The spendable earnings series: has it outlived its usefulness?

Enough questions have been raised about accuracy, relevance, and concepts to suggest that this is a series whose time is up; statistical evidence indicates that the measure has been seriously deficient in tracking 'spendable' earnings.

Paul O. Flaim

Are American workers “better off” now than they were 5 or 10 years ago? That is, considering wage and inflation trends, have workers been making further gains or losing ground in terms of the purchasing power of their earnings?

The answers to this question can vary considerably, depending on what statistical series is used to determine the basic trends in gross earnings and on what calculations and assumptions are made in translating the statistics on gross earnings into estimates of purchasing power.

One of the statistics most often used to depict the trend in purchasing power of American workers has been the “real spendable weekly earnings of workers with three dependents.” This series, published monthly by the Bureau of Labor Statistics, was initiated about four decades ago. Its initial purpose was to keep track of the purchasing power of factory workers by taking into account changes in consumer prices as well as deductions from pay for Federal income taxes and social security contributions. In the early 1960’s, the scope of the series was expanded to all production and nonsupervisory workers in the private nonfarm economy. The following tabulation shows the trend in this series (in 1977 dollars) over the 1950–80 period:

<table>
<thead>
<tr>
<th>Year</th>
<th>Real Spendable Weekly Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>$131.08</td>
</tr>
<tr>
<td>1955</td>
<td>143.46</td>
</tr>
<tr>
<td>1960</td>
<td>149.20</td>
</tr>
<tr>
<td>1965</td>
<td>166.28</td>
</tr>
<tr>
<td>1970</td>
<td>163.65</td>
</tr>
<tr>
<td>1975</td>
<td>164.02</td>
</tr>
<tr>
<td>1980</td>
<td>151.65</td>
</tr>
</tbody>
</table>

According to the tabulation, real spendable weekly earnings grew steadily and significantly from 1950 to 1965, were stagnant until 1975, and then dipped considerably over the next 5 years. Why this change in trend? Is it possible that, after making considerable progress over the 1950–65 period, the average American worker lost ground in terms of purchasing power over the next 15 years?

As will be shown in this article, the change in the trend of the spendable earnings series in the mid-1960's did not stem from any sudden change in the earnings of individual workers. Rather, it reflects demographic and social changes which began at about that time and which greatly altered the composition of the labor force over the next 15 years.

Comparisons with other earnings and income series indicate that the majority of American workers have made further progress in terms of purchasing power over the 1965–80 period, even though they may indeed have suffered a dip after 1975 when inflation intensified. These comparisons also show that workers who are likely to have three dependents earn—and take home—much more than is indicated by the "spendable earnings" series.

More representative in early days

Computation of the spendable earnings series began in 1939. Records do not show why the series was started, but it should be recalled that the Social Security Act had gone into effect in 1937, and the need must have soon arisen to measure the effects of the deduction for social security as well as those for Federal income taxes on the take-home pay of typical factory workers.

To measure the impact of Federal income taxes, two series were started, one for workers assumed to have three dependents (a nonworking wife and two children) and one for those assumed to have no dependents. It is important to note, however, that both series were based on the same earnings average—that for all production workers in manufacturing. In subsequent years, the series for workers with three dependents became the more prominent and widely quoted of the two, presumably because of the greater interest in the earnings situation of a family's principal breadwinner.

Of course, in 1939, and even in the years immediately following World War II (although not necessarily during the war), the factory labor force was much more male dominated than is now the case. In fact, this was also true in other industries, as the labor force participation rate for women, especially wives, was extremely low. Thus, the use of the earnings average for all factory production workers to represent the earnings of a factory worker with three dependents was not unusual in the early days of the series.

And the fact that no allowance was made for deductions for State and local taxes in translating the gross earnings of factory workers into "spendable" (or after-tax) earnings also was not a significant omission in those years. It was only after World War II that State and local income taxes began to take a significant and growing portion of a worker's earnings, a trend that continued at least until the recent advent of "Proposition 13" and similar measures designed to limit local tax burdens.

The deductions for social security and Federal income taxes were also extremely low in the early days of the spendable earnings series. In 1939, for example, a factory worker whose gross weekly earnings equaled the average for the industry—$23.86—took home $23.62 if he had three dependents and $23.58 if he had no dependents. In either case, the total deductions barely exceeded 1 percent, a far cry from the situation in 1980, when comparable deductions totaled 14 percent for a worker with three dependents and 22 percent for one with no dependents. And this does not take into account any deductions for State and local taxes.

All things considered, the spendable earnings series, as constructed in its early days, gave a reasonable approximation of the take-home pay of a worker with three dependents. This was particularly true when the series was limited to the manufacturing industry, where men (many with three or more dependents) made up a majority of the work force. But, the situation has changed radically since those early days, and there has been mounting evidence that the series has become less representative of the earnings situation of workers with three dependents.

Growing problems and criticisms

In 1964, the coverage of the spendable earnings series, previously limited to production workers in manufacturing, was expanded to include production and nonsupervisory workers in all private nonfarm establishments. In retrospect, this change made the series much more susceptible to the effects of the pervasive demographic and social changes which, over the next 15 years, greatly altered the makeup of the American work force.

The mid-1960's marked the beginning of a large and sustained increase in labor force participation among women age 20 to 40. It was also during that time that the leading edge of the huge post-World War II baby-boom generation reached age 18 and began to enter the job market. Suddenly, women and teenagers began to account for most of the year-to-year gains in the work force. Many of these new workers took only part-time jobs, but even if working full time (as most of them eventually did), they were generally paid much less per week than men who had been at their jobs for many years. Thus, as women and teenagers increased their proportion of the work force, the average weekly earn-
ings for all production and nonsupervisory workers (which formed the base of the spendable earnings series) no longer grew as fast, even though there was no change in the earnings trends for individual workers.

By the early 1970's, some economists were already arguing that, because of the change in the composition of the labor force and other developments, the spendable earnings series no longer provided a reliable indication of the true trend in earnings. For example, in 1972, George Perry of the Brookings Institution called the series "most misleading" for having signaled a halt in increases in real wages when, in his view, none had occurred.

Perry noted that the failure of the series to show any further growth during the late 1960's was due primarily to (1) a change in the mix of workers; (2) a related decline in hours worked; (3) an increase in deductions for Federal income taxes (the reference being to the surtax of 1968); and (4) the use of what he claimed to be an inappropriate deflator to measure the impact of price changes on earnings.¹

The Bureau of Labor Statistics reacted to this criticism in various ways. First, it endeavored to explain more specifically what the spendable earnings series did and did not represent. It emphasized that the series, as related to workers with three dependents, applied only to those whose gross earnings were equal to the average for all production and nonsupervisory workers. The Bureau also sought, through several analytical efforts, to place the spendable earnings series in proper perspective by comparing its levels and trends to those of other earnings and income series.² And, as the 1970's progressed, it developed alternative measures of earnings from payroll data which would be less affected by changes in the mix of workers—the Hourly Earnings Index and the Employment Cost Index.³ And finally, it expanded the collection and publication of demographically oriented earnings data through the Current Population Survey (CPS).⁴

Despite these and other efforts to shed more light on earnings and thus reduce the misuse of the spendable earnings series, this statistic has continued to be criticized. In 1979, the National Commission on Employment and Unemployment Statistics reported that the series "... is misleading because it is not the earnings figure associated with a married male with three dependents; it is simply an average of all workers' earnings with deductions for Federal income tax liabilities and social security adjusted for inflation. This hybrid figure does not measure what it purports to measure."³

And in 1980, Geoffrey Moore, former Commissioner of Labor Statistics, was also critical of the series. Moore said that although the Bureau had endeavored to explain what the series did and did not do, "These statistics have become one of the most misleading series published by the Federal Government. They are subject to a large and increasing downward bias."⁵

**Comparisons with other data**

Was the criticism of the spendable earnings series sound? If so, to what extent has the series been understating the level and trend in earnings of a worker with three dependents? These questions are addressed in the following comparisons of the data underlying the spendable earnings series with data from other sources.

**Current Population Survey (CPS).** The earnings data obtained through the CPS, while subject to some limitations, are more suitable for tracking the earnings of specific groups of workers than are the data obtained from establishment surveys. This is because the CPS data are obtained separately for individual workers in the sample and can be linked with the information on marital status, family situation, and other characteristics of these individuals. From 1967 to 1978, data on weekly earnings were obtained through the CPS in May of each year. Beginning in 1979 they have been collected monthly (although from only one-quarter of the sample) and are published quarterly. These data are most useful in determining the accuracy of the spendable earnings series.

The earnings level which underlies the establishment-based series on the spendable earnings of workers with three dependents is compared below with CPS data on the earnings of workers who actually have three dependents. For this purpose, the CPS data are limited to a universe of husbands in full-time wage and salary jobs who have a wife and two children under age 18. Using the weekly earnings data for this universe, two separate arithmetic means were constructed, one for production and nonsupervisory workers in the private nonfarm sector (the same universe as that used in computing the establishment-based earnings averages) and one for the entire economy, including supervisory and nonproduction personnel as well as rank-and-file workers. Following are CPS averages, based on data culled from the microtapes for March, May, and October 1979, which are compared with the average (mean) weekly earnings for the same 3 months based on data from the establishment survey:

<table>
<thead>
<tr>
<th>Establishment-based average</th>
<th>CPS-based averages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean gross weekly earnings</td>
<td>Men in full-time production and nonsupervisory jobs in private nonfarm sector who have a wife and two children under age 18</td>
</tr>
<tr>
<td></td>
<td>Men in all full-time wage and salary jobs who have a wife and two children under age 18</td>
</tr>
</tbody>
</table>

Mean gross weekly earnings

<table>
<thead>
<tr>
<th>Establishment-based average</th>
<th>$219</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean gross weekly earnings</td>
<td>CPS-based averages:</td>
</tr>
<tr>
<td></td>
<td>Men in full-time production and nonsupervisory jobs in private nonfarm sector who have a wife and two children under age 18</td>
</tr>
<tr>
<td></td>
<td>Men in all full-time wage and salary jobs who have a wife and two children under age 18</td>
</tr>
</tbody>
</table>
From the data, it is clear that average weekly earnings from the establishment survey used to compute the spendable weekly earnings for workers with three dependents has, at least in recent years, fallen far short of the actual earnings of this group of workers. According to the CPS, these workers earn 44 percent more than the establishment-based average if the comparison is restricted to full-time private production and nonsupervisory jobs, and 63 percent more if the CPS universe is expanded to all full-time wage and salary jobs.

The establishment-based series is much lower than the CPS figures because the former is an average for all workers, whether in full- or part-time jobs, and regardless of age, sex, marital status, and family makeup. As noted earlier, among this amorphous group of workers has been a rapidly increasing proportion of women and youth whose weekly earnings are much lower than those of men of prime working age. In contrast, the two CPS averages are limited, almost by definition, to the earnings of men of prime working age.

While the preceding comparisons establish that the actual earnings levels for workers with three dependents differ radically from the average earnings of all production and nonsupervisory workers, it is perhaps even more useful to compare the trends in earnings of these two widely different universes. Table 1 relates trends in the establishment-based mean gross weekly earnings with trends in median weekly earnings for the most important groups of workers as reported in the CPS. The data are for 1967 (the first year for which data on weekly earnings were collected in the CPS) and 1980.

Both measures exhibited roughly the same percentage increase (or decrease in constant or real dollars) for universes that include full- and part-time workers. This indicates that the measures have been equally sensitive to the changes in the composition of the work force in terms of its full-time and part-time components and in terms of the demographic mix within these components.

### Table 1. Weekly earnings in 1967 and 1980, as measured in the establishment survey and in the Current Population Survey (CPS)

<table>
<thead>
<tr>
<th>Series</th>
<th>May 1967</th>
<th>Annual average 1980</th>
<th>Percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>In current dollars</td>
<td>In constant (real) dollars</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishment-based: Mean weekly earnings for all production and nonsupervisory workers on private nonfarm payrolls</td>
<td>$100.55</td>
<td>$235.10</td>
<td>133.6</td>
</tr>
<tr>
<td>CPS-based: Median weekly earnings for - All wage and salary workers</td>
<td>109.00</td>
<td>232.00</td>
<td>133.8</td>
</tr>
<tr>
<td>Full-time wage and salary workers</td>
<td>109.00</td>
<td>266.00</td>
<td>144.3</td>
</tr>
<tr>
<td>Men, 25 and over</td>
<td>131.00</td>
<td>346.00</td>
<td>164.1</td>
</tr>
<tr>
<td>Women, 25 and over</td>
<td>79.00</td>
<td>217.00</td>
<td>174.9</td>
</tr>
<tr>
<td>Men, 16 to 24 years</td>
<td>97.00</td>
<td>214.00</td>
<td>120.6</td>
</tr>
<tr>
<td>Women, 16 to 24 years</td>
<td>74.00</td>
<td>171.00</td>
<td>131.3</td>
</tr>
</tbody>
</table>

Most important, however, is what the CPS data show in terms of the earnings trends for full-time workers, and particularly for those 25 years and over. Whereas the earnings for all wage and salary workers declined by 6.9 percent in real terms over the 1967–80 period, those for full-time workers 25 years and over, who still make up the majority of the work force, show increases of 6.1 percent for men and 11.3 percent for women. Only for younger men and women (16 to 24) do the CPS data indicate a significant decline in real weekly earnings. This decline has been widely attributed to the rapid expansion of this young age group and to the keen competition that its members face upon entering the labor force.

These data from the CPS highlight the importance of looking at the earnings trends of specific demographic groups. One is led to conclude from the data—the spendable earnings series notwithstanding—that the average worker with three dependents did not experience a decline in real earnings over the 1967–80 period. In fact, the data suggest that for those workers, who in most cases are in the 25 and over age group, earnings are most likely to have increased.

**Per-capita income.** A comparison of the trend in spendable earnings with the trend in "real per-capita disposable personal income" reveals an even more striking divergence than do the above comparisons with CPS data. Chart 1 traces the course of the two series from the late 1940's to the end of the 1970's. Both series followed a similar upward trend until the mid-1960's, then each veered from its previous course, with the disposable income series rising faster than before and the spendable earnings series becoming very stagnant. Both series had accumulated gains of approximately 40 percent from 1947 to 1965. Over the next 15 years, the per-capita income series posted a further gain of 60 percentage points and by 1980 was slightly more than twice its 1947 level. In contrast, the spendable earnings series did not show any sustained growth after 1965, and in 1980, it actually dipped well below its mid-1960's level.

Several reasons for the sharp divergence between these two series were identified and quantified by Paul Ryscavage in 1979. However, before examining those reasons, it is important to note the major definitional differences between the two series—spendable earnings relate to the average after-tax earnings of a specific group of workers; per-capita income relates to the average after-tax income from all sources accruing to all Americans, regardless of age or labor force status.

A paradox of the post-1965 divergence between the two series is that some of the factors which have given upward impetus to one acted as a drag on the other. For example, the increases in labor force participation...
of women and youth since the mid-1960's have added significantly to the aggregate earnings of American workers, and this, coupled with a decline in the rate of growth of the American population—primarily reflecting a drop in the birth rate—has resulted in higher increases in per-capita income. But the impact on average weekly earnings has been just the opposite. Because many of the women and youth who joined the labor force since the mid-1960's work only part time, and because most are paid less than men even if working full time, their inflow into the labor force has kept average weekly earnings from rising as much as it would have had they not entered the labor force.

In other words, greater aggregate earnings has meant higher per-capita income but lower earnings per worker. Following is an illustration of this apparent anomaly:

In a hypothetical family of four persons, the father is, initially, the only worker, earning $200 a week. This is the total family income, yielding a per-capita income of $50 a week. Suppose now that the father receives a 10-percent increase in pay, raising his earnings to $220 a week, and that the mother joins the work force, earning $80 a week in a part-time job. Total family income now rises to $300 a week and per-capita income jumps to $75. But look what happens to average weekly earnings per worker—it declines from $200 to $150. And if one of the children were to join the work force, per-capita income would increase again, while average earnings per worker would probably drop further.

The greater role of women and youth in the labor force has not been the sole cause for the sharp divergence between the disposable income and the spendable earnings series. The growing role of income transfer payments has also given a boost to the disposable income series. In addition, the disposable income series is translated into dollars of constant purchasing power using the Personal Consumption Expenditures (PCE) deflator. Hence, adjustments of the personal income series for inflation have been somewhat less severe than those which would have occurred had the Consumer Price Index been used as a deflator, as is done in the spendable earnings series. But the main factors in the post-1965 parting of the series are those illustrated by the hypothetical family. In other words, much of the stagnation of the spendable earnings series is attributable to events which have resulted in increases in per-capita income.

Other issues

The statistical evidence and analogies presented in this article confirm that the series on spendable earnings for workers with three dependents has been under-
estimating both the level and trend in the earnings of such workers. But underestimation is not the only issue surrounding the series; there are also problems of conceptual and operational nature.

In a narrow sense, spendable earnings can be defined as "take-home pay," that is gross pay minus all deductions. In a broader sense, spendable earnings may be defined as take-home pay plus those amounts which, although deducted from one's pay, are funneled into programs which are of direct benefit to the worker or his or her family (medical insurance, for example). This concept could also be stretched to cover deductions earmarked for a fund on which the worker or the worker's family have a high probability of drawing for future consumption (for example, social security). However, the same principle would certainly not apply as strongly to that portion of earnings which are deducted (or which the worker must eventually pay out) for Federal, State, and local taxes, inasmuch as tax monies may be spent on projects which do not necessarily bring direct or indirect benefits to the persons from whose pay the deductions are made. Yet another complication arises from the treatment of the nonpecuniary benefits that many workers now receive (paid vacations, health insurance, dental insurance, and so forth). Clearly, the line between what is "spendable" and what is "not spendable" in terms of one's earnings is not at all obvious and raises many issues. Following is a discussion of some of these issues in light of the procedures which have been used to translate gross earnings into spendable earnings.

Deductions (or liabilities) for State and local taxes have not been considered in the spendable earnings computation. While these taxes were not very significant when the series was launched, they have grown rapidly in the post-World War II period. For example, in 1950, the average taxpayer paid less than 5 cents to State and local governments for each dollar paid to the Federal Government. But by 1980—"Proposition 13" and similar measures notwithstanding—the total personal income taxes paid to States and local municipalities had grown to 18 percent of the amount paid to the Federal Government. And because the recently enacted reductions in Federal tax rates do not appear likely to be accompanied by similar declines in State and local rates, the above ratio is almost certain to grow in the future.

Thus, in addition to the crucial measuring problems, the fact that deductions for State and local taxes are ignored in translating gross earnings into spendable earnings raises a further question concerning the relevance of the spendable earnings series. Unfortunately, estimating such taxes at the national level would be exceedingly difficult, given that some States collect no personal income taxes and that most others have varying rates. Computation would be difficult even if the establish-
ings of individual workers and on the makeup of their families, and this information could be used to make more appropriate calculations of the tax burden of these workers. But the CPS data are subject to other limitations: they could not be used to construct a monthly series, as they are collected from only one-fourth of the household sample each month and must be accumulated for several months before their statistical reliability reaches acceptable standards. Perhaps the best role that the CPS earnings data can play is to provide reliable measures—based, perhaps, on annual averages—of the year-to-year and long-term movement in the earnings of specific groups of workers. More accurate estimation of the Federal tax burden of workers may also be attempted annually with CPS data. But even with the additional information accompanying the CPS data, it would be most difficult to accurately estimate State and local taxes—and this would remain a glaring deficiency in any meaningful measurement of spendable earnings.

In SUMMARY, statistical evidence proves that, because of the gradual change in the mix of workers, the spendable earnings series has become severely downward biased. Crucial questions also emerge regarding the formula used to translate gross earnings into spendable earnings. The fact that deductions for State and local taxes have been ignored in the computation process looms as an omission of growing importance and one that is likely to become even more important in the future, given current fiscal trends. In other words, enough questions can be raised about the series to conclude that it has probably outlived its usefulness.

--- FOOTNOTES ---

1 George L. Perry, "Real Spendable Weekly Earnings," Brookings Papers on Economic Activity (Washington: The Brookings Institution, 1972), pp. 779–87. As some economists do now, Perry was suggesting even in 1972 that the "personal consumption expenditures deflator" used in conjunction with the national accounts would have been a more accurate and objective measure of the impact of inflation on earnings than the Consumer Price Index.


3 For a technical description of both of these series, see BLS Measures of Compensation, Bulletin 414 (Bureau of Labor Statistics, 1977).

4 Data on weekly earnings from the CPS were collected in May of each year from 1967 to 1978 (with the exception of 1968). Data on hourly earnings were collected each May from 1973 to 1978. Beginning in 1979, both weekly and hourly earnings data have been collected each month, with the weekly earnings data being published quarterly. For a detailed description of these data, see "Weekly and Hourly Earnings Data from the Current Population Survey," Special Labor Force Report 195 (Bureau of Labor Statistics, 1977); and Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey, Report 601 (Bureau of Labor Statistics, 1980).


7 It should be noted that relative to the total number of workers, the number whose family includes a wife and two children under age 18 is relatively small. In the months for which the CPS data were studied there were, on average, 3.2 million such men with full-time production and nonsupervisory jobs in the private nonfarm sector. The average for the entire economy was 6 million.

8 The only data on the demographic composition of the work force available from the establishment survey relate to the number of female employees, and even these data are not available separately for the production and nonsupervisory universe. But the decline in average weekly hours for this universe—from 38.8 in 1965 to 35.3 in 1980—is ample evidence of the increase in the number of part-time workers.


10 Data on "per-capita income" are from the U.S. Department of Commerce.


12 The results of the 1980 census indicate that the rate of growth of the population may not have declined quite as much during the 1970's as had been previously thought. According to the Bureau of the Census, the actual population count for April 1980 was about 4.8 million higher than the estimate that had been carried forward from the 1970 census. The exact implications of this for the per-capita income series are not yet known, but the addition of 4.8 million persons to the denominator used in the computation of the series should, other things equal, result in downward revision of about 2 percent in the 1980 levels of the series.


15 An examination of CPS microdata for March 1980 revealed that of the husbands in four-person families who were in production and nonsupervisory jobs during 1980, about 60 percent had a wife who also worked during the year.
