Conference Board, Studies in Personnel Policy No. 33, "Problems in Wage Adjustment" (New York, 1941), 8; Florence Lutz, "Adjustment of Wages to Changes in the Cost of Living," MLR, 63 (November 1946), 733-743; Henry Lowenstern, "Adjusting Wages to Living Costs: A Historical Note," MLR, 97 (July 1974), note 16; W.S. Woytinsky, Labor and Management Look at Collective Bargaining: A Canvass of Leaders' Views (New York, 1949), 73, 104, 110.

During World War II, the NWLB froze COLAs and wage reopeners at the Little Steel level. National War Labor Board, Termination Report, vol. 1 (Washington, 1946), 210.

21. Daily Proceedings of the Fourth Constitutional Convention of the CIO, November 17-22, 1941, Detroit, Michigan, 267-268; U.S. Bureau of Labor Statistics, "Collective Bargaining Provisions: Wage Adjustment Plans," Bulletin No. 908-9 (Washington, 1948), 35-38; National Industrial Conference Board "Cost of Living Provisions in Union Contracts," Studies in Personnel Policy No. 113 (New York, 1951), 13-14; Arthur M. Ross, "The General Motors Wage Agreement of 1948," Review of Economics and Statistics, 31 (February 1949), 1-7; Frederick H. Harbison, "The General Motors-United Auto Workers Agreement of 1950," Journal of Political Economy, 58 (October 1950), 397-411; Nelson M. Bortz, "Cost-of-Living Wage Clauses and UAW-GM Pact," MLR, 67 (July 1948), 1-7.

22. Bureau of National Affairs, "Tying Wages to the Cost of Living," (Washington, 1950), 61; "Cost of Living Wage Adjustments in Collective Bargaining" (mimeo, 1950) reprinted in U.S. Bureau of Labor Statistics, "Deferred Wage Increases and Escalator Clauses," Report No. 235 (Washington, 1963); "Recently Bargained Cost-of-Living Wage Adjustments," MLR 71 (November 1950), 557-559; "Wage Escalators and the Adjusted CPI,"

MLR, 72 (May 1951), 509-513; "Agreement Expirations and Wage Adjustment Provisions," MLR, 72 (June 1951), 680-681; Harold Stieglitz and Phyllis Syetta, "Longer Long-Term Contracts," Management Record, 12 (November 1950), 445-447.

23. H.M. Douty, "The Growth, Status, and Implications of Wage Escalation," MLR, 76 (February 1953), 125-129.

24. "Wage Escalation -- Recent Developments," MLR, 78 (March 1955), 315-318.

25. Irving Fisher, "Adjusting Wages to the Cost of Living, MLR, 7 (November 1918), 1-5.

26. Author's contract file; "Wage Adjustment Provisions," MLR, 50 (January 1940), 10; Woytinsky, Labor and Management, 110.

27. Interest rates on long-term government and corporate bonds declined from 1920 until 1946, and then rose steadily through the 1970s. This is consistent with a change in long-run price expectations. Sidney Homer, A History of Interest Rates, 2d. ed., rev. (New Brunswick, 1977), 330-369.

28. During the years between 1955 and 1960, when long-run contracts were spreading throughout the union sector in the United States, American workers had the highest work stoppage rates in the industrialized world. Interestingly, Italy was ranked second. U.S. Bureau of Labor Statistics, Handbook of Labor Statistics, bulletin no. 1865 (Washington, D.C.: U.S. Government Printing Office, 1975), 443.

29. The rise and fall; of COLAs in the late 1950s and early 1960s can be traced through a series of articles in Monthly Labor Review entitled "Deferred Wage Increases and Escalator Clauses": MLR, 80 (January 1957), 50-52; MLR 81 (December 1958), 1362-1365; MLR 82 (December 1959), 1324-1328; MLR, 83 (December 1960), 1268-1271; MLR, 84 (December 1961) 1319-1323; MLR, 85 (December 1962), 1343-1346; "The Prevalance of Escalator

Clauses and Experience With Them in the Past 20 years," MLR, 89 (September 1966), iii-iv. On the early 1970s, see Wallace E. Hendricks and Lawrence M. Kahn, Wage Indexation in the United States: Cola or Uncola (forthcoming, 1985).

30. Data cited in Daniel J.B. Mitchell, "The 1982 Union-Wage Concessions: A Turning Point in Collective Bargaining?", California Management Review, 15 (Summer 1983), 78-92.

31. Sanford M. Jacoby and Daniel J.B. Mitchell, "Employer Preference for Long-Term Union Contracts," Journal of Labor Research, 5 (Summer 1984), 215-228.