Changing the poverty measure: Pitfalls and potential gains

by Robert Haveman

Robert Haveman is John Bascom Professor of Economics and Public Affairs and an affiliate of both the Robert M. La Follette Institute of Public Affairs and the Institute for Research on Poverty at the University of Wisconsin–Madison. He is a former director of IRP. A different version of this article appears in the *Brookings Review,* 11:1 (Winter 1993), 24–27.

It is now nearly thirty years since Mollie Orshansky's first statistical measurement of poverty in the United States, and twenty-five years since her definition was officially adopted by the federal government. The Orshansky measure has stuck, in spite of numerous attacks on it and both unofficial and official attempts to change it.

In 1992 yet another attempt was begun to revise the measure, with a view to either replacing it or supplementing it with other indicators of destitution in the nation. With the support of the Bush administration, a panel was selected by the National Academy of Sciences to review the official measure.[1] The mandate of the panel is to examine most of the issues underlying the setting of poverty thresholds, including determining standards of need, measuring economic resources, and deciding upon appropriate equivalence scales, accounting periods, and geographic differences in the cost of living.

Periodic assessments of the government's statistical measures are essential if we are to maintain an accurate picture of the economic and social developments of the society, and this new effort comes at an appropriate time. Attacks on the official measure have reached a high level of intensity, with some basis (see section on problems with the measure, below). Moreover, Patricia Ruggles recently completed a comprehensive research study of our measure of the prevalence and composition of poverty in the United States and its strengths and weaknesses: *Drawing the Line: Alternative Poverty Measures and Their Implications for Public Policy.*[2]

The official definition of poverty

To determine if a household fits the official definition of poverty, its cash income for the year is compared to an income cutoff or "poverty line" for a family of that size and structure. This income cutoff was originally constructed to be three times the cost of an adequate minimal food diet, as determined by the U.S. Department of Agriculture in 1955. It is updated yearly by the Consumer Price Index (CPI). Thus the poverty line reflects the assumption that a typical family spends a third of its income for food. A household with an income below the cutoff is classified as "poor"; a household with an income at or above the poverty line is classified as "not poor." In separating the population into these two categories, this tabulation yields a social indicator: the number of the nation's families in poverty in a year and the demographic composition of these families. Viewed over time, this picture records both the nation's "progress against poverty" and the changing race, age, and family structure mix of its poor.

Problems with the measure

The poverty definition therefore requires two sets of numbers: estimated cutoffs (poverty lines) based on family size and characteristics, below which households cannot maintain an "acceptable social minimum level of living," and annual incomes of every household in a statistical sample constructed for the Current Population Survey (CPS) of the Census Bureau. Both of these numbers have been challenged.

The poverty cutoffs

The poverty cutoffs are tenuous. They have no reliable scientific basis. There is no consensus on what is to be counted in determining how well off people are who live in widely varying family types, regions, and neighborhoods.

The current poverty line reflects both preferences and consumption options relevant to a quite different era. Objects considered luxuries in 1955 may be seen as necessities today. Furthermore, research suggests that food costs do not now account for a third of annual income on average—if they ever did—but more like a fifth, in part because of the disproportionate rise in the cost of housing over the past two decades. Thus the minimum standard is thought by many to be too low.

At the same time, recent research findings have cast doubt on the implicit differences in the income necessary for equivalent living standards among families of different sizes. A variety of "equivalence scales" have been published, but each rests on a particular set of assumptions and procedures; again, there is no consensus on which measure is the superior one.

Furthermore, the CPI used to adjust the poverty cutoffs for inflation over time is thought to be inconsistent with the income measure.

The poverty lines also fail to take into account the view of many that poverty is a relative concept and should be measured in relation to the average income in the society—higher in a richer society than in a poorer one—and should rise over time as median income increases.

All the drawbacks of this calculation and suggestions for altering it are covered in detail by Ruggles.[3] The focus of the rest of this article is on the other set of numbers in the measure: annual income.

The income measure

The income measure is also flawed. Income that is reported to the interviewer is taken at face value, and probably fails to include income that is earned "off the books" or illegally. All income in the form of barter and material gifts is missed. Although cash public transfers such as welfare benefits are included as "income," the total amounts captured in the CPS are a fraction of the total paid out. More important, in-kind government benefits, such as food stamps, housing and medical care benefits, and nutrition subsidies are not included at all.[4] Tax payments are not subtracted. Income from rent, dividends, and interest is counted, but capital gains income and fringe benefits are not. Holdings of financial wealth, consumer durables, and housing assets are not even considered. As a result, the base number in the poverty assessment—annual cash income—neglects a whole variety of things that may contribute to a family's well-being.

Even if the income number were accurate, it would not necessarily be an adequate measure of the well-being or economic position of a family, especially over the long term. Annual cash income is notoriously transitory, fluctuating substantially from year to year. The largest of these fluctuations are often recorded by families that, by any standard, are rather well-to-do. Self-employed business people for example can have a bad year that results in zero (or even negative) income. It may be misleading to include such a family among the poor, irrespective of normal level of income or life style.

A number of researchers have attempted to develop measures of living levels that can substitute for this current money income measure. Susan Mayer and Christopher Jencks, for example, look to the ownership of consumer durables and expenditures on other items of real consumption as indicators of economic well-being.[5] Other researchers—those who rely on income figures to estimate poverty rates—often use a calculated value of average family income, taken from three or four years of observations, to avoid the instability of the annual income measure.[6] While a multiyear measure is more likely to reveal the family's "permanent" economic position than is current cash income, several observations of annual income are necessary, a luxury that the Census Bureau cannot provide.[7]

The annual cash income measure fails to accurately reflect the permanent capabilities and earning power of families in other ways as well. This problem appears in several guises, but three sources of the divergence between annual income and permanent capabilities should make the problem clear: (1) differences among otherwise identical families in tastes for income and work; (2) differences in the disincentives to work faced by the otherwise identical families; and (3) differences in the cash benefits such families actually receive. Let us consider them in turn.

1. *Different tastes among families for work.* The first problem is that the annual income measure reflects family and individual differences in the relative aversion for market work, or, conversely, the relative preference for cash income—as the case may be. Economists refer to this as a difference in tastes for income versus leisure. Two families, both with low education and few skills, may be alike in every way except that one is determined to secure as much income as it can, whereas the other is not. In the first family, both adults hold full-time jobs and a teenager in high school works part time. Because of the hours of work they put in, the members of the household escape poverty. In the other family, only the father works. As a result, the income of the second family may fall below the poverty line. The first family is not so classified. Is it legitimate to ask, therefore, "Should the official poverty measure tend to count as poor those who prefer leisure to work and to exclude from poverty those more willing to work?"

2. *Disincentives to work.* Because welfare benefits vary from state to state, families in high-benefit states may have the incentive to forgo work to draw the benefits, even though this results in an income below the poverty line. Families in low-benefit states do not have this option and face more rigorous incentives to work wherever and whenever they can. Such disparity raises the question: "Should the poverty measure tend to count as poor those families who face and respond to high work disincentives (caused by, say, relatively generous benefits), and exclude those whose available benefits are low, but who put in long hours of work to raise themselves above the poverty line?"

3. *Counting public benefits.* Another problem concerns the direct effects of benefits on family income. If welfare benefits plus some interest and dividends are enough to lift some people out of poverty, does it make sense for the poverty measure to not count as poor those families who partake of the generous benefits, at the same time counting as poor those whose only difference from the first family is that they live in a state with less generous benefits? In other words, should the generosity of benefits determine who is and is not poor, and the number of the poor?

Because of the problems discussed above, the official poverty measure may exclude from the poverty category some with few skills and capabilities while including others with substantial capabilities and earning power, who, for one reason or another, earn little or report low cash income in a given year. It follows that the nation's poverty statistics may be providing us with a picture of a population that in many ways fails to conform with accepted notions of what it means to be down and out, poor, or with few means of "making it" in our economic system.

An alternative to annual income: Earnings capacity

Putting aside questions concerning the defects of the poverty lines, it may be possible to devise a measure that is superior to annual cash income as an indicator of economic position or family well-being over the long term or on a permanent basis.[8] One such measure would attempt to answer the question, "Does a family have the skills and capabilities to earn its way out of poverty were it fully to use them?" Such a question would get at the permanent characteristics of families: their education, their age and experience, and their occupation, and tie an assessment of whether or not they were poor to these attributes. It would come closer to the concept of "full income" so often discussed in economics: a concept that reflects the potential real consumption of the household, including available nonwork time.

It is feasible to make reliable estimates of the capability of each working-age family in the CPS to earn income, should the adults in the family work full time for the entire year. Such estimates of "family earnings capacity" have been made for 1973 to 1988, and for intermediate years. These estimates rely on the CPS, the same data source used by the Census Bureau in making its official poverty estimate. If the family's earnings capacity exceeds its poverty line, the family is able to work its way out of poverty—at least in theory. If family earnings capacity is less than the poverty line, the family is said to be "earnings capacity poor."[9]

The concept of family earnings capacity has several important advantages. Because it reflects the family's "permanent characteristics," it does not have the transitory character of annual cash income. Moreover, it is purged of the effects of labor-leisure tastes, work disincentives, and the receipt of public cash benefits, which make cash income a questionable measure of permanent economic position. It rests more solidly on economic principles, is close to the ideal "full income" concept suggested by Becker and Sen,[10] and reflects a more comprehensive set of considerations than one year of cash income.

The measure of family earnings capacity is obtained from the application of standard statistical techniques to data available from the CPS. First, the capability of each of the adults in the family to earn income if working at capacity is estimated. Then, these estimates are adjusted to reflect the reality that illness, disability, unemployment, and child care responsibilities may keep all working-age adults from either working or working at capacity. The resulting number is an estimate of the family's earnings capacity.[11]

The earnings capacity of the family, so measured, is then compared to the poverty line for the family. If family earnings capability exceeds the line, the family is presumed to be able to work its way out of poverty; families who lack the capability to earn enough to escape poverty are labeled "earnings capacity poor."

Trends in earnings capacity poverty and official poverty

Estimates of earnings capacity poverty have been made for both 1973 and 1988 for the population living in families headed by nonaged individuals. This rate was 5.8 percent in 1973, which means that in that year 10.5 million Americans lived in families which could not earn enough to escape poverty, even if the adults in the family worked full time for the entire year. By 1988, the number of poor so defined had increased substantially, to 14.5 million people (6.9 percent)—an increase of 20 percent. The official poverty rate for the two years was higher than the earnings capacity rate: 10.2 percent in 1973 and 11.9 percent in 1988, but rose more slowly over this period. In assessing the nation's efforts to reduce poverty over this period, then, a somewhat different picture emerges from the two measures. In both cases, poverty rates rose over time, but the deterioration was slightly more rapid using the earnings capacity measure than using the cash income measure.

Table 1 presents the levels and trends in earnings capacity poverty from 1973 to 1988 among various demographic groups. This table reveals a surprising result. While official poverty rates for those considered economically vulnerable—blacks, Hispanics, female heads of households, and especially black and Hispanic female heads of households—rose or fell only slightly over the period 1973–88, poverty as measured by earnings capacity *declined* substantially: by 13 percent for blacks, 27 percent for Hispanics, 19 percent for female heads with children, and 39 percent for black and Hispanic female heads of house-

Table 1

Trends in Earnings Capacity and Official Poverty, by Characteristics of Family Head and Family Type, 1973–1988

	Earnings Capacity Poverty 1973	Earnings Capacity Poverty 1988	% Change in Earnings Capacity Poverty, 1973–88	% Change in Official Poverty, 1973–88
All	5.8%	6.9%	20	17
Race of head				
White	3.0	4.4	47	12
Black	20.9	18.5	-13	-5
Hispanic	15.1	11.9	-27	13
Other	5.4	5.9	9	38
Sex of head				
Male	2.3	3.2	39	12
Female	27.9	22.2	-26	-9
Education of head (years)				
0–11	12.2	17.1	40	53
12	3.8	7.3	92	60
13–15	1.6	3.6	125	20
16+	.4	.6	50	9
Family type				
Intact[a]	2.1	2.5	20	6
Female head[b] with children	38.8	32.7	-19	0
White	28.0	28.9	3	6
Black	50.5	36.4	-39	-9
Hispanic	53.0	38.0	-39	2
Other	32.0	24.5	-31	1
Male head[b] with children	10.2	13.6	33	49
Single female[c]	10.2	9.7	-5	-25
Single male[c]	6.2	7.8	26	-6

Source: Calculations by authors based on data from March 1974 and March 1989 Current Population Survey.

Note: The estimates are incidence rates for individuals in poor "family units" with family heads age 18–64.

[a]Male is referred to as head in intact families.

[b]Heads are single parents.

[c]Single persons with no dependents other than themselves.

holds with children. At the same time, the incidence of earnings capacity poverty registered large *increases* for those we think of as less vulnerable groups: white individuals, members of intact families, and those with more than 12 years of school. These changes were much larger than the increases in their official poverty rates and moved in the opposite direction to the change in earnings capacity poverty for the more vulnerable groups.

In sum, since the early 1970s, those groups that are generally viewed as economically secure—whites, intact families, and those with higher education levels—have experienced rapidly increasing rates of earnings capacity poverty. It is discouraging to find such substantial increases in the proportion of individuals in stable marriages and with high school degrees who are unable to escape poverty through their own efforts. Conversely, the reduction in the earnings capacity poverty rates of the nation's most vulnerable groups has been large, conveying a more favorable impression of changes in their relative status than is seen in the official poverty statistics.

The large decline in earnings capacity poverty rates for these vulnerable groups (relative to increases or smaller reductions in official poverty rates), while a hopeful sign, also raises disturbing questions. Why has the marked increase in the capability of these groups to earn their way out of poverty not been reflected in their official poverty rates? Why has the nation not been able to realize this increase in productive capabilities? One possible explanation is that the American economy failed to generate sufficient opportunities for these groups to make full use of their earnings capabilities. An alternative explanation is that they chose not to utilize their earnings capacities at higher rates than they, in fact, did. If the first explanation is the valid one, economic growth—especially economic growth not driven by demands concentrated on the more highly skilled and educated of the nation's working-age citizens—could yield substantial improvements in economic position for these more-vulnerable groups.

Trends in earnings capacity poverty, therefore, provide a somewhat different picture from trends in official poverty and raise different questions.

The point of this exercise, however, is not to advocate one specific measure, but rather to illustrate that there may be one or more new approaches that could yield informative results, enhancing our ability to forestall as well as alleviate poverty.

Controversy over changing the poverty measure

The work of the NAS panel in revising the poverty measure will be controversial. The official measure has become woven into the structure of both policy discussions and fiscal actions. Movements in the poverty measure are part of any observer's scorecard regarding the performance of political administrations and the health of the economy. Perhaps the primary negative assessment of the Reagan/Bush era is its legacy of increased poverty. Moreover, numerous pieces of legislation have incorporated the official definition of poverty into formulae for the allocation of federal funds and eligibility standards for the receipt of public benefits. Important interests—states, localities, social service organizations, and benefit recipients—stand to gain or lose from any change in the definition of poverty.

The official poverty statistic is also a symbol with far-reaching ideological and political implications. Conservatives find their interests best served by a low poverty rate, one which can muffle claims of social distress and counter calls for increased public intervention. And with Republican administrations controlling the White House for twenty of the past twenty-four years, they also have interest in a measure that shows reductions in poverty over time—or one that at least does not rise so fast. With the official U.S. poverty rate currently at 14.2 percent, over 2 percentage points higher than its level in 1979, those seeking a smaller public sector are not strong supporters of the current measure.

Conversely, liberals cite high and rising poverty as the primary manifestation of the nation's social problems, and as undermining efforts to reduce such public problems as crime, substance abuse, teen nonmarital parenthood, infant mortality, and declining student achievement. And the domination of the poverty population by people of color has fueled the view that increased poverty and deteriorating race relations are not unrelated. Growth in the poverty rate over the last decade has supported calls for increased social spending and strengthened the hand of those who advocate affirmative action.

The work of the panel will be controversial for another reason as well: the official measure is an arbitrary construct based upon a large number of implicit and explicit social judgments regarding both economic needs and well-being. What is an "acceptable social minimum level of living"? What is to be counted in determining how well off are people who live in widely varying family types, regions, and neighborhoods? As mentioned earlier, these judgments do not have a reliable scientific basis. And nobody, save perhaps the Congress, has a legitimate basis for making these social judgments and building them into this social indicator. While the scholars and analysts who form the NAS panel will be able to bring the results of research to bear on some of these issues, they have neither the authority nor any special ability to make the numerous social judgments that are also required. It is ultimately a political decision.

The opportunity for improvement

This discussion, then, conveys an important lesson: One's assessment of who is poor, of which groups have the highest poverty rates, and of the nation's progress against poverty differs substantially depending on the measure of economic position that one uses.

Reliance on the easy-to-collect current cash income measure gives a somewhat different view of the trend in poverty than does a longer-term measure of family capabilities and economic position. Measuring earnings capacity rather than current income also offers a rather different picture of the level and trend in poverty rates for various subgroups in the population.

A corollary of this lesson is that the task of developing a reliable indicator—or alternatively, a series of indicators—of family economic well-being is a daunting one. The National Academy panel will confront head-on the key measurement issues—the measurement of family economic position, evaluation of the variation in resources necessary to allow families of different sizes and structures to live at equivalent levels of well-being, and the incorporation of regional differences in price levels and consumption needs into poverty measures. The resolution of these matters will have an enormous effect on our picture of the level, incidence, and trend in poverty. These decisions will play a crucial role in determining the nation's collective view of how bad things are, on whom policies should be targeted, and whether or not things are moving in the right direction.

But there is another lesson as well. Defining poverty is not just a matter of measuring things in the right way; it also requires fundamental social judgments, many with moral implications. Should poverty be measured absolutely, or assessed relative to how the rest of us are doing? What is the minimum socially acceptable level of living—or the minimum socially acceptable capability of earning a living? How should certain of a family's assets—say its children—be treated in measuring its well-being; are they a consumption good providing value? Or should they enter the calculation of the poverty line as they do now, as indicators of the family's need for income? Should quality-of-life factors—environment, schools, crime rates, encounters with drug dealers, the homeless, or those begging—be considered in measuring economic position, or should they not? When should the difficulty of developing a reliable measure override the importance of the factor being measured in deciding on a poverty definition, and a procedure for measuring it?

The National Academy panel faces numerous Faustian decisions; and no matter what choices are made, the decisions will be criticized by many, applauded by few. But the panel also has the mandate, and hence a great opportunity, to change an important element of how we as a nation view ourselves. The definition of poverty—or perhaps the family of definitions—that is officially adopted is probably the most normative of all of its statistical indicators of national performance. Like the unemployment rate, the poverty measure embodies a national goal. The panel has the chance to heavily influence the country's impression of the importance of that goal and the strategies that it adopts in achieving its objective. ■

---

[1] The panel was established by the Committee on National Statistics of the NAS in response to two congressional directives. Its formal title is "Panel on Poverty and Family Assistance: Concepts, Information Needs, and Measurement Methods." The panel chair is Robert Michael, University of Chicago. Members are Anthony B. Atkinson, University of London; David M. Betson, University of Notre Dame; Rebecca M. Blank, Northwestern University; Lawrence Bobo, University of California, Los Angeles; Jeanne Brooks-Gunn, Columbia University; John F. Cogan, Hoover Institution; Sheldon H. Danziger, University of Michigan; Angus S. Deaton, Princeton University; David T. Ellwood, Harvard University; Judith M. Gueron, Manpower Demonstration Research Corporation; Robert M. Hauser, University of Wisconsin–Madison; and Franklin D. Wilson, University of Wisconsin–Madison. Betson, Danziger, and Wilson are affiliates of IRP; Hauser is its current director. Blank, Bobo, Ellwood, and Gueron have been associated with IRP projects.

[2] Washington, D.C.: Urban Institute Press, 1990. The study provides a thoughtful analysis of the full range of issues that the committee will confront.

[3] *Drawing the Line*. See also her article "Measuring Poverty," *Focus* 14:2 (Spring 1992).

[4] The most vociferous recent attacks on the official measure have focused on its failure to include the value of in-kind public benefits in the income measure. See for example Robert Rector, Kate O'Beirne, and Michael McLaughlin, "How 'Poor' Are America's Poor?" Heritage Foundation *Backgrounder*, no. 791, September 21, 1990. Other critics have been vocal about the failure to subtract taxes. If both these corrections were made in the income measure, they would tend to offset each other.

[5] Susan E. Mayer and Christopher Jencks, "Recent Trends in Economic Inequality in the United States: Income vs. Expenditures vs. Material Well-Being," in *Poverty and Prosperity in the USA in the Late Twentieth Century*, ed. Dimitri Papadimitriou and Edward Wolff (New York: Macmillan, 1993).

[6] See, for example, G. J. Duncan, *Years of Poverty, Years of Plenty* (Ann Arbor: Institute for Social Research, University of Michigan, 1984).

[7] By relying on an expanded and continued longitudinal data source, such as the Survey of Income and Program Participation, some of the problems of transitory income flows could be overcome.

[8] Gary Becker and Amartya Sen have been strong advocates of a permanent, or full income, concept to measure the economic well-being or status of a family. See Becker, "A Theory of the Allocation of Time,"*Economic Journal*, 75 (1965), 493–517; Sen, "Issues in the Measurement of Poverty," *Scandinavian Journal of Economics*, 81 (February 1979), 285–307; and "Poverty: An Ordinal Approach to Measurement," *Econometrica*, 44 (March 1976), 219–231. See also Anthony Atkinson, "On the Measurement of Poverty," *Econometrica*, 55 (April 1987), 749–764. And see Ruggles, *Drawing the Line*, for a discussion of the merits of such an indicator.

[9] The concept of earnings capacity and its use in measuring poverty was first developed in Irwin Garfinkel and Robert Haveman, *Earnings Capacity, Poverty, and Inequality* (New York: Academic Press, 1977). The estimates reported below are from Haveman and Larry Buron, "Escaping Poverty through Work: The Problem of Low Earnings Capacity in the United States, 1973–1988," *Review of Income and Wealth*, forthcoming. Available from IRP are several papers by Haveman and Buron on the concept: "Who Are the Truly Poor? Patterns of Official and Net Earnings Capacity Poverty, 1973–1988," IRP Discussion Paper no. 956–91, 1991; "Destitution in the United States," IRP Discussion Paper no. 963–92, 1992; and "Inequality in Male Earnings Capacity, 1973–88: The Effects of Changes in 'Opportunity' and 'Choice,'" IRP Discussion Paper no. 983–92, 1992.

[10] See note 8, above.

[11] The actual procedures followed are these: First the earnings of all full-time, year-round workers in the CPS are related statistically to a variety of their characteristics, such as race, gender, education, age, health status, region, urban-rural location, and marital and family status. Then, using these estimated relationships, the amount that could be earned by each adult if he/she worked full time, year round, is calculated. This individual earnings capacity is then adjusted downward for the time that the individual either sought work but couldn't find it or couldn't work because of health problems (reflecting the judgment that these constraints on the use of earnings capacity should be reflected in the estimates). As a third step, the individuals are collected into their families, and their individual earnings capacities are summed. The resulting value for each family is then adjusted downward to reflect the costs of the child care that would have to be purchased if all of the adults were to work to their adjusted full capacity. This adjustment reflects the number and ages of the children and an estimate of the per-hour costs of child care. The result is an estimate of family earnings capacity. For a more detailed description, see Haveman and Buron, "Escaping Poverty through Work."