Volume Title: The Measurement of Labor Cost

Volume Author/Editor: Jack E. Triplett, ed.

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-81256-1

Volume URL: http://www.nber.org/books/trip83-1

Publication Date: 1983

Chapter Title: Wage Measurement Questions Raised by an Incomes Policy

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Chapter URL: http://www.nber.org/chapters/c7389

Chapter pages in book: (p. 449 - 462)

14 Wage Measurement Questions Raised by an Incomes Policy

Donald A. Nichols

A wage stabilization program encounters many of the fundamental wage measurement problems that also face the Bureau of Labor Statistics and researchers who use wage data. Because millions of dollars are at stake in the administrative decisions made in an incomes program, enormous pressure is brought to bear to find solutions to these problems that are precise and simple, yet consistent. The record of such a program, then, provides an interesting perspective on wage measurement issues. Can we measure wages when there is money on the table? Which wage measurement problems were found to be insoluble by wage stabilization authorities in the past? Which definitions of wage increase were thought by these authorities to be consistent enough to stand up in court? What can we learn from the high-priced talent that scrutinized the proposed wage definitions for inconsistencies?

In this paper, I describe some of the wage measurement questions that arose during the Carter stabilization program of 1978–80 and the solutions to those issues that were adopted by the Council on Wage and Price Stability (CWPS).[1] Lessons for wage measurement are drawn. Many of these issues are also addressed in the paper by McMenamin and Russell (this volume), though from a slightly different perspective.

14.1 Problems with Wage Indexes

The CWPS pay standard permitted firms to give an average pay increase of no more than 7 percent. Within large employee groups, the total

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This research was supported by grant 99-0-2289-50-11 from the National Commission for Employment Policy and contract 20-06-08-11 from the Employment and Training Administration, U.S. Department of Labor. Jack Triplett provided helpful comments on an earlier draft.

increase permitted by this standard could be allocated over workers in any way the firm chose. CWPS defined three different indexes that could be used to compute this average rate of wage increase. These methods acquired the colorful titles of the "double snapshot," the "ice cube," and the "melting ice cube."

The double snapshot measured wage increases by simply dividing total compensation by total hours at two different times and computing the excess of one average over the other. The Antos paper in this volume describes the use of this method by the BLS in computing average hourly earnings. When the CWPS first proposed this index, critics noted that firms could evade the standard by increasing their fraction of low-wage workers. In this case existing employees could all be granted increases in excess of 7 percent, but the average would be kept down by adding low-wage workers at the bottom. On the other hand, firms expecting to change their employee mix toward high-wage workers felt this standard hurt them unduly. They might be found in violation of the standard even if none of their employees received an increase over 7 percent.

To satisfy this objection, other indexes were permitted. The ice cube was a fixed-weight index of wage rates paid for specific job descriptions where the weights were equal to the initial distribution of employment over those jobs. By definition, changes in the mix of employment could not affect this index since its weights were frozen at their initial levels. Wage levels were attached to jobs in this index, not to people. If a worker was promoted, his increase would not be counted as long as the wage rates for the job he left and the job he took remained unchanged. Firms had asked for this treatment of promotions to be able to retain their best employees who might otherwise be tempted to leave by offers of promotions from other firms.

The third index that was permitted, the melting ice cube, was an average of the increases granted to all employees who worked for the firm the entire period over which the wage increase was measured. This was also a fixed-weight index, but here the weights were based on workers, not jobs. These weights were also frozen, but the components of the index would melt away with employee turnover. In this index, increases granted for promotions had to be counted in the overall average. This made the melting ice cube less attractive than the ice cube for many firms. It was probably of greatest interest to small firms with poorly defined job descriptions that would have trouble distinguishing a promotion from a pay raise in any event.

While CWPS called the index of worker-specific wages a melting cube and the index of occupation-specific wages a plain cube, in practice, occupations can be discontinued (melt away) just as workers can leave a firm. New occupations can be added when production methods are revised, and the wage rates of these occupations will not appear in the

occupational wage index. Similarly, the wages of new employees will not appear in the index of wage rates of continuing workers.

14.1.1 Wage Rates of Workers or Wage Rates for Jobs

The Antos paper notes the distinction between a worker-specific wage index and a job-specific index and points out that aggregate measures of both concepts are published in addition to the unweighted measure of average hourly earnings. Antos notes that the CPS measures the wages of individuals while the Employment Cost Index and the BLS occupational wage surveys measure the wages attached to particular jobs. Which is the correct measure of wages? The answer depends, of course, on the purposes of the data.

CWPS was forced to permit the use of a fixed-weight index of occupational wage rates as a measure of wage increase. This seems a sensible decision to me, since CWPS was interested in limiting labor cost rather than workers' incomes. As a measure of labor cost, what is needed is an index of the prices at which labor can be hired to perform specific tasks. These tasks are precisely defined for the occupational wage surveys through a set of occupational definitions. Regardless of how the wages of particular individuals may vary over time, labor cost will increase or decrease depending on the wages that must be paid for the performance of the specific tasks necessary for production. In the absence of productivity growth, an index of the wage rates paid for these tasks will capture changes in labor cost.

The sample rotation procedure of the Current Population Survey provides a subset of workers whose earnings are surveyed in two successive years or months. Their wage increases provide a sample of the wage increases of workers generally, whose average size may be quite different from the average wage increase paid for the sample of occupations noted above.

A simplified illustration of the difference between the two wage measures is found in the concept of a *job ladder*, which is a series of steps through which an individual might progress in the course of a career. Each step denotes a job or occupation defined by a set of assignments. Each step has a wage or a wage structure associated with it. Occupational wage statistics measure what is being paid at each rung of the ladder. Occupational wage increases rise when the wage paid at a particular rung increases regardless of who occupies the rung. Worker-specific wages, then, can change for two reasons: (1) the wage paid at the rung the worker occupies may change; or (2) the worker may take a step up (or down) the ladder to a higher (or lower) rung with a different wage.

CWPS permitted firms to report either the average amount by which the wage rates on their job ladders had risen (the ice-cube method) or the average amount of the increases received by their continuing workers,

regardless of their rate of progress up the ladder (the melting ice-cube method). Since workers, on average, do move up the job ladder, an occupational index might normally be expected to increase less than the index of continuing workers' wages.

Nevertheless, since small firms are not likely to have precise job definitions, they may be forced to use a worker-specific index during an incomes program rather than a job-specific index. In small firms, work may be divided among existing workers according to ability. As a worker gains experience, more assignments may be added to his given job along with higher pay. Work then gets divided in a different way. This may be thought of as partly a promotion and partly a redefinition of the existing jobs. Because of the difficulty of linking the new wages to the old occupations, CWPS forced such firms to use either an index of wages paid to existing workers or the average hourly earnings measure which is not a fixed-weight index at all.

But how do we want BLS to treat these small firms in their occupational wage surveys? There appears to be no alternative to reclassifying each job each year. While this can add an element of error to each observation, there is no reason to believe it adds bias. For CWPS, such a procedure was impractical both because the number of firms was so much larger than their limited staff could handle and because the respondents' desires to make the reported data come out a certain way would bias their response. BLS, and researchers in general, do not face the problem of response bias that CWPS confronted.

The ability to use the occupational job ladder measure of wage rates for compliance purposes made promotions exempt from the wage standard. An issue similar to promotions is that of wage increases based on seniority, and these CWPS decided not to allow. At each rung of the ladder, there may be a whole schedule of wage rates based on experience of longevity. A worker might normally expect to progress through this schedule as he rests on the rung. Should the wage increases that result from progressing through such a preexisting schedule also be exempt? That is, if a firm raises its whole wage schedule by exactly 7 percent, including all the seniority premiums associated with each step of the ladder, should it be penalized for noncompliance simply because its workers age? On the other hand, should it be able to raise its wage schedule by more than 7 percent if many workers retire in a particular year to be replaced by junior workers at the bottom of the scale? CWPS answered yes to these questions by forcing firms to include longevity wage increases as part of the 7 percent permitted by the standard. This was done by permitting only one wage level for each job definition, with the original level being the average paid to all workers performing that job in the base year.

How would we want BLS to treat longevity increases when measuring labor cost? One issue of importance in answering this question is whether the seniority premiums generally reflect greater productivity or not. Medoff and Abraham (1980) found little relation between productivity and seniority for white-collar employees in two large manufacturing firms. If this result is typical of all occupations at all business firms, then it could be argued that seniority increases should be counted as wage increases and not simply as movements within a fixed-wage structure. The cost of production would increase with wage increases based on seniority in this case. If, on the other hand, productivity would normally be expected to increase along with pay, presumably because of the advantage of greater experience, it would be reasonable to ignore such increases and treat them as a change in the mix of employees. Obviously, to answer this question, more research is needed on the effect of seniority on productivity, and this research could be directed at the implications for wage measurement.

A more difficult issue is suggested by the question of why firms would pay such premiums if they do not reflect productivity. One possible answer is found in the length of the typical employer-employee relationship. This period's wage payment need not reflect this period's production alone but could represent, instead, an installment payment on a lengthy, possibly even a lifetime, contract. Japanese firms provide an excellent example of this with lifetime employment for some groups of workers who receive quite large longevity increases. Senior workers in Japan can earn much more than junior workers for performing the same task. The treatment given seniority increases when measuring the overall wage increase in Japan is crucial.

The seniority issue is but one manifestation of the general problem that the traits of workers and jobs evolve over time and that the mixes of jobs and workers' capacities change as well. Generally these changes lead to larger wage increases as measured by average hourly earnings than as measured by a fixed-weight index of occupations. "Wage drift" is the term given to this difference. Drift arises because of new occupations, changes in the mix of old occupations and, possibly, job downgrading. The last term refers to issues such as earlier promotion for people on career job ladders where the assigned tasks vary little with the level of the job. Academia provides a good example of this where earlier promotion to the rank of full professor could result in a higher average rate of wage increase for academics as a group, but that would not be reflected in an index of wages paid to each of the academic ranks. Indeed, because of the range of salaries available at each rank, an increase in promotions can reduce the average rate of pay of both associate and full professors by removing the highest paid associates and adding to the lowest paid group

of full professors. This reduction in reported rates for each job could be accompanied by a higher average increase for each worker.

Job downgrading may be associated with demographic cycles, or it may be endemic to a democratic society that promises advancement to all. It leads to wage drift. It is a phenomenon we need to know more about. Are measureable performance standards lower today than they once were for given occupations? What is the average amount of wage drift to be expected in the United States?

Human capital theory provides one way to estimate job downgrading. The Gollop and Jorgenson paper in this volume classifies workers by education, among other traits. If, over time, a particular occupation were occupied by workers with less and less education, one might surmise that this particular job was being downgraded. On average, however, because of the increasing percentage of the population attending college, education may not provide an invariable measure of human capital. Indeed, educational downgrading may be taking place and this may permit—perhaps require—employers to upgrade the educational requirements they demand of job applicants. More typical, then, might be increasing amounts of human capital being found in particular occupations over time, if human capital is measured by education alone.

Over the long-run, downgrading and changes in the occupational mix can lead to quite different estimates of the overall rate of wage increase, depending on whether the wage rates surveyed are those associated with specific tasks, those associated with individuals, or simply the average wage paid to a changing mix of workers and occupations. This makes it hard to interpret what certain wage trends mean. Douty (1980) reports that the percentage by which the average hourly earnings of skilled workers in manufacturing exceeded that for unskilled workers fell from 105 percent in 1907 to 31 percent in 1976. He points out that this decline could represent a narrowing of differentials, or it could represent an upgrading of the skills expected of unskilled workers, or a downgrading of the skills expected by skilled workers. As an example of the possible upgrading of unskilled workers, he points out that seventy-five years ago they were not expected to read or be familiar with machinery; they worked with simple tools, if any, often using strength to move materials. Today's unskilled worker in manufacturing may perform work that would have been semiskilled seventy-five years ago. As old jobs were eliminated and new ones created, the very concept of unskilled work gradually changed until it is now quite different from before. There is no way to be sure which of the wage measures, including the unweighted average hourly earnings, provides the best measure of wage change over such long periods.

Over the business cycle, it is extremely important that a fixed-weight measure of occupational wage rates be reported. Macroeconomic theory and policy are sharply divided today over the issue of how flexible wages

are. Empirical estimates of the cyclical variation of wages are found in the large-scale econometric models and have been used as a basis for policy by every administration since Nixon's. Most of these estimates are based on the Hourly Earnings Index which holds constant the weights of large manufacturing groupings and corrects for overtime premiums. But many changes in the composition of the work force take place over the cycle that can affect the rate of wage inflation reported by this index. In a recent paper, Nichols (1981), I showed that cyclical wage variation is substantially less in the wage indexes derived from the Professional, Administrative, and Clerical Wage (PATC) survey than it is in the Hourly Earnings Index.[2] Why this is true could not be resolved, but one possibility is that the fixed-weight PATC survey provides a more accurate measure of cyclical change than the unweighted Hourly Earnings Index. The issue of cyclical wage variability remains of crucial importance to macroeconomic policy, and macroeconomists should be prepared for the possibility that what they have come to regard as the normal response of wages to recession may simply be the result of the effect of the cycle on the weights of the Hourly Earnings Index. Short-run macroeconomic models may rely too heavily on the past behavior of average hourly earnings.

14.2 Nonhourly Compensation

Theoretical and empirical work in economics has been organized around the hour as a measure of labor input. Compensation is divided by hours worked to get a measure of the cost of each unit of labor input. Some forms of compensation do not lend themselves easily to such computations. Several are discussed here.

14.2.1 Incentive Pay

Incentive pay arrangements are quite common in manufacturing. They pose an enormous problem for wage measurement. They also pose a problem for a wage stabilization agency. In some occupations, technical progress or increases in the amount of capital used per worker permit great increases in productivity, while in other occupations no increase is possible. One would expect that competition would normally keep compensation at roughly equal levels for work of equal difficulty, and this means that those occupations paid on an incentive basis but with no chance for an improvement in productivity should get an annual enrichment of the incentive formula to keep them abreast of the occupations where compensation grows automatically with productivity. In other cases, improvements in production methods require the formulas to be revised downward periodically. The question arises how CWPS can tell in advance which occupations would normally expect an improvement in the incentive formula, which would expect a decline, and which would have no change.

CWPS denied all improvements in incentive formulas. On the other hand, they did not force any formulas to decline and, therefore, permitted any increase in compensation that took place as a result of an increase in productivity. This was clearly inequitable on the face of it, but it was felt there was really no option since the wage measurement issue was so difficult. Mills (1975) points out that the same decision was reached by wage stabilization authorities during World War II, the Korean War, and the Nixon controls. He concludes, "This review of historical experience suggests that, because incentive plans are very much specific to individual plants and industries, boards should handle them largely on a case-by-case basis." (Mills 1975, p. 201)

A case-by-case treatment may be feasible for a large controls program. It is not a sound approach for collecting wage data outside the purview of a controls program. The BLS must measure the increase in the wage rates attached to specific occupations, many of which are paid on an incentive basis. They cannot assign numbers by judgment to each observation in their sample. This is not a problem for the average hourly earnings measure of wages where total compensation is simply divided by total hours. But it is a problem for an index of occupational wages like the Employment Cost Index.

Research is needed on the nature of incentive compensation. How prevalent is it? How much of the normal increase in compensation earned by workers on incentive scales is due to an enrichment of the scales and how much to increased productivity? Can the variation in the source of these increases across different industries be attributed to any economic characteristics? The answers to these questions are of interest to those who measure wages for research purposes and to those who measure them for stabilization programs.

A less common form of incentive pay are bonuses linked to the firm's financial performance. CWPS treated these in the same way as piece rates—any enrichment of the bonus schedule was counted as a pay increase; any increase in compensation due to better performance of the firm was permitted. However, firms without well-defined formulas linking performance to bonuses were denied the chance to increase bonus compensation by more than 7 percent. Since the economy improved after the guidelines were installed in October 1978, many of these firms probably experienced an improvement in profits and under normal circumstances would have increased bonuses by more than 7 percent. But because of the element of discretion in their bonus procedure, this normal practice was denied by CWPS.

14.2.2 Future Value Compensation

Future value compensation poses two conceptual wage measurement issues: First, does an ex post measure of what is actually paid provide the

desired measure of labor cost? Second, how should an ex ante measurement be made if one is necessary? CWPS could not use an ex post measurement since firms wished to be told in advance whether a compensation agreement they were about to sign was in compliance. And for benefits such as pensions, not only was it clearly impractical for CWPS to wait and count the payments that were actually collected by workers, but the BLS also needs to have a way of estimating their value in advance.

Pension agreements are of two major kinds: defined benefit and defined contribution. Defined contribution plans pose no measurement issue for CWPS or BLS. The firm agrees to put a defined amount of money aside for its workers who will collect the invested proceeds of this money at the time they retire. The amount of money being put aside under a defined contribution plan is clearly part of labor cost. But defined benefit plans have formulas that link the promised pension to the worker's employment and wage history. Actuarial assumptions, investment performance, and government regulations determine how much must be put aside today to meet the promises implied by the formula.

Query: Under a defined benefit plan, is labor cost increased when the firm enriches the formula or when it increases its rate of contribution into the fund that finances the given formula? CWPS permitted firms to use either method without penalty. Under its average hourly earnings measure of wage increase, all current outlays for benefits were counted as part of labor cost. A firm could adopt this method regardless of any changes made in its formula. But CWPS permitted an exception for firms that had to raise their rates of contribution as long as they didn't enrich their formulas. Such an increase could be due to a bad investment experience that caused the fund to fall below the level the actuaries deemed to be safe, or it could result from an ERISA regulation that required an increase so the fund could reach some minimum level, or it could be due to a change in actuarial methods or assumptions.

Examples of these possibilities pose interesting issues of labor cost measurement for the BLS or for researchers. If a company must raise its contribution rate because of bad investment experience on the pension fund's portfolio, is that an increase in compensation and labor cost? I propose that for research purposes, no labor cost increase should be counted in this case. The reason is that the firm can be viewed as being engaged in two activities: (1) making things with labor and (2) gambling on the securities market. Its losses in the second activity should not be counted as a cost for the first. The market price of labor is unchanged by this. New workers can still be hired at the old rates. It is only the amount the firm has to put aside to meet that price that has been increased.

An interesting complication of this example arises if the union runs a multiemployer pension fund and the firms merely contribute defined amounts to it. The Teamsters, for example, receive defined contributions

from firms but promise defined benefits to their members. Successful investing is required if the contributions are to be sufficient to cover the benefits. But before the 1979 negotiations, the Teamsters had invested pension assets in Las Vegas real estate and lost some of the fund's money. Trucking firms were asked to raise their rate of contribution to the fund though employee benefits were not to be enriched by the increase. Query: Did Teamster compensation increase as a result of the increased contributions? CWPS, in a famous decision, said no, thereby permitting the Teamster contract to slide through the wage standard. What should BLS say in such a case?

I feel that a strong case can be made to keep all aspects of investment experience out of the measures of compensation. Profits or losses on a pension fund's investments should be treated like profits and losses in other activities of the firm. While they may appear in funds that have been segregated into an account for employees, as long as they do not affect the price the firm would have to pay to hire new labor, they are not a part of labor cost. Yet, in the Teamster case, a new employee would entail a higher pension cost under the new agreement even though this higher cost was necessary only to make up for past losses. Multiemployer funds are clearly a complicated issue.

A change in government regulation has more significance for CWPS than for researchers. During the CWPS program, a regulation came into effect defining equal pay for equal work to mean women had to receive the same pension formula promised to men despite their greater longevity. This meant that firms could expect to pay more to hire a woman than a man for the same job. Firms that had provided less generous pension formulas for women (though of equal expected value to those provided to men) had to increase their rate of contribution to the fund when women were promised the same formula as men. CWPS made these increased contributions exempt from the 7 percent standard. Since the increases raised both the expected cost to firms and the expected receipts of workers, they should be counted as increased labor cost by BLS. While standards of social equity might define equal pay to mean an identical formula of defined benefits, researchers should note that the expected pay of female workers was higher than that for men as a result of the regulation.

Changes in actuarial assumptions provide a similar problem. If the change is due to a new estimate of longevity, we might say that the old formula had been discovered to be more generous than expected. Maintaining this formula would then provide an increase in expected compensation. On the other hand, a change in actuarial methods might lead to an increased rate of contribution with no change in the expected benefits. This latter change is simply a change in the timing of payments into the fund and not in their expected value. They should not be counted as increases in compensation by CWPS or BLS.

Because pension payments will take place in the distant future, an estimate of their present value must be generated. Other future value compensation benefits have more immediate implications and pose a different problem. An employer who self-insures his medical benefits and is then caught by an epidemic in the town of his major plant finds his labor cost increased. Should researchers treat an increase in the hospitalization of workers' children as an increase in labor cost? The expected cost of hiring new labor in the market is unchanged. The compensation expected to be paid to existing workers after the epidemic is unchanged. Probably it is best to include only the expected value of medical benefits as a labor cost rather than the actual payment. Differences between the expected and actual costs can be attributed to the firm being in the medical insurance business rather than to its need to hire labor. It is a loss on another activity of the firm, and not a cost of hiring labor. Martin David's paper in this volume makes the same point.

14.2.3 Stock Options

Stock options, granted primarily to executives, combine several of these conceptual problems. The option is of uncertain future value, and the size of the option may vary with the firm's economic circumstances. In this case the option would combine the characteristics of incentive compensation with those of future value compensation. The expected value of the option would have to be computed in advance to know the amount of compensation for determining compliance with the pay standard. Since the option may extend for years into the future, even measures of compensation for the year past would have to have a way of estimating its value. Stock options of short-term duration are traded on exchanges, and their prices may provide a basis for an ex ante evaluation of the options granted to executives by firms. Formulas have been worked out for the actuarial value of an option, and these could be used to provide an ex ante estimate of the likely value of an untraded option.

14.2.4 Cost-of-Living Adjustments

Finally, cost-of-living adjustments (COLA) provide a knotty problem. The McMenamin-Russell paper claims that the COLA issue, more than any other, caused the downfall of the wage stabilization program. CWPS had to provide an ex ante evaluation of the COLA to determine compliance. This was done by using an estimate of 6 percent as the likely increase in the Consumer Price Index in future years. From the perspective of mid-1978, this estimate was not as bad as it appears with hindsight, since the December-to-December inflation rates for 1976 and 1977 had been 4.8 and 6.8 percent, respectively. A minor decline in inflation because of the program could have brought about a 6 percent inflation rate, a number thought to be consistent with the 7 percent wage standard. But what transpired was a 9 percent inflation rate in 1978 and a 13.3

percent rate in 1979. Workers who had bargained for a full COLA plus a 1 percent wage increase were credited with a total increase of 7 percent by CWPS, whereas the striking of such a bargain in December 1978 would have led to an actual wage increase of 14.3 percent. This inequity brought down the system.

How does the COLA issue effect wage measurement for purposes of research? The issue resembles those posed by other kinds of future value compensation. Workers have shifted an uncertainty over future events to employers who not only pay the workers an agreed wage but who insure them against inflation. Regardless of one's view of the process of inflation, there are two different ways a COLA can affect a worker's wage. First, there is the common equal increase in wage and price inflation that can take place as a result of an unanticipated increase in demand. In the absence of a COLA, a multiyear wage agreement would imply substantially different levels of real wages if different macroeconomic policies were followed subsequent to the signing of the agreement. The COLA insures both the worker and the firm against changes in overall inflation so that real compensation can be independent of it.

The second effect of a COLA is to insure a worker's future real wage regardless of changes in relative prices. A bad harvest, for example, normally reduces real wages. Macroeconomists might not agree whether this decline would normally be manifested in an increase in the rate of price inflation or a reduction in the rate of wage inflation. But whichever would transpire, a full COLA would guarantee a worker's real wage though it would not guarantee the real burden to be paid by the employer. In this second sense, a COLA is similar to medical insurance where variations in the worker's benefits are accompanied by variations in the firm's real labor cost. In this case, the worker is insured against the possibility of a bad harvest. Wage increases granted to keep up with a common wage-price inflation can be thought of as part of what the firm would have to pay for labor in the open market. Insurance against a bad harvest that temporarily causes food prices to be high is a benefit, like medical insurance, whose expected value might be counted as a part of the going price of labor, but whose actual payments also include a random element. I see no easy way to separate these two effects in practice.

14.3 Collective Bargaining Agreements

The percentage increase in compensation attributed to a single collective bargaining agreement requires, in many cases, a solution to the problems noted above. Evaluating an agreement in which shift, seniority, or skill differentials are changed, or in which incentive formulas are changed, perhaps in response to increased productivity under the old

formulas, or in which fringe benefits of uncertain future value are changed, requires answers to the above questions. In principle, the percentage increase attributed to the agreement is an index of the increases for the various occupations whose wages and benefits are covered by the agreement. They do not measure wage increases of individuals moving up a job ladder but of the upward movement of the ladder itself.

BLS publishes statistics on new collective bargaining agreements without estimating the size of the COLA benefits. The agreements are classified into two groups, those with COLAs and those without. These statistics would be of greater use if estimates of the value of the COLAs were included. But what estimates of future inflation should BLS use in pricing COLAs? The experience of CWPS warns against the use of a single measure, particularly one with political significance. Instead, three or four estimates might be provided. An example would be of inflation at rates of 4, 8, or 12 percent and possibly at the actual rate of the preceding twelve months. The reader could then provide his own interpolation to arrive at an estimate corresponding to his own inflation forecast. Readers can't do this at present because of the complicated limitations on COLAs that exist—minima, maxima, partial coverage, and so on. If the alternative estimates were provided, researchers could generate forecasts of inflation in any way they wished to provide estimates of the expected wage increases contained in the contracts with COLAs.

14.4 Conclusion

I have pointed out a few issues raised by a wage stabilization program that are also of importance for wage measurement and, therefore, for research that makes use of wage data. Wage stabilization programs generate mountains of correspondence with the private sector. Indeed, I contributed several letters myself during the recent CWPS program containing questions that had been asked of me when I had lectured about the program to the private sector.

An interesting research project would be to search the CWPS file of correspondence for questions about how wages are to be measured for purposes of compliance. The record of CWPS' decisions on the issues raised by that correspondence, or, indeed, of any wage stabilization board's decisions, would provide insight into many subtle wage measurement issues whose resolution can have a fundamental effect on our view of how the economy works. Important among these questions are issues about the level of productivity and resource growth over time and the extent and nature of wage flexibility. These are among the fundamental research issues of our time. Accurate measurement is essential to their early and sound resolution.

Notes

1. The author participated in the design of the Carter wage and price standards in 1978 when he was deputy assistant secretary of labor for economic policy and research.

2. An example of the PATC wage indexes can be found in *Bureau of Labor Statistics* (1980), p. 7.

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