The Contractual Cost-of-Living Escalator

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The linkages between living costs and wages have long intrigued workers, businessmen, economists, and policy makers. Both the direction and intensity of causation have been subject to considerable debate. The analysis that follows focuses on one aspect of the complex set of relationships between wages and prices, namely, the "cost-of-living escalator clause" included in a number of collective bargaining agreements. By combining readily available information with a number of realistic—and easily modifiable —assumptions, this article yields some estimates of the direct consequences of escalator clauses for such closely watched barometers of overall wage movements as private sector hourly compensation and aggregate major collective bargaining settlements.

The question addressed here is essentially the extent to which familiar, aggregate wage data are directly affected by escalator clauses included in collective bargaining agreements. Because of its relatively narrow focus, a number of related issues are not treated in this paper. For example, the analysis does not attempt to estimate "spillovers" that might result when wages of workers not covered by escalator adjustments are increased to keep pace with those of workers with automatic contractual escalators. More broadly, the present paper does not discuss whether the direct linking of wage rates to price indexes mitigates or exacerbates inflationary pressures. For the most part the statistics upon which this paper is based run through the end of 1973. There is evidence that the use of escalator clauses is becoming increasingly common. Thus, the available figures may understate somewhat the overall importance of escalator clauses and their impact on the broader measures of wage behavior.

Despite these various limitations, the paper provides some insights into the magnitude of the direct effects of escalator clauses on broad measures of wages. Perhaps the most important finding of this study is that, while automatic cost-of-living adjustments can have a substantial effect on the wages paid to workers with such clauses in their contracts, the direct implications for the aggregate measures of wage change have so far been comparatively modest. This conclusion stems primarily from the fact that only a minority of employees covered by labor agreements, and an even smaller proportion of workers in the overall economy, come under contractual escalator clauses.

The remainder of this paper is divided into four sections. In the first, the prevalence of cost-of-living escalator clauses in labor agreements throughout the economy is discussed, together with the impact of such clauses on total negotiated wage changes over the 1968-73 period. In the second section, the question of the impact of escalator clauses on compensation per man-hour, the broadest of the Bureau of Labor Statistics (BLS) wage indexes, is taken up. This analysis is followed in the third section with estimates of the effects of escalators on major collective bargaining settlements. Finally, the fourth section summarizes the major findings of this study.

BACKGROUND

As of the end of 1973, approximately 4 million workers from the total population of more than 10 million workers covered by major collective bargaining agreements, i.e., situations involving 1,000 or more workers, had escalator clauses in their contracts[1] (see Table I). Interestingly, while this is about double the number that had such clauses in the mid-1960's, it is almost precisely the same as during the 1958-60 period. The sharp fall in 1961 and the abrupt rise in 1972 in the number of workers covered largely represent the dropping and subsequent regaining of escalator clauses by more than 1 million workers in the steel and communications industries.

A smaller number, about 3 million workers, will actually receive increases from their escalator clauses in 1974 because cost-of-living adjustments are not scheduled for some contracts that expire during the year. This is in keep-

[1] See John L. Gurney, "Calendar of Wage Increases and Negotiations for 1974", *Monthly Labor Review* (January 1974), pages 3-8.

Table I

THE NUMBER OF WORKERS COVERED BY ESCALATOR CLAUSES IN THE BUREAU OF LABOR STATISTICS SERIES ON MAJOR COLLECTIVE BARGAINING AGRREEMENTS

January	Workers (millions)	January	Workers (millions)
1974*	4.0	1965	2.0
1973	4.1	1964	2.0
1972	4.3	1963	1.9
1971	3.0	1962	2.5
1970	2.8	1961	2.5-2.8
1969	2.7	1960	4.0
1968	2.5	1959	4.0
1967	2.2	1958	4.0
1966	2.0		

* Preliminary.
Source: *Monthly Labor Review* (January 1973 and January 1974).

ing with recent experience: over the 1968-73 period, about three fourths of the workers with escalator clause contracts, on average, received cost-of-living increases during any given year.

Little information has been assembled concerning the prevalence of escalator clauses outside the Labor Department's on-going survey of major collective bargaining settlements, which encompasses private sector agreements covering 1,000 or more workers. It is, however, possible to make some plausible estimates of the escalator coverage in the private nonfarm sector of the economy. Roughly speaking, the approximately 10 million workers included in the major collective bargaining settlements survey probably account for something like half of the total number of persons coming under private, nonfarm collective bargaining agreements.[2] Assuming that the proportion of workers in the smaller bargaining units with escalator clauses in their contracts is similar to that of the major agreements population, total escalator coverage in both large and small contracts could be about 8 million workers, of whom 6 million would actually get such increases in 1974. In all likelihood, however, escalator clauses are much less prevalent in contracts covering fewer than 1,000 workers.

There are numerous variations on the theme of contractually adjusting wage levels to changes in living costs. Labor contracts between the United Auto Workers (UAW) and the major auto producers contain the oldest major escalator clauses in existence. In 1948,[3] the UAW and General Motors (GM) reached a key agreement which provided for an "annual improvement factor" in automotive workers' standard of living. To insure that the contractual increases stated in nominal terms would translate into real wage gains, the contract stipulated a series of regular reviews whereby wages were to be automatically adjusted to changes in the BLS consumer price index (CPI). The current agreements between the UAW and the major auto producers were renegotiated last year and call for a one cent wage hike with each 0.3 index point (not percentage) rise in the CPI. Furthermore, the current agreements are open ended insofar as they set no maximum on the amounts that can be paid out under the escalator clauses. According to the Labor Department, close to half of the 4 million workers under major contracts with escalator clauses currently face maximums on the amounts that can be paid out under the contracts. The two-year contract signed by the United States Postal Service in mid-1973 provides for an unlimited cost-of-living adjustment of annual earnings, with each 1 percent rise in the CPI giving rise to a $50 increase in annual salary. In what may well prove to be the birth of an important pattern, contracts concluded early this year in the aluminum and steel industries extended the escalator concept to pension benefits.

How big are the payments made under escalator clauses? BLS data indicate that the average wage rate increase resulting from these clauses ranged between 1.6 percent in 1968 and 1969 to 4.1 percent in 1973 (column 2 of

[2] This is broadly consistent with the most recent Labor Department estimates of union membership in the private sector, which totaled about 17 million in 1972. The number of union members in agriculture is very small.

In addition, the Labor Department estimates that there are 600,000 factory workers in nonunion and smaller unionized manufacturing establishments covered by formal cost-of-living escalator arrangements. Outside the private sector, roughly 600,000 United States Postal Service employees come under explicit clauses. It is also worth noting that levels of several important types of nonwage income are linked via escalator-type mechanisms to changes in consumer prices. Pensions paid to about 2½ million retired Federal employees are tied directly to changes in the consumer price index (CPI). Starting in 1975, benefits paid to social security recipients —who numbered almost 30 million persons near the close of 1973 —will automatically reflect movements in the CPI.

[3] See Nelson M. Bortz, "Cost of Living Wage Clauses and UAW-GM Pact", *Monthly Labor Review* (July 1948), pages 1-7, for details. Bortz points out that the UAW-GM Pact was certainly not the first to include an automatic escalator and cites a contract clause from the early 1920's.

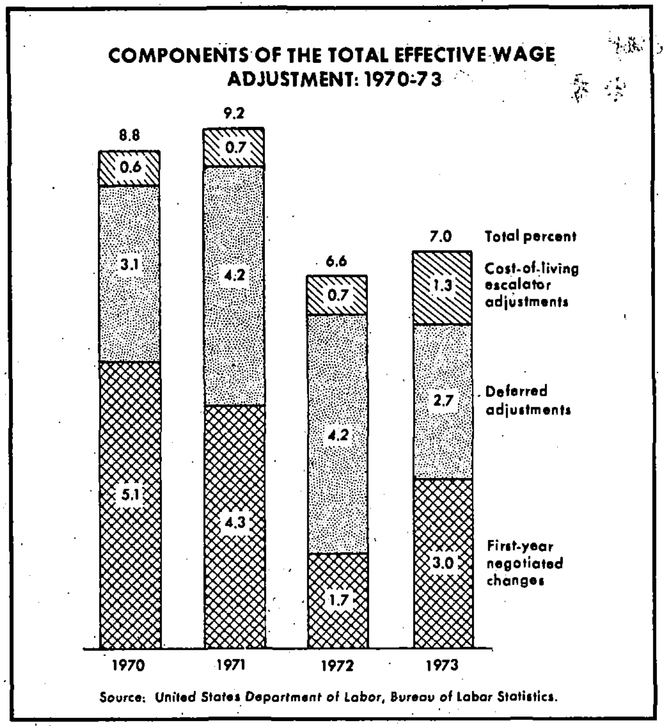

Table II).[4] A good indication of the relatively minor importance of escalator clauses, compared with *total* negotiated wage rate changes, can be obtained from an examination of the Labor Department's "total effective wage adjustment". The total effective wage adjustment (column 5 of Table II) is simply the average wage rate increase received by the major contracts population of approximately 10 million workers during a given year. It represents the sum total of first-year increases negotiated that year, deferred increases inherited from earlier contracts, cost-of-living raises paid out during the year, as well as situations where wages were unchanged or, in some cases, reduced.

Among the important pieces of information contained in the data reported in Table II, the following should be noted. Over the entire 1968-73 period, the CPI rose at an average annual rate of 5.3 percent. At the same time, the average annual wage rate increase granted under cost-of-living escalator clauses came to 2.7 percent, implying an "elasticity" of wages with respect to consumer price increases of 0.5 percent for workers having contractual escalators. However, the elasticity was a somewhat larger 0.6 percent over the 1970-73 period. Because this figure gives increased weight to the more recent years, it was used in most of the calculations reported below. Most escalator clauses build a lag between price and wage changes. That is, payments made in a given month generally reflect consumer price changes that occurred somewhat earlier. Although the precise lag is unknown and varies from contract to contract, an examination of different lag relationships tended to support the choice of an elasticity of approximately 0.6 percent.

During the 1968-73 period, escalator increases accounted for a small portion—0.7 percentage point of the 7.4 percent average—of the annual rise in wage rates for contracts included in the Labor Department's survey of major agreements. In 1973, wage rates of all workers covered by major collective bargaining agreements rose an average of 7 percent. Escalator clauses accounted for only 1.3 percentage points of this rise (column 4 of Table II, which is the arithmetic product of columns 2 and 3), principally because a relatively modest proportion of workers, 31 percent, received payments from escalator clauses. The chart shows the contributions of the three major components to the overall change in the total effective wage adjustment for the years 1970-73. In 1973, when, as noted, the total adjustment amounted to 7 percent and cost-of-living escalators accounted for 1.3 percent, deferred and first-

Table II

WAGE INCREASES UNDER MAJOR COLLECTIVE BARGAINING AGREEMENTS AND RELATED DATA

In percent

Period	Consumer price index (CPI)	Cost-of-living escalators: Average increase	Proportion of workers getting increases	Effective adjustment	Total effective wage adjustment
	1	2	3	4	5
1968	4.7	1.6	21	0.3	6.0
1969	6.1	1.6	21	0.3	6.5
1970	5.5	3.7	17	0.6	8.8
1971	3.3	3.1	20	0.7	9.2
1972	3.4	2.0	36	0.7	6.6
1973	8.8	4.1	31	1.3	7.0
1968-73	5.3	2.7	24	0.7	7.4
1970-73	5.2	3.2	26	0.8	7.9

Source: United States Department of Labor, Bureau of Labor Statistics.

[4] Unfortunately, escalator clause data are not available prior to 1968.

Table III

ESTIMATED BEHAVIOR OF ESCALATOR CLAUSES AND IMPACT ON PRIVATE NONFARM HOURLY COMPENSATION UNDER ALTERNATIVE CPI GROWTH RATES

Escalator adjustment	Percentage change in the CPI					
	0	2.5	5	7.5	10.0	12.5
Size of escalator adjustment (percent)	0	1.7	3.0	4.5	6.0	7.5
Impact on hourly compensation (percentage point)	0	0.2	0.3	0.4	0.5	0.7

year increases were responsible for 2.7 and 3 percent, respectively.

THE DIRECT IMPACT OF ESCALATORS ON HOURLY COMPENSATION

With the preceding analysis and some additional information, estimates of the probable impact of escalator clauses on compensation per man-hour can be derived. Compensation per man-hour is the broadest of the wage indexes published by the BLS. It covers production and nonproduction workers alike, encompasses unionized and nonunionized situations, and includes fringe benefits in addition to hourly wage payments. Movements in hourly compensation reflect the impact of escalator clause payments, and the information contained in Table III represents an attempt to isolate and identify the rise in hourly compensation attributable directly to the operation of escalators.

The first row of Table III is based on the assumption that each 1 percent increase in the CPI generates a 0.6 percent increase in compensation for those workers covered by escalators. This "elasticity" for compensation with respect to a change in prices is based on the average relationship observed over the 1970-73 period shown in Table II. The direct impact of escalator clauses on hourly compensation is approximated by weighting the cost-of-living increase by the proportion of private sector workers actually receiving such increases during the year. As mentioned above, about 3 million workers under major contracts will receive escalator increases in 1974. Doubling this to represent the overall private nonfarm population gives a total of 6 million workers, which is about 9 percent of employment in the nonfarm sector. As shown in the bottom row of Table III, the percentage point contribution to hourly compensation is on the small side, rising from 0.2 point when the CPI increases at an annual rate of 2.5 percent to 0.7 point when the cost-of-living increase is 12.5 percent.[5] Overall, in going from a moderate to a very rapid climb in the CPI, the additional impact on hourly compensation is quite mild.

The preceding analysis may overstate the direct impact of escalators on the growth of compensation, especially under the more rapid rates of inflation. Hourly compensation (which includes fringe benefits) might not rise as fast as hourly wages (the basis for Table II) because the costs of some important fringes, such as hospitalization, do not rise with an increase in hourly wages. Furthermore, the response of compensation probably decreases somewhat as the rate of inflation rises under the current structure of labor agreements. As noted previously, many contracts limit the total amounts that can be paid out under escalators during a given year or over the life of the contract.

ADJUSTING THE REPORTED COLLECTIVE BARGAINING DATA

In reporting the results of major collective bargaining settlements, the Labor Department includes only what might be termed "guaranteed" wage (and benefit) improvements in its estimates of the size of first-year and life-of-contract negotiated settlements. Thus, wage and related increases dependent on *future* movements in the CPI via escalator clauses are not incorporated into the BLS estimates. Except in the context of the effective wage adjustment, noted above, historical data on negotiated changes do not include the cost-of-living increases which actually did accrue.

Some indication of how the published collective bargaining data would behave under alternate assumptions about the future behavior of the CPI can be derived, nonetheless. The second and third columns of Table IV show those changes in wage rates alone and in wages and benefits combined actually reported by the BLS for major settlements reached in 1973. As mentioned, these data *do not* include any escalator wage changes which depend on *future* movements in the CPI. The next two sets of columns (columns 4-7) give judgmental estimates as to how the data might look under an annual average increase in the CPI of 5 percent during the life of the contracts and, arbitrarily, when the CPI rises twice as fast.

[5] The impact in a particular quarter could be greater than this, however, if cost-of-living increases are distributed unevenly over the year.

A number of simple, but realistic, assumptions provided the foundation for these judgmental estimates. As described earlier, each 1 percent rise in the CPI was assumed to generate a 0.6 percentage point increase in wages for workers having escalators—the "elasticity" assumption remained the same. The total package of wages and benefits combined is probably less sensitive than wage rates alone to changes in the CPI, however. Accordingly, each 1 percent rise in the CPI was assumed to be associated with only a 0.4 percent increase in wages and benefits.[6] It was noted above that the costs of certain important fringe benefits are not directly affected by the existence of escalator clauses. Since many contracts provide for at least some cost-of-living money to be paid out during the *first year*, half the amount that would be forthcoming if escalators were allowed to be fully operative under the previous assumptions was added to the first year. Finally, contract duration was assumed to average two years in nonmanufacturing, largely because of the switch toward one-year construction agreements that began with the operation of the Construction Industry Stabilization Committee in early 1971, and three years in manufacturing.

Table IV shows the impact of these assumptions on the reported collective bargaining data. The upward adjustment to wage rates in contracts with escalator clauses is quite sizable. As seen by comparing columns 3, 5, and 7, the life-of-contract wage increases for manufacturing con-

[6] In examining hourly compensation, which includes fringe benefits, an elasticity of 0.6 was assumed. Of course, the smaller elasticity of 0.4 would reduce the impact of escalators on hourly compensation even further.

Table IV

PERCENTAGE INCREASES IN MAJOR COLLECTIVE BARGAINING SETTLEMENTS: ACTUAL AND HYPOTHETICAL FOR 1973

Sector	As reported:			Hypothetical case I CPI rises at 5 percent annual rate		Hypothetical case II CPI rises at 10 percent annual rate	
	Number of workers* (millions)	First year	Life of contract	First year	Life of contract	First year	Life of contract
	1	2	3	4	5	6	7
Manufacturing:							
Wage rates	2.4	5.9	4.9	6.8	6.4	7.7	7.8
Contracts with escalators	1.4	5.4	4.2	6.9	6.7	8.4	9.2
Contracts without escalators	1.0	6.7	5.9	6.7	5.9	6.7	5.9
Wages and benefits	1.6	7.0	6.0	7.7	7.2	8.4	8.4
Nonmanufacturing:							
Wage rates	2.9	5.7	5.3	6.0	5.8	6.3	6.3
Contracts with escalators	0.6	6.5	6.3	8.0	8.6	9.5	10.8
Contracts without escalators	2.3	5.5	5.1	5.5	5.1	5.5	5.1
Wage and benefits	1.8	7.1	6.2	7.4	6.6	7.6	7.0
All industries:							
Wage rates	5.3	5.8	5.1	6.4	6.1	6.9	7.0
Wages and benefits	3.4	7.1	6.1	7.5	6.9	8.0	7.7

Note: Because of rounding sums of individual items may not equal totals.
* Wage rate data pertain to contracts covering 1,000 or more workers, while combined wage and benefit data are for contracts covering 5,000 or more workers.

tracts with escalators rise from the reported annual gain of 4.2 percent to 6.7 percent when the CPI is assumed to grow at a 5 percent annual rate (hypothetical case I) and to 9.2 percent when the cost of living climbs twice as fast (hypothetical case II). However, the bottom lines of Table IV indicate that the implications for all major contracts combined, i.e., those with and without escalator clauses, are a good deal less dramatic. For all industries, and all contracts, a 5 percent rise in the CPI adds 0.8 percentage point to the average life-of-contract growth in wages and benefits (an actual rise of 6.1 percent compared with a hypothetical 6.9 percent). This difference rises to 1.6 percentage points (actual of 6.1 percent *vs.* the hypothetical of 7.7 percent) when the CPI climbs 10 percent per annum. A fundamental reason for this relatively minor overall impact is the fact that only a minority of workers have escalator clauses in their contracts.

Table IV provides only ambiguous answers to the important question of whether wages rise faster or slower under escalator arrangements. However, even if it could be definitely shown that wages rise more rapidly in contracts with escalators, this does not necessarily imply that these mechanisms intensify inflationary pressures. If, as some have suggested, the presence of an escalator clause in a contract is directly related to the degree of union bargaining power, then it might well be that the greater bargaining power—and not the escalator clause—was the source of the higher wages. That is, unions with considerable bargaining power would succeed in getting higher wages with or without escalator clauses in their contracts.

SUMMARY AND CONCLUSIONS

The major findings of this article can be summarized in the following points. However, as emphasized above, it is critical to distinguish those conclusions based directly on *facts* derived from published or readily available Labor Department data from those resting on reasonable *assumptions* tied to the facts. It is also important to note that, since the incidence and elasticity of escalator clauses appear to be increasing, the impact of the clauses may well be on the rise.

(1) In terms of coverage, approximately 4 million, or 40 percent, of the workers covered by major collective bargaining contracts as of the end of 1973 had escalator clauses in their contracts. As in other recent years, only about three fourths of the workers with escalator provisions are expected to receive cost-of-living wage increases during the course of 1974. Accordingly, it seems reasonable to infer that at most only about one in every eleven workers in the private nonfarm sector as a whole will get a contractual cost-of-living wage increase this year.

(2) As far as the actual size of escalator payments is concerned, Labor Department data for the 1968-73 interval indicate that, in the face of a 5.3 percent annual rise in the CPI, the average cost-of-living wage rate increase came to 2.7 percent. Since these raises accrued to a minority of the workers covered by major labor contracts, they accounted for 0.7 percentage point of the 7.4 percent annual wage increase averaged over the period from all provisions in major collective bargaining agreements which actually took effect during those five years, i.e., first-year increases, guaranteed deferred raises, and cost-of-living hikes.

(3) When these and related facts are combined with certain reasonable assumptions, the following picture emerges. The direct impact of escalator clauses on economy-wide wage levels is at this point comparatively small. For example, a rise in the rate of consumer price inflation from 2.5 percent to 12.5 percent per year would—via the *direct* linkages provided by escalator clauses—add only 0.5 percentage point to the growth of private nonfarm compensation per hour of work. It should be emphasized again, however, that this does not take into account any "spillover" effects that might occur if, for example, firms routinely grant workers outside the bargaining unit wage increases commensurate with those given to employees covered by contractual escalator clauses. Nor does it tell anything about the broader issue of whether escalators exacerbate or mitigate the inflationary process.

While hourly compensation includes pay increases stemming from escalators, the results of current collective bargaining settlements reported by the Labor Department for major agreements do not. That is, only guaranteed wage and benefit improvements are averaged into the estimates of negotiated increases (reported on a quarterly basis) so that contractual increases entirely and directly dependent on future movements in the CPI via escalator clauses are not included in these figures. On the basis of the assumptions outlined above, "pricing in" cost-of-living escalators has a substantial impact on the life-of-contract gains accruing to those workers covered by escalator clauses. However, because such workers are in the minority, the impact on all major contracts, i.e, those with and without escalators combined, is noticeably smaller. During 1973, the average life-of-contract wage and benefit increase reported by the Labor Department was 6.1 percent. The adjustments outlined in the body of this paper suggest that a 5 percent average annual rise in prices over the life of these contracts would add approximately 0.8 percentage point to this figure, while a 10 percent climb in the CPI would add about 1.6 points.