Three False Steps

The National Research Council's report, Measuring Poverty: A New Approach, will inspire vigorous debate over the best way to measure poverty

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When the Bureau of the Census releases its first experimental data implementing recommendations in the National Research Council's report, Measuring Poverty: A New Approach,[1] vigorous debate over those recommendations is sure to revive. The NRC panel's frank acknowledgement that its recommendations often are backed mainly by expert judgement makes disagreement also a matter of judgement, not likely to be resolved by presentation of conclusive evidence. That doesn't mean that evidence is irrelevant. Agreement about the relevant facts may be only the start of the policy debate. But misunderstanding and lack of clarity concerning the facts are bound to reduce the chance that any policy development process will have a satisfactory outcome. This paper hopes to keep debate about policy from getting off on the wrong foot by identifying three places where the panel's report takes false steps in its generally excellent presentation of the issues and options for addressing them.

First, contrary to text and graphics in the report, the official poverty thresholds have been increased (albeit unintentionally) in real terms over time due to flaws in the inflation index used to adjust the thresholds every year. Second, the report mistakenly assigns the largest "marginal" effect on poverty rates to the panel's proposals for handling medical out-of-pocket expenses when the proposal for a higher threshold level appears to have a much larger effect. Third, the method the panel followed in estimating medical out-of-pocket expenses overstates their effects on poverty in two separate ways.

The official poverty thresholds have increased in real terms.

The panel recommended that the poverty thresholds be raised in real terms to reflect the fact that the standard of living in the United States has increased significantly since the current thresholds were adopted. (153-54) Poverty is a social as well as an economic measure, and our concept of a minimally decent standard of living is much different now than it was before electric lights and indoor plumbing became widely available. The panel reasoned that increases in income since the mid-1960s and answers to public opinion polls are evidence of an increase in the social standard of poverty.

Increases in the real level of the poverty thresholds are certainly an appropriate topic for public discussion. However, the panel's presentation takes an initial false step in that direction. The report offers a graph, Figure 1-1 (35), which traces three measures of economic well-being from 1947 to 1992. One line shows half of median after-tax income for four-person families. Another tracks responses to an opinion poll about a minimum amount necessary to "get along." The third line shows the official poverty thresholds for a couple with two children. The lines cross around the point in the 1960s when the current poverty thresholds were adopted, suggesting that, at that time, the social standard of poverty was around half the median income. The median income and opinion poll lines continue up into the 1970s, then lose their trends. However, the line representing the poverty thresholds is perfectly horizontal, suggesting that as middle income families improved economically, the official poverty line was unchanged.

The graph is striking, but misleading. The official poverty thresholds for a four-person family can be represented as a perfectly horizontal line over the years only if the inflation index used to express the thresholds in constant dollars is the official CPI-U for all items. The line turns out to be horizontal because every year the CPI-U has been used to increase the thresholds to account for inflation.

It is now generally acknowledged that the CPI-U overstated inflation during this period. In 1983, the Bureau of Labor Statistics adopted a correction for the way housing costs were counted in calculating the CPI-U. At that time, the Bureau of the Census noted that the CPI-U, and so the poverty thresholds, were about 9 percent higher than they would have been if this methodological improvement had been employed consistently.[2]

Since 1983, BLS has implemented a number of other improvements to the CPI-U, most of which had the effect of reducing measured inflation. Recently, BLS published a research series index, CPI-U-RS, that simulates current CPI-U methods for all years since 1978. Based on this experimental index, the official CPI-U, and so the poverty thresholds, are more than 14 percent higher in real terms in 1997 than they were in 1967.[3]

The fact that the poverty thresholds have increased in real terms since they were adopted does not mean we should ignore the panel's recommendations about further increases. The gap between half-median income and the thresholds that the panel highlights remains whatever inflation adjustment is used.

However, consideration of the panel's recommendation should begin with clarity about the relevant facts. The current poverty thresholds were designed to remain constant in real terms, but, unintentionally, they were increased in real terms.

Which recommendation has the largest effect on poverty rates?

Table 5-9 in the report illustrates a point often emphasized in presentations of the panel's proposal. (268-69) When the panel's many recommendations and suggestions are taken one at a time, the largest single effect is said to result from the panel's recommendation for handling health needs. The recommended poverty budget is to include nothing for health care, which is to be the subject of a separate index. To maintain consistency between needs included in the thresholds and the resources available to meet the needs - a cardinal rule for the panel - health insurance coverage would receive no income value, and whatever a family spends for medical needs out-of-pocket (moop) would be subtracted from the family's resources before they are tested against the new poverty threshold.

The table shows that these recommendations for handling health needs (the column labeled "Out-Of-Pocket Medical Costs"), considered by themselves, would increase the poverty rate by 2.09 percentage points. By comparison, in a smaller table on page 263, the panel's suggested level for the new thresholds is represented as increasing the overall poverty rate by only .7 percentage points. In fact, although we cannot know the magnitudes for sure, the relative impacts of the two recommendations appear to be reversed.

The panel's recommendations for handling medical needs appear to have the largest impact on Table 5-9 because only part of the effect is shown. The table shows the difference between the official poverty rate for 1992 and the rate that results when estimates of moop are subtracted from officially-defined income (regular pre-tax money income) and the results are compared to the official thresholds. However, the panel proposes a poverty budget with no medical needs included. As the report states, "The original thresholds implicitly allowed for some out-of-pocket medical care expenditures in the multiplier, but not for the fact that such costs differ substantially by people's health status and other characteristics." [4](68) To illustrate the complete effect of the panel's recommendation for moop, amounts in the official thresholds for health needs would be removed, and the remainder used to test pre-tax money income minus moop.

A likely reason the panel did not display the effects of its health recommendations completely is that no one knows how much the official thresholds implicitly contain for medical needs. But we can start with a recent suggestion that perhaps 10 percent of the current thresholds for a couple with two children represents an allowance for moop.[5] A reduction of 1.4 percentage points results in the 1992 poverty rate of families of three or four when the official poverty thresholds are reduced by 10 percent before poverty status is determined. That would offset about half the 2.37 percentage point increase in poverty for three or four person families that Table 5-9 tells us results when moop is subtracted from resources.

If the report overstates the effects of the panel's moop recommendations on the poverty rate, it understates the effects of its proposed threshold level even more. The confusion arises from comparing the $14,228 official 1992 threshold for a couple and two children to the mid-point of the panel's suggested range of threshold levels for this reference family, $14,800. This doesn't look like much of a difference. The NRC level appears to be only $572 higher, or around 4 percent. According to the report, "The use of a higher reference family threshold accounts for only 0.7 percentage point of the increase in the poverty rate." (263)

However, the two dollar levels represent two very different poverty budgets and are not comparable. The NRC budget includes nothing for medical needs or work expenses. To compare the two thresholds, they must be expressed in terms of the same poverty budget. In an earlier chapter, the panel attempted such a comparison. It estimated that converting the official threshold of $14,228 to its proposed poverty budget would yield $12,000, and observed, "In comparison, the range that we conclude is reasonable, $13,700-$15,900, is 14 to 33 percent higher than the official threshold ...." (154)

The suggested reference family threshold of $14,800, near the mid-point of the panel's suggested range, is 23 percent higher than the current threshold when both are expressed on a comparable basis. A 23 percent increase in the current poverty thresholds would result in an increase in the overall poverty rate of more than four percentage points rather than .7 percentage points.[6]

From this line of reasoning, it emerges that the magnitude of the net effect of the panel's recommendations for medical needs on the poverty rate is probably around half the 2.09 percentage points in Table 5-9, and the true effect of the panel's suggested threshold level is around six times the .7 percentage points attributed on page 263.

Too much moop

The effect of the panel's moop recommendations presented on Table 5-9 is overstated by showing the effect of resources without moop but not thresholds without moop. The effect is overstated due to two other factors as well.

The panel employed data from the 1987 National Medical Expenditure Survey (NMES) to model the distribution of health spending for sample families in the March 1993 Current Population Survey. (253-55) However, NMES is not designed to provide the data the panel needed. Moreover, the mismatch between NMES data and the needs of the NRC poverty calculation are especially important for families with high health care spending, the very families most likely to be classified as poor by the panel's method.

The panel's proposed poverty calculation subtracts moop from income because health spending is said to reduce the income available for the items the panel includes in its poverty budget - food, clothing, shelter and utilities, plus a little more. (9-10) Expenditures attributed to households in NMES represent the costs of medical events that occurred during 1987.[7] NMES is not designed to tell us whether the costs were paid by families in 1987, nor whether they were paid out of current income and thereby reduced amounts available for food, clothing, and shelter. While it is reasonable to assume that most costs for medical events in 1987 were also paid by households within the same year, households with especially high medical expenses might spread payments out over a longer period, or pay some or all of their medical bills by drawing down assets. In the latter case, a family would reduce its resources as defined by the NRC panel not by the total amount of the expenditure but only insofar as future income from those liquidated assets would not be received. High medical bills are a serious public policy concern whether they are paid in full immediately out of current income, or paid by reducing wealth, or deferred. But the panel's estimates of moop and its effects on poverty are inflated by treating all NMES household charges as if they reduced income available for food, clothing, and shelter in the same year.

In addition to treating household medical bills as if they were full payments of bills out of current income, the panel's estimate of the burden of out-of-pocket medical spending is calibrated to administrative aggregates.[8] (254) Household surveys often do not capture all the income or expenditures that benchmark data indicate they should. This is a well recognized problem for income and poverty measurement.[9] Similarly, recent analysis has found that the Consumer Expenditure Survey misses a significant share of household medical spending, whether benchmarked against the 1987 National Medical Expenditure Survey or the National Health Accounts.[10]

By adjusting family medical spending out-of-pocket to match benchmark aggregates, the panel corrected for the under-reporting of these expenditures. However, income amounts were not similarly corrected for under-reporting before poverty status was determined. Benchmarking amounts that are subtracted from income (moop) while leaving income uncorrected introduces an upward bias into the panel's poverty estimates.

So two different factors contribute to an over-estimate of the amounts by which medical out-of-pocket spending reduces income available to spend on food, clothing, and shelter. Moop is distributed among CPS families based on NMES data that represent charges rather than out-of-pocket spending. And the aggregate amount so distributed is benchmarked to administrative totals while the income from which moop is subtracted is not similarly corrected for under-reporting. We have no estimate of how much of the 2.09 percentage point effect of moop on Table 5-9 is attributable to these factors.

The panel's recommendations for dealing with medical needs in the poverty thresholds constitute a creative approach to a very difficult problem. The effects on the poverty rates of some subgroups are dramatic, as Table 5-9 indicates. If public discussion of these recommendations starts out on the wrong foot, believing that the effects of subtracting moop are greater than they really are, this creative approach may not receive the consideration it deserves.

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[1]Citro and Michael (1995). Page references will appear parenthetically in the text.

[2]U.S. Bureau of the Census, Appendix E.

[3]Stewart and Reed (1999). To estimate a current methods index for years before 1977, BLS advises researchers to use year-to-year changes in the previously published CPI-U-X1. The effects of some other recent improvements, such as geometric weighting, would apply before 1977 as well. However, Stewart and Reed note that most of the difference between the CPI-U and the CPI-U-RS prior to 1983 results from the rental equivalence adjustment adopted in the CPI-U-X1.

[4]The report does not estimate how much of the current thresholds represent needs for out-of-pocket medical spending. However, as mentioned below, the panel estimated that deducting amounts implicit in the current thresholds for moop, child care, and work expenses would reduce the reference family's threshold by 16 percent.

[5]Betson (1998).

[6]The panel finds that a reference family threshold level of $13,175 will produce the same overall poverty rate as the official rate in 1992. This level is about 10 percent higher than the $12,000 official threshold for reference families expressed in a way that reflects the panel's poverty budget. This puzzle, that a higher NRC threshold produces the same overall poverty rate as a lower official threshold, results because some items included in the official thresholds are subtracted from both thresholds and resources under the NRC scheme - moop, work expenses, child care - while other NRC recommendations affect only resources - noncash transfers and direct taxes. A higher NRC threshold is needed to hit the official poverty rate because more resources are being counted under the NRC calculation near the bottom of the distribution.

[7]Inter-university Consortium for Political and Social Research (1992) 2.3, (1994), 1.6.2.

[8]Betson (1997).

[9]e.g., U.S. Bureau of the Census, Appendix C.

[10]Branch (1994), Betson (1997).