GEORGE L. PERRY*
Brookings Institution

Real Spendable Weekly Earnings

THE OFT-CITED SERIES "real spendable weekly earnings"—hereafter referred to as the earnings series—is one of the most misused economic statistics. One reason for its misuse is that it is one of the most misleading economic statistics receiving regular monthly publicity. In recent years, the series showed no increase at all in earnings and was often cited as evidence that wages were suffering badly in the race against inflation. In recent quarters, it has risen sharply and has been cited as evidence of how spectacularly well wage earners have been doing. Like a stopped clock, the earnings series occasionally tells a true story. But when?

The Bureau of Labor Statistics (BLS), which publishes the earnings series along with several other measures of how wage earners are faring, cannot control the misimpressions others may draw from any one of their statistics. Articles in the *Monthly Labor Review* have discussed the limitations of the earnings series and its relationship to some other measures of compensation and wages.[1] Still, the series exists and continues to be misleading and misused.

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1. In the past year and a half, at least three articles have examined the earnings series: Thomas W. Gavett, "Measures of Change in Real Wages and Earnings," *Monthly Labor Review*, Vol. 95 (February 1972), pp. 48–53; Jack Alterman, "Compensation per Man-hour and Take-Home Pay," *Monthly Labor Review*, Vol. 94 (June 1971), pp. 25–34; and Paul M. Schwab, "Two Measures of Purchasing Power Contrasted." *Monthly Labor Review*, Vol. 94 (April 1971), pp. 3–14.

Depending on what question is asked of the data, a variety of adjustments must be made to the earnings series before it provides useful information. In fact, it is hard to think of any interesting question it can answer without adjustment. The problem can be illustrated by indicating the adjustments one might make to the series in order to obtain a measure of how well basic hourly wages for a typical worker have been keeping pace with price increases. For other purposes, of course, one might omit some of these adjustments or make different ones, some of which are noted in the discussion below.

Hours Worked

First, and most obviously, the earnings series is affected by changes in the length of the average workweek, changes that reflect variations both in the hours worked by a typical employee and in the relative employment of part-time workers or workers in jobs with a normal workweek different from the average. Two kinds of issues are thus raised: removing the effects of changing employment mix in order to get a statistic representative of a single worker; and putting that single worker's experience into a statistic that is relevant to the question being asked. Workers may be happy to work longer hours and to receive overtime for doing so. And they may be happy to experience a gradual shortening of the typical workweek. But the increment to earnings from these sources should be separated from the increment arising from a change in the pay received for a standard hour's work. Correcting for overtime premium pay is conceptually straightforward; the only drawback is that available statistics adjust only for overtime in manufacturing. Correcting for variations in the official measure of average hours removes the effect on weekly earnings of variations in hours stemming from both employment mix changes and changes in the average weekly hours of a typical individual.

In order to get a picture of weekly, rather than hourly, earnings for an average worker, it would be necessary to account for variations in the amount of work as well as in hourly pay. To do this, adjustments could be made to eliminate that part of the variation in average hours arising from a changing employment mix, but the official series does not make them. And even if they were made, a fundamental question remains about whose hours are to be included. The unemployed get no weight at all, although it could

be argued that they should enter any measure of this sort with a weight of zero hours worked. Otherwise, anomalies develop: If a worker is put on a short week, average hours and the earnings series fall; if he is subsequently laid off, both then rise. Until this kind of problem is resolved, it may be best to separate average hourly pay from the amount of work in evaluating how workers are faring.

Employment Mix on Wages

Second, once variations in average hours and overtime premiums are accounted for, the resulting measure of average hourly wages is still a distorted indicator of an individual's basic wage. If every individual's wage were unchanged, but the employment of low-wage individuals expanded, the average wage and earnings would decline. Something like this has been happening in the U.S. economy for a long time, and the rate at which it happens varies from year to year. The adjustment factors that I developed in earlier work for analyzing wage changes can be used to cleanse the earnings series of such employment mix effects on wages to the extent they are related to age-sex composition.[2] Recently, the BLS began publishing an *hourly earnings index*[3] that adjusts the basic *average hourly earnings* series for overtime premium pay and for the effects of shifts in employment among industries. Such an adjustment for interindustry shifts is another way of approaching the problem of employment mix effects; but, although the two must overlap somewhat, I doubt that it captures as much of these effects as does an adjustment for demographic shifts. This is a question that BLS might profitably pursue.

Taxes

Third, the earnings series adjusts gross earnings by an estimate of federal income and social security taxes paid. While measures of after-tax income are needed for many purposes, they are inappropriate in a measure of how well wages have been keeping up with prices, or even in a measure

2. George L. Perry, "Changing Labor Markets and Inflation," *Brookings Papers on Economic Activity* (3:1970), pp. 411–41.

3. See Gavett, "Measures of Change in Real Wages and Earnings."

of well-being. Taxes are voted as a means of transferring resources for public purposes and for transferring purchasing power to other individuals, primarily older citizens under the social security system. A lot of people must feel they are worth paying or the nation would not have them. The widely used BLS data on *hourly compensation* not only does not subtract payroll taxes paid by employees but actually *adds* those paid by employers on the grounds that they are a supplement to wage and salary earnings.[4] While after-tax measures are useful for some purposes, it is incorrect to treat a larger tax bite, arising from graduation as well as higher rates, as if it were directly equivalent to lower wages, or a tax reduction as the equivalent of a wage increase. BLS does publish a before-tax earnings series, *gross average weekly earnings;* and the present purpose of computing real wage gains requires a measure without tax changes in it also.

Price Changes

Fourth, the weekly earnings series is deflated by the consumer price index (CPI) which may not be the best available measure of living costs. Over the last several years, a sizable discrepancy has developed between the rise in the CPI and the rise in the deflator for consumption spending used in the national income accounts. The BLS is interested in this discrepancy, and studies are now being made to determine whether revisions of the CPI are called for. One current proposal calls for a change in the basis for measuring the housing component of the CPI. But many other differences exist between the two measures besides this one. For analyzing past data, particularly for recent years when home purchase costs and mortgage interest rates have varied so much, the deflator probably is more useful because its weights fully reflect the fact that these costs on average are related to the existing stock of homes and mortgages. The final adjustment I would make to the earnings series, therefore, is to recompute real wage gains using the consumption deflator rather than the CPI. However, a final determination of the best price adjustment must await a careful analysis of the difference between the deflator and the CPI.

4. Alterman discusses the relationship between the compensation series and the earnings series in "Compensation per Man-hour."

Earnings and Real Wages

Table 1 shows how the adjustments just described convert the official earnings series to an index of real wages for representative workers. Changes in the series and adjustments are shown for various intervals in the past decade.

Over the whole of the last decade, the adjustments brought the growth rate of a real wage index (line 7) to 2.7 percent, more than double the 1.3 percent growth rate of the earnings series (line 1). The correction for overtime (line 2) was negligible over this interval and the tax effect (line 6) was also small. However, the changing employment mix (line 3), which resulted from the increasing proportion in the labor force of women and young workers (who receive low wages on average), had reduced the growth in the earnings series by 0.4 percentage point a year; the decline in the workweek (line 4) had reduced its growth by another 0.4 point per year; and the CPI

Table 1. Changes in Real Wages and the Earnings Series, Selected Periods, 1962–72[a]

Percent change at annual rates

Earnings and wage items	*Change interval*			
	1962–72	*1966–69*	*1969:3–1971:3*	*1971:3–1972:3*
1. Real spendable weekly earnings	1.28	−0.05	0.82	4.38
Less contribution of				
2. Overtime pay premiums	0.01	−0.11	−0.21	0.03
3. Employment mix	−0.40	−0.34	−0.20	−0.48
4. Hours worked per week	−0.37	−0.78	−1.02	0.81
5. Alternative price index	−0.53	−0.66	−0.80	−0.93
6. Taxes	−0.08	−0.92	0.66	0.68
7. Real wage index[b]	2.68	2.83	2.60	4.13
Addendum				
8. Real wage index using CPI	2.15	2.17	1.75	3.16
9. BLS real hourly earnings index	n.a.	1.70	1.79	2.76

Sources: Employment mix adjustment is author's estimate; consumption deflator used in alternative price index adjustment is from various issues of *Survey of Current Business;* all other data derived from monthly statistics in various issues of *Employment and Earnings.*

a. Data refer to production or nonsupervisory workers in the private nonfarm economy.

b. Because of interactions among the several adjustment factors, the difference between growth rates of the real wage index and the earnings series is not exactly equal to the sum of the individual adjustments shown.

n.a. Not available.

had risen faster than the preferred index, the consumption deflator, by an average of 0.5 point per year (line 5).

Between 1966 and 1969, when the recent inflation was getting under way but before the extended period of slow growth and increasing slack in labor markets began, the discrepancy between the rates of change of the two measures became even wider. Over this interval, the earnings series actually showed a slight decline; yet the real wage index rose faster than in the decade as a whole. This exceptional disparity arose as each of the adjustments between the two measures held down the growth in the earnings series. Unusually large adjustments were due to the decline in the workweek, the discrepancy between the two price indexes, and the increase in the average tax rate resulting from the introduction of the surtax in 1968. Thus, over this period when the real wage index was rising rapidly, the negative contribution from each adjustment resulted in the dismal statistic of no growth in real weekly spendable earnings that was cited as evidence that wages were falling behind in the inflation.

Over the following two years, through the third quarter of 1971 when the wage-price freeze was initiated and policy moved to stimulate expansion, labor markets softened and the unemployment rate rose 2.5 points. The growth in the real wage index slowed to just below its average for the decade as a whole. The termination of the surtax reduced the average tax rate, and the discrepancy between the growth rates in the wage index and the earnings series narrowed. A very weak rise in the earnings index did coincide with this poor performance of real wages. Yet the index was still misleading, for its growth over the 1969–71 period improved noticeably from its performance during the 1966–69 interval when, by any historical comparison, wage earners were doing very well.

Recent Quarters

From the third quarter of 1971 to the third quarter of 1972, the economy expanded briskly and prices and wages were subject first to the freeze and then to the Phase II controls. Over the whole four-quarter interval, real spendable weekly earnings rose by 4.4 percent, an outstanding growth rate. The adjustments relating this measure to the real wage index moved in opposite directions, in contrast with their behavior over the other intervals shown in Table 1. The earnings series was noticeably reduced by the changing employment mix and the discrepancy between the deflator and

Table 2. Changes in Real Wages and the Earnings Series, Quarterly, 1971:3–1972:3[a]

Percent change at seasonally adjusted annual rates

Earnings and wage items	*Change interval*			
	1971:3–71:4	*1971:4–72:1*	*1972:1–72:2*	*1972:2–72:3*
1. Real spendable weekly earnings	3.76	9.10	3.49	1.32
Less contribution of				
2. Overtime pay premiums	−0.04	−0.16	0.75	−0.43
3. Employment mix	−1.02	−0.86	−0.22	0.17
4. Hours worked per week	1.82	0.36	0.36	0.72
5. Alternative price index	−1.08	−0.29	−0.62	−1.74
6. Taxes	−0.45	6.03	−1.34	−1.34
7. Real wage index[b]	4.60	4.89	3.59	3.42
Addendum				
8. Real wage index using CPI	3.57	4.57	2.97	1.62
9. BLS real hourly earnings index	2.61	4.01	2.97	1.38

Sources: Same as Table 1.

a. Data refer to production or nonsupervisory workers in the private nonfarm economy.

b. Because of interactions among the several adjustment factors, the difference between the growth rates of the real wage index and the earnings series is not exactly equal to the sum of the individual adjustments shown.

the CPI, while it was noticeably increased by the rise in the workweek and a reduced tax rate (calculated on a liability, not a withheld, basis). As a result of these offsetting adjustments, by coincidence, little difference appeared in the growth of the real wage index, which was up by 4.1 percent over the four quarters, and the real spendable weekly earnings series.

According to the quarterly breakdown reported in Table 2, the fastest growth in the real wage index occurred during the last quarter of 1971, the period of the freeze, and the first quarter of 1972, the period of wage catch-ups. While the real wage index continued to rise well in 1972:2 and 1972:3, its growth rate slowed substantially from that in the previous two quarters. The earnings series shows a more erratic quarterly pattern, with a huge increase in the first quarter of 1972 resulting from tax reduction and a sharp braking in the third.

Real Wage Measures

The real wage index constructed here contains many weaknesses. Overtime estimates are available only for manufacturing, and adjusting premium pay with them understates the corrections that should be made in various

periods. There remains a good deal of uncertainty about whether the consumption deflator or the CPI is a better measure of relevant price changes; and even if the deflator is generally a preferred measure, it may, on balance, lead to a worse adjustment for particular intervals. An addendum in each table (line 8) shows the real wage index computed using the CPI as an alternative. The adjustment made here to account for the changing employment mix is only an approximation, although it appears reasonable for the intervals shown in the tables and helps produce a relatively smooth real wage index. The adjustment does not take account of changes in the industrial mix of employment. To add these effects would double-count the true effect of mix on an average wage statistic, since part of the effects of industrial shifts are already reflected in demographic shifts. However, some industrial shifts, such as a relative movement of employment to a high-wage industry such as automobiles from other, lower-wage manufacturing industries, will not be captured fully in a demographic adjustment. The BLS series that makes an industrial adjustment to straight-time average hourly earnings and deflates by the CPI is shown in line 9 for comparison with the other measures of real wages. Still other measures would come from switching to a compensation rather than a wages concept of earnings.

Clearly, we are far from having an unambiguously best measure of real wages. While I prefer the index developed here and shown in line 7 to the measure of either line 8 or 9, the differences among them rest on several unanswered questions. The purpose of presenting the real wage index is to contrast it with the earnings series in order to illustrate the adjustments between the two concepts, how they vary over different intervals, and how deceptive, and often misleading, the earnings series is as a result.

Equally clearly, we are even further from having a combined measure of how much work a typical worker does and how much pay he receives per hour of work. The earnings series is far off this mark for the several reasons already cited.

It would certainly be improved if corrections were made for the effects employment mix has—both on hourly earnings and on average hours worked per week. Compared with the present earnings series, real disposable income per capita, adjusted for the share of labor income in personal income, might be a better measure of work and pay. It too falls far short of isolating a typical worker's experience, but at least it goes up when a part-time, low-paid worker is hired and goes down when a factory worker moves from a short workweek to unemployment.

There is understandable interest in a measure of weekly take-home pay. While BLS does attempt to describe its series on real weekly spendable earnings carefully and to point out its shortcomings, a substantially improved series is urgently needed.

Discussion

Hyman Kaitz noted that the Labor Department has been aware of the shortcomings in the real spendable earnings series and has tried to deal with them through articles in the *Monthly Labor Review* as well as by calling attention to other measures in its monthly statistical releases. In particular, during the past year, attention has been directed to the new average hourly wage index, in both current and constant prices. This index adjusts for industry mix effects, using a detailed industry breakdown, and for overtime; the constant-price version adjusts for changes in the consumer price index as well. Also, other indexes are available, such as real compensation per manhour, which are more comprehensive than wages because they include fringes. No one statistic can answer the variety of questions one would like to ask. The Bureau of Labor Statistics is continually looking for ways to improve its published statistics, but some remain far from perfect.