Defining and Redefining Poverty*

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Defining and Redefining Poverty

Abstract

In 1995 the National Academy of Sciences (NAS) Panel on Poverty and Family Assistance released a report, *Measuring Poverty: A New Approach*, which offered recommendations for improving the official poverty measure. In 1999, the Census Bureau released its first report on experimental poverty measures which implemented most of the NAS Panel recommendations, as agreed upon by a technical working group on poverty measurement chaired by the Office of Management and Budget. Following further research and discussion, a second Census Bureau report was released in 2001. This paper summarizes these efforts and focuses on current challenges. Elements of the experimental measures which continue to receive scrutiny include: the calculation of work-related expenses and childcare, the valuation of housing subsidies, the calculation of medical out-of-pocket spending, and adjustments to poverty thresholds for geographic cost-of-living differences. We also discuss other concerns faced in poverty redefinition efforts, such as determining which methods are conceptually, methodologically, and operationally the most appealing, and incorporating experimental measures in future reports and research.

Defining and Redefining Poverty

I. Introduction

The National Academy of Sciences (NAS) Panel on Poverty and Family Assistance released a report, *Measuring Poverty: A New Approach* (Citro and Michael, 1995), in the spring of 1995 that evaluated the current method of poverty measurement in the United States and recommended change. Based on practices from the 1960s, the current official poverty statistics compare before-tax cash income of families to poverty thresholds intended to approximate the cost of basic necessities at that time. These poverty thresholds have been updated for inflation since then. Poverty rates published each year by the Census Bureau (Dalaker and Proctor, 2000) represent the proportion of individuals whose family incomes are below these poverty thresholds.

The NAS report suggested several improvements to the current official poverty measures, aimed at producing a measure of economic well-being that was more accurate in portraying the kinds of families and individuals facing serious income hardship in the U.S. The NAS panel recommended changing the definition of both the poverty thresholds and the family resources that are compared with those thresholds to determine poverty status. The panel recommended a revised measure of poverty based on two sets of considerations:

Poverty Threshold Recommendations. The NAS panel recommended that the poverty thresholds should represent a dollar amount for a basic set of goods that includes food, clothing, shelter

(including utilities), and a small additional amount to allow for other needs (e.g., household supplies, personal care, non-work-related transportation). This threshold should be developed first for a reference family of two adults and two children using Consumer Expenditure Survey data, and it should be adjusted (using a specified equivalence scale) to reflect the needs of different family types and geographic differences in housing costs. Adjustments to thresholds should be made over time to reflect real growth in expenditures on this basic set of goods.

Family Resource Recommendations. The NAS panel recommended that family resources should be defined as the value of money income from all sources, plus the value of near-money benefits that are available to buy the basic bundle of goods, minus necessary expenses for critical goods and services not included in the thresholds. Near-money benefits include, among other things, food stamps, subsidized housing, school lunches, and home energy assistance. Necessary expenses that must be subtracted include income taxes, Social Security payroll taxes, childcare and other work-related expenses, child support payments to another household, and household contributions toward the costs of medical care and health insurance premiums, or medical out-of-pocket costs (MOOP).

One of the goals of the NAS panel was to produce a measure of poverty that explicitly accounted for government spending aimed at alleviating the hardship of low-income families. Thus, taking account of tax and transfer policies, such as the food stamp program and the earned income (tax) credit (EIC), in the measure can show the effects of these policies on various targeted subgroups, for example, families with children. The current official measure, which does not explicitly take

account of these benefits, yields poverty statistics that are unchanged regardless of changes in those policies.

In the summer of 1999, the Census Bureau released a report on experimental poverty measures covering the 1990-1997 period (Short et al., 1999). That report presented a set of experimental poverty measures based on recommendations of the 1995 NAS panel report. Some additional variations on that measure were included in order to shed light and generate discussion on the various dimensions included in the proposed revision. The report also examined the effects of each part of the recommendations, plus reasonable alternatives. Estimates of poverty rates using these experimental measures were calculated from 1990 through 1997 to examine the different trends that would have been observed. Comparisons were also made across various demographic subgroups in order to illustrate how their poverty rates were affected by the different measures.

That work suggested that with these new measures a somewhat different population would be identified as poor. This new group of poor would consist of a larger proportion of elderly people, working families, and married-couple families than are identified by the official poverty measure. Trends in poverty rates, however, were similar to those found using the official measure, except for a somewhat steeper decline in poverty rates following an expansion of the EIC program.

In July of 2001 the Census Bureau released a second report on experimental poverty measures (Short, 2001b). The measures presented in that report drew upon the considerable research and discussion that followed publication of the first report. A series of papers (available on the

Census Bureau website: http://www.census.gov/hhes/www/povmeas.htm) presented improved methods for computing the various dimensions of the poverty measure. While much of the detailed calculations, as recommended by the NAS panel, were retained in the measures, some areas were thought to merit additional improvements, such as:

- use of equivalence scales to adjust thresholds for different families
- the calculation of work-related expenses including childcare
- adding the value of housing subsidies to income as a non-cash transfer
- the valuation of medical out-of-pocket spending
- adjusting thresholds for geographic cost-of-living differences.

These elements are described in more detail below, as they represent the research conducted at the Census Bureau following the release of the NAS panel's report. The discussion sheds light on the challenges faced in constructing a measure that more accurately portrays poverty in the U.S. and also serves as an official measure. Devising an "official" measure imposes additional constraints and considerations in the construction of statistical measures.

A. Equivalence scales

Since the release of the Census Bureau report on experimental measures in 1999, there has been increasing consensus among poverty researchers concerning the use of a three-parameter equivalence scale rather than the two-parameter scale recommended by the NAS panel. An equivalence scale is used in a poverty measure to take account of differences in needs due to differences in family size and composition. The cost of shelter, for example, would be higher for a family of four than a two-person family, but not twice as high. The equivalence scale makes this adjustment.

The NAS panel originally employed a two-parameter scale in its illustrative calculations, but a three-parameter scale more adequately represents the relative needs of families with and without children (Betson, 1996, Short et al., 1999, and Open Letter, 2000), and is used for most experimental measures in the Census Bureau's second report and in this paper. Recent work has examined these equivalence scales relative to other computations and further research is encouraged (see Garner and Short, 2001 and Garner and Short, 2002).

B. Work-related expenses including childcare. The NAS panel recommended that expenses necessary to work should be subtracted from family income before determining poverty status. The panel's suggested approach subtracted a flat weekly amount for these expenses for each week worked. These expenses were restricted to not exceed the lowest-paid person's earnings (where all adults worked). Using data from the 1987 Survey of Income and Program Participation (SIPP), the most recent data then available, the NAS panel estimated the median value of work expenses to be $17.12 (in 1999 dollars), for each week reported working by each person in the family.

Responding to the fact that these data were relatively out of date, the Census Bureau introduced a new set of questions on work-related expenses in the 1996 SIPP. The amount estimated from these newer data is very similar to the previously estimated dollar amount-- $16.83 per week in 1999. These questions will be repeated annually in future SIPP panels, thus allowing new estimates to be obtained on a regular basis.

Childcare expenses while parents work are more difficult to determine. The NAS panel modeled childcare expenses with information from the 1990 SIPP. They used a two-step procedure for each of two separate groups -- two-parent families where both parents worked, and single parents who worked. The first step of the calculation established the probability that a family had incurred childcare expenses. If the family was determined to have incurred expenses, then the second step subtracted an estimated dollar amount from the income of the family before determining poverty status.

Responding to the lack of information on childcare expenses, the Census Bureau added questions to the Current Population Survey (CPS) in 1999 to elicit information from the household about whether they had paid for childcare while they worked. While these data can now be used to determine whether a CPS family incurred childcare expenses, it is still necessary to model amounts spent. This measure uses an improved model similar to the NAS model (see Iceland and Ribar, 2001, and Short, 2001, for details).

As families change their use of paid childcare in the future, these changes will be captured with the questions asked annually in the CPS. Furthermore, the model predicting amounts spent can be updated on a regular basis using information from the topical modules in the SIPP. The estimates shown here used data from the 1993 panel of SIPP, though experimentation in this area may result in other methods to incorporate SIPP childcare information in a CPS-based experimental poverty measure. Since questions on childcare are asked regularly in that survey, updated estimates of amounts spent on childcare by working parents can be made on an annual basis.

C. Housing subsidies The Census Bureau provides estimates of housing subsidy values every year with the March CPS Supplement. While the CPS collects information on whether a household is in a public or subsidized housing unit, it does not collect information on the value of the subsidy received. Consequently, the Census Bureau uses data from the 1985 American Housing Survey (AHS) to calculate subsidy amounts and then assigns values in the CPS based on region, family income, and family size. Each year these amounts are adjusted according to a price index for rents.

There is some general agreement that these valuations underestimate the actual value of subsidies received and that more recent data should be used to update these values.[1] Furthermore, there is agreement that, while the value of a housing subsidy can free up a family's income to purchase food and other basic items, it will only do so to the extent that it meets the need for shelter. Thus, while the new approach presented here revises the values for housing subsidies upward with more recent data, the values are limited to the proportion of the threshold that is allocated to shelter costs. From estimates based on threshold calculations from the Consumer Expenditure Survey (CE), this limit is set at 44 percent of the calculated experimental threshold for each family.

The new housing subsidy valuation method presented here uses Fair Market Rents (FMRs) to value housing subsidies.[2] In this method, the FMR represents the market rent for a metropolitan or nonmetropolitan territory in a given state. Given the average FMR for each state by

1 Steffick, 1993.
2 Fair Market Rents are used to set reimbursement levels for Section 8 housing vouchers given to low-income

metropolitan status, subsidy amounts are calculated by subtracting 30 percent of household income from market rent, based on program rules. Of course, poverty rates are lower when these larger subsidies are added to family income. A second method of valuing housing subsidies, not shown here, was calculated using 1999 AHS data and presented in research papers (Stern, 2001) and in the second Census Bureau report. This method includes a statistical matching procedure that imputes market rent for individual housing units. Because this method results in subsidy values that are lower than those resulting from the FMR calculations, the poverty rate does not decline as much as it does using FMRs.

The value of housing subsidies can be easily updated using FMRs published by HUD publishes FMRs in the Federal Register for review and comment. These values are updated annually using the AHS and other methods. Final FMRs are made available to the public by Metropolitan Statistical Area (MSA) and non-metropolitan counties. Additional research using the AHS could contribute to improved measures.

D. Medical out-of-pocket expenses (MOOP). The NAS panel was aware that expenditures for health care are a significant portion of a family budget and have become an increasingly larger budget item since the 1960s. The panel considered including health care in the thresholds with food, clothing, and shelter needs, but decided against it. They argued that medical care needs differ from the need for food or housing in that not every family requires medical care in a given year, but when they do, the associated costs may be extraordinarily large. They concluded that it would be impossible to capture the actual variation of medical needs by variations in the thresholds and that this could lead to what the panel termed "erroneous poverty classification."

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families trying to find adequate affordable housing in the private rental market.

Instead, they developed a method that was intended to represent "actual" MOOP spending. These expenses include the payment of health insurance premiums plus other medically necessary items such as prescription drugs and doctor co-payments that are not paid for by insurance. Subtracting these "actual" amounts from income, like taxes and work expenses, leaves the amount of income that the family had available in 1999 to purchase the basic bundle of goods (food, clothing, shelter, and utilities (FCSU) and a "little bit more").

That method used data from the 1987 National Medical Expenditure Survey (NMES) to model expenses that were then subtracted from family income. One criticism of the method was the outdated nature of the data, particularly in the area of health care spending, which has seen considerable changes in recent years. For this reason, David Betson re-estimated the valuation procedure using more recent data from the 1996 and 1997 CE.[3] He also incorporated considerable improvements to the calculation including re-specification of the model used to calculate MOOP amounts (see Betson, 2001). Betson also recommended no adjustment to a national benchmark total, such as was done in the earlier version of the MOOP model (no other income or expense amounts are benchmarked).

Thus far, the Census Bureau has employed only the NAS method of valuing MOOP in our examination of experimental poverty measures. However, the NAS recommendations have raised issues of implementation (see Bavier, 1999 and Bavier, 2000). Their treatment of medical needs would require surveys and administrative data sets either to ask families directly and extensively about out-of-pocket medical expenditures or, as was done for the earlier report, to use statistical methods to assign amounts to each family. In light of both the conceptual and

3 More recent data on medical spending including health insurance premiums is not yet available from the Medical

practical issues raised by the panel's proposal for handling medical needs, this report includes an alternative treatment. This treatment parallels the panel's recommendations for poverty thresholds based on expenditures for food, clothing, shelter, and a little more, but adds "expected" out-of-pocket medical spending to those thresholds (see Banthin et al., 2001).

This second method of accounting for medical needs produces a set of "expected" amounts of medical spending for a broad set of families. Using quarterly data from the CE and from the 1996 Medical Expenditure Panel Survey (MEPS), a threshold for food, clothing, shelter, and out-of-pocket medical expenses (FCSUM) is calculated for different family types based on differences in health insurance coverage, self-reported health status, presence of elderly family members, and family size. In addition, since these figures represent "expected" spending, they include an adjustment for the uninsured, whose need for health care may exceed their actual spending.

A final approach to valuing medical expenses is to combine the two approaches above into a single measure. This combined approach includes the addition of an "expected" MOOP value in the thresholds in a way similar to the measures described above. The next step is to calculate the difference between an estimate of MOOP that preserves the inherent variation, such as the method used by the NAS panel, and the "expected" MOOP value that has been added into the thresholds. This *net* MOOP amount is then subtracted from family income.

This method has the advantage of including medical needs in the poverty threshold (thus allowing the threshold to represent a broader range of needs), while, at the same time, replicating

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Expenditure Panel Survey.

the actual MOOP distribution by accounting for the substantial variation that typifies the observed distribution of MOOP in the population. While MOOP is included in the poverty thresholds in this measure, families with unexpectedly large MOOP expenses are more appropriately classified as poor, while families with unexpected good health are characterized as being better off than they otherwise would be if an expected value approach is used alone.

A drawback of this method is the difficulty of updating estimates. Betson's model could be updated at some regular interval using more recent CE data rather than the more difficult-to-access MEPS data. To account for MOOP in the poverty thresholds, new estimates could be obtained from MEPS at some regular interval, or medical risk indexes could be calculated using CE data. Earlier work suggests that this difference results in somewhat similar MOOP amounts (Banthin et al. 2001).

E. Geographic indexes for thresholds The NAS panel recommended calculating a set of indexes to take account of geographic differences in cost of living. The panel stated that their indexes, while an improvement over the current official thresholds that take no account of these differences, could be improved with better data and valuation methods. This report includes a different valuation procedure that employs FMRs. While problems still remain, using FMRs does improve upon the panel's procedure (see Short, 2001).

The primary difficulty with the indexes used in the NAS report comes from grouping contiguous counties into 41 groups by census division and population size of metropolitan area. This procedure is based on the assumption that housing costs are similar within each of the 41 groups.

If this is not case, than thresholds for states within each group may misrepresent the cost of basic needs. Since this assumption appeared to be violated, most notably in the New England division, a different grouping procedure was used in the second Census Bureau report (Short 2001b). That report used FMRS to calculated index numbers for 100 groups, two numbers for each state (except one) and the District of Columbia. These numbers correspond to metropolitan and non-metropolitan status within each state.

It would be useful to do additional investigations of this topic using other sources of data, such as the 2000 census or the American Community Survey, or other estimation methods. While further research would be informative, we believe using an index based on FMRs to adjust poverty thresholds for cost differences is an improvement over the NAS method.

II. Experimental Measures

Putting together all of these newer estimation methods yields a set of experimental poverty measures. These measures combine new work-related expense estimates, including a new method of valuing childcare, with geographic cost-of-living adjustments to the thresholds and a new method of valuing housing subsidies. The small set of measures discussed here use different methods to value out-of-pocket medical expenses and to update thresholds from a base year of 1999 (the year for which experimental measures were published in the second Census Bureau report). Six variations of these measures will appear in the annual official poverty report this year. They are:

> **MSI-CPI**= new NAS MOOP estimates which are subtracted from income, new geographic adjustments, and experimental threshold updated from 1999 with the Consumer Price Index for urban consumers (CPI-U).

MIT-CPI = MOOP in thresholds, new geographic adjustments, and experimental threshold updated from 1999 with the CPI-U.

CMB-CPI = combined MOOP method, new geographic adjustments, and experimental threshold updated from 1999 with the CPI-U.

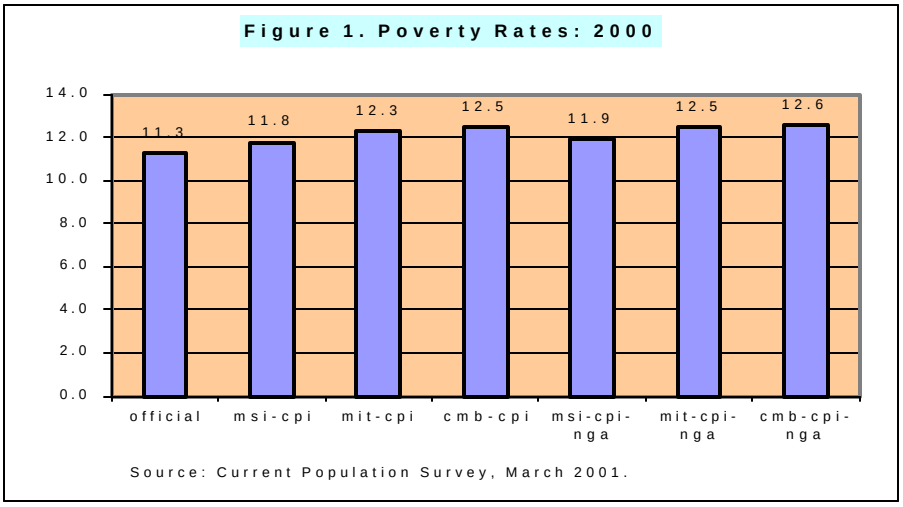
MSI-CPI-NGA = new NAS MOOP estimates which are subtracted from income, no geographic adjustments, and experimental threshold updated from 1999 with the CPI-U.

MIT-CPI-NGA = MOOP in thresholds, no geographic adjustments, and experimental threshold updated from 1999 with the CPI-U.

CMB-CPI-NGA = combined MOOP method, no geographic adjustments, and experimental threshold updated from 1999 with the CPI-U.

All of the measures use new work-related expenses and housing subsidies using FMRs. The measures differ by the method used to value MOOP. In the measures, MSI represents a measure for which MOOP is subtracted from income. The MIT measure accounts for MOOP in the thresholds only, and the CMB measures both subtract net MOOP from income and include MOOP in the thresholds. All of the measures use the experimental thresholds calculated for 1999 updated to 2000 with the Consumer Price Index (CPI-U). [4]

Figure 1 shows poverty rates based on these new experimental measures. Poverty rates calculated using the experimental measures are all slightly higher than the official measure in 2000. Of the experimental poverty rates, the MSI-CPI measure that uses the updated NAS MOOP method is the lowest, at 11.8 percent. The measure with MOOP in the threshold, MIT-CPI, yields a slightly higher poverty rate, 12.3 percent; and the measure combining these two, CMB-CPI, is the highest, at 12.5 percent poor, of those with a geographic adjustment.



Distribution of the poverty population

Not only does the overall level of poverty differ among the various measures, so does the demographic and socioeconomic makeup of the poverty population. As the panel showed in their report, the experimental measures tend to present a poverty population that looks more like the total population. Comparing the official measure with the experimental measures, or comparing the experimental measures against each other, show how methods for measuring poverty affect the perception of who is poor.

Figure 2 shows the proportion of the poverty population under 18 years old using the different measures. Overall, children constitute 26.1 percent of the total population, but the first column indicates that they comprise a much larger percentage of the poverty population, particularly using the official measure. Under that measure, 37.2 percent of the poor are children below the age of 18. However, under the experimental measures, that percentage falls to about 31 percent

4 Measures based on experimental thresholds recalculated for 2000 can be found in Short and Garner (forthcoming).

of the poor because transfer programs aimed at alleviating poverty in families with children are explicitly taken account in all of the experimental measures.

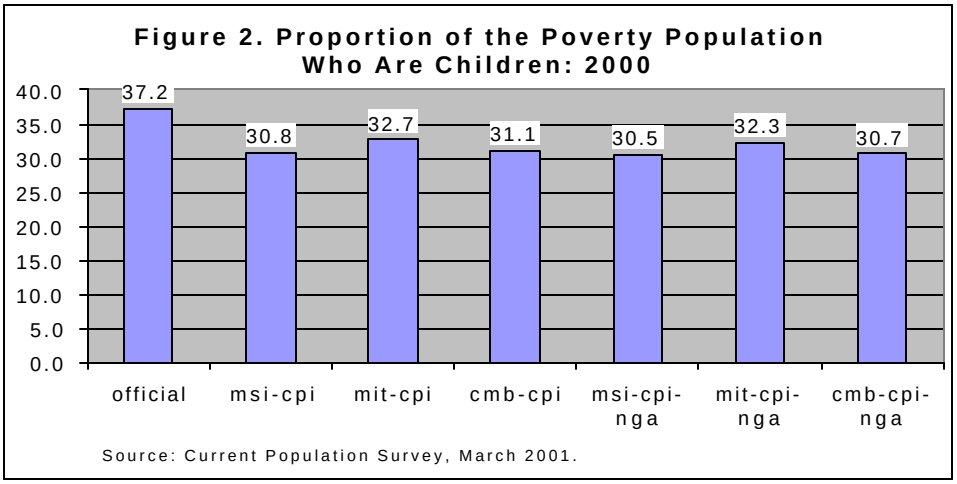
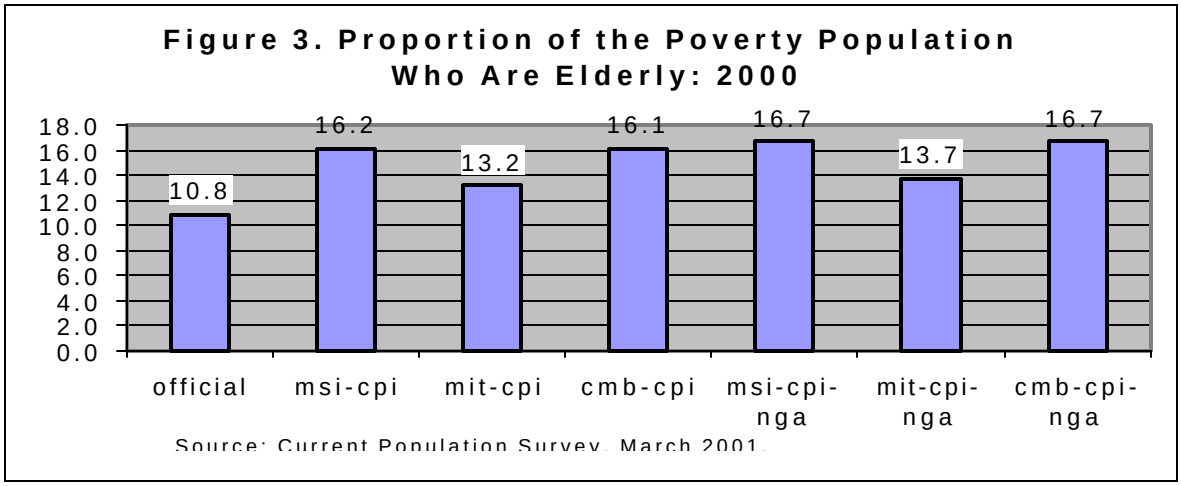
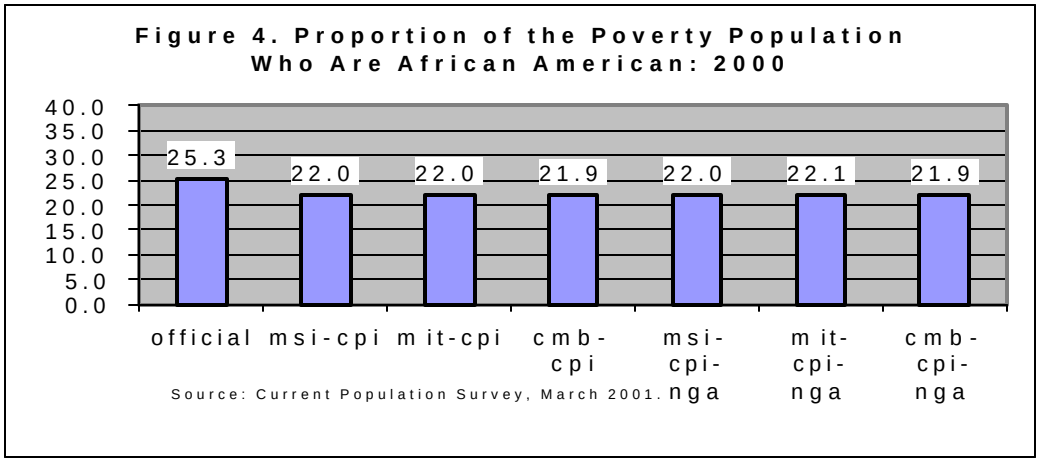


Figure 3 shows the percentage of the poverty population that is elderly and reveals a more dramatic change in the opposite direction. While the elderly were under-represented in the poverty population using the official measure, they make up a larger percentage of the poor under most of the experimental measures. Overall, about 12.0 percent of the total population is 65 years old and over, with only 10.8 percent of the official poor in that age group. However, based on the experimental measures that account for relatively large medical out-of-pocket expenses, the elderly constitute 16-17 percent of the poverty population, except using MIT,



which measures poverty by including MOOP in the threshold. In that case, the elderly are around 13 percent of the poor.

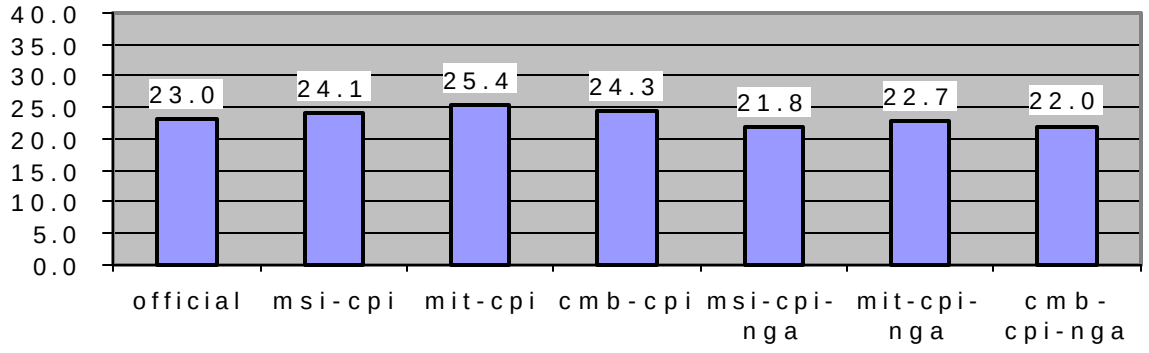
African Americans are another group for whom representation in the poverty population changes with the experimental measures. **Figure 4** shows the distribution of this group as a percent of the poverty populations, and illustrates that for each of the poverty measures, Blacks constitute a lower percentage -- around 22 percent -- under the experimental measures than under the official measure, 25 percent. Overall, African Americans constitute about 13 percent of the total population.



Hispanics made up 12.2 percent of the total population in 2000 and 23.0 percent of the official poor (**Figure 5**). Their representation in the poverty population increases somewhat under the experimental measures, particularly under the MIT measure, which shows that Hispanics are 25.4 percent of the poor. Under the other experimental measures with a geographic adjustment the proportion is somewhat lower, about 24 percent. This result reflects the fact that including MOOP in the threshold also adjusts for lack of health insurance. Since Hispanics are more likely to lack health insurance than other groups (see Mills, 2000), adjusting for health insurance increases a Hispanic individual's probability of being poor. Also, the experimental

measures which use a geographic adjustment suggest that Hispanics tend to live where housing costs are higher.

Figure 5. Proportion of the Poverty Population Who Are Hispanic: 2000



Source: Current Population Survey, March 2001.

Other measures of poverty that are often used, such as poverty gaps or income to poverty-threshold ratios, can be calculated with the experimental measures and compared with the official measure. Here again, a different portrait of poverty is painted using these new measures. Overall, when taxes and transfers are taken into account, fewer individuals are estimated to have extremely low incomes and the distribution of family resources is more equal than we find under the official measures of income and poverty (see Short and Iceland, 2000 and Short and Garner, 2002).

III. Publication plans for experimental poverty measures

The Census Bureau plans to continue work to improve the measurement of poverty. There are still important areas that would benefit from more complete data or improved estimation methods. Even as research continues, the Census Bureau will continue to include experimental poverty measures its annual official poverty report. Only a few of the measures under

consideration are presented in those reports, and the analysis of the measures are rather limited. Nevertheless, their inclusion in those publications allows analysis of trends in experimental poverty over time, and keeps readers informed about ongoing research on experimental poverty measure issues.

IV. Future research and concluding remarks

Future research

Three more general issues for further research are the treatment of cohabitants in the unit of analysis, the treatment of the flow of services from owner-occupied housing, and the use of the SIPP for poverty measurement instead of the CPS. These areas were discussed in our last report, and remain on our research agenda for further improvements to a poverty measure.

The unit of analysis. The NAS panel recommended that the definition of a family should be broadened for the purposes of poverty measurement to include cohabiting couples and their children, and that research should be conducted on the extent of resource sharing among roommates and other household and family members to determine if the unit of analysis should be modified further. This research, as recommended by the panel, should include an assessment of the effects on poverty rates of changing the unit of analysis by treating cohabiting couples as "families."

The panel noted that while cohabiting couples, roommates, and other household members benefit from economies of scale, the current measure overstates the poverty rate for such people. The

panel also noted that since many cohabiting couples pool resources and exhibit considerable stability in their living arrangements, treating them like married-couple families makes sense for the purposes of poverty measurement.

Our previous report pursued the panel's recommendations regarding the family definition used to measure poverty by implementing four new units of analysis (see Short et al., 1999). Further work in this area (see Iceland, 2000) extends the measures presented in that report. Additional research is planned to evaluate questions added to the 2001 SIPP that concern the sharing of expenses among members of a household. These questions are similar to those already used in the CE to determine a consumer unit.

Owner-occupied housing. Accounting for the flow of services from owner-occupied housing would affect both thresholds and resources. As noted by the panel, economists have long argued that the economic resources for owners and renters should be treated comparably because the resources available are related to a household's expenses. For example, if the household owns its home without a mortgage, then more money is available to purchase other needed goods and services. This study defines thresholds using the out-of-pocket shelter expenses reported (not including the reduction in mortgage principal) by the reference units for both renters and owners.

For homeowners with high or no mortgage payments or other expenses, out-of-pocket shelter expenditures can differ substantially from those paid by renters. The NAS panel noted that this difference could be taken into account if a measure were developed indicating the amount that

homeowners would pay if they were renting their homes.[5] This could be used as a proxy for the flow of services from housing. This measure, the estimated shelter costs for owner occupants, could replace the owner's out-of-pocket expenditures on the threshold side. To balance this, a measure of the implicit income of homeownership should be included in the incomes of homeowners to adjust for their advantaged situation regarding housing costs. The NAS panel used an out-of-pocket measure for "processing convenience," but their preferred approach would account for the cost of the flow of services for homeowners.[6]

The Census Bureau annually publishes a poverty measure that includes a measure of net return to home equity for homeowners. This value represents the hypothetical income that a household would receive if it chose to shift the amount held as home equity into an interest-bearing account. Although this measure provides a basis for illustrating the potential importance of developing and implementing a well-founded measure of imputed rent, it is not complete. It is not consistent with a threshold measure that only counts out-of-pocket expenses as reported in the CE.

A previous experimental poverty measure report included a measure that substituted out-of-pocket shelter expenditures with estimated rental shelter costs for homeowners in the calculation of thresholds and that added net return to home equity to resources (Short et al., 1999). That calculation made the poverty measure consistent, because both the resource and threshold sides accounted for the implicit costs and the implicit income of homeownership. However, further

[5] The panel referred to this value as "imputed rent." This value would include expenditures for maintenance as well as rent.
[6] Citro and Michael, p. 148.

refinement of these measures is an item for continued research (see Garner and Short, 2001, for some additional insights).

In addition to accounting for imputed shelter costs for homeowners, this method would also allow us to value the total cost of subsidized housing in our thresholds, rather than the out-of-pocket costs that would be counted without this imputation. This method of constructing the thresholds would also be consistent with the addition of housing subsidies received as income on the resource side, as shown earlier, because it would then reflect the total cost of housing that subsidized renters face. Without this imputation on the threshold side, it is inconsistent to add the value of housing subsidies to income.

Using the SIPP for Poverty Measurement. One important recommendation of the NAS panel was to make the Survey of Income and Program Participation (SIPP) rather than the CPS the official source for measuring income or resources in our poverty statistics. The panel made this recommendation because SIPP collects more information that is relevant to the measurement of poverty. Because the SIPP is an income survey rather than a supplement to a labor force survey, as is the CPS, the SIPP is designed to satisfy the increased data requirements for an improved measure of poverty.

Started in 1983 by the Census Bureau, the SIPP is a continuing panel survey that follows respondent household members even if they move. Until 1993, the design introduced a new sample panel each February. Beginning in 1996, an enlarged four-year panel was introduced,

with no further panels planned until 2000.[7] The sample covers the U.S. civilian non-institutionalized population and members of the Armed Forces living off post or with their families on post (the same as the CPS). Sample size historically has varied from 12,500 to 23,500 households per panel; the 1996 panel is composed of 36,700 households. The reporting unit is the household, with unrelated individuals and families also identified.

Studies by the Census Bureau have concluded that a time series of official statistics, such as poverty, must be based on surveys with consistent design characteristics. For a longitudinal survey like the SIPP, this means that the characteristics of the sample (consisting of households that stay in sample for several years) must not change from year to year. But research suggests that families in poverty leave the sample at higher rates than non-poverty families (Huggins and Winters, 1995). As a consequence, direct survey estimates cannot be used without accounting for and correcting the bias introduced by this differential attrition.

To address this problem, an alternative survey redesign has been proposed for SIPP with constant attrition bias (similar to the design of the CPS) that allows measuring year-to-year changes accurately (if both years' estimates are biased in the same way, their difference is not biased). Constant attrition bias for an annual statistic like poverty can be obtained by starting a new SIPP panel each year, just as the CPS adds a new sample each month to permit accurate measurement of month-to-month changes in unemployment. Specifically, the proposal is to field a new SIPP panel each year, with each panel collecting data for three years.[8] As part of this design the sample size must be sufficient to produce a time series of poverty statistics with the

7 Due to budget cuts, the 2000 SIPP was ended after 2 waves, and a new 3-year panel began in 2001.
[8] Weinberg et al. 1998.

same variance as the March CPS estimates (or less). Each panel would provide a complete measure of calendar-year income. The current proposal is to supplement the existing longitudinal panel with two additional smaller panels. These additional panels would yield stable cross-section estimates and allow valid time-series comparisons.

Using the SIPP for poverty estimates, rather than the CPS, changes our estimate of the extent and distribution of poverty in the U.S. The Census Bureau has documented some of the differences encountered between the two surveys using the 1996 and earlier panels of the SIPP (see Short et al. 1998, Short 2001, Stern 2001, O'Hara and Doyle, 2001, Iceland et al. 2001, and Sisson and Short, 2001). Further investigations will be pursued using the 2001 panel of SIPP.

Alternative Criteria for Poverty Measures. This report has presented several alternative measures of poverty which demonstrate various measurement methods. While the choice of measurement method should be driven by accuracy, an official measure that is too burdensome to produce will delay release of these important statistics and preclude researchers from replicating related statistics.

One theme likely to drive the adoption of a particular method is the overriding need to produce official poverty statistics from the March CPS Supplement or the SIPP for timely publication and release. An important consideration in examining each of these alternative methods is the amount of time that the estimates would require and the possibility of creating these estimates in a production environment. Other important considerations are the ease with which researchers outside the Census Bureau can replicate such statistics, and further, if these experimental

measures can even be calculated using other survey data that do not collect the wide variety of information required.

The calculation of MOOP is a good example. Concern has been expressed about the difficulty in using a complex statistical model to calculate a complete experimental measure. The easiest method of incorporating MOOP in a poverty measure is to construct a threshold that includes MOOP, along with a set of medical equivalence scales allows relatively easy adaptation of these measures to other federal surveys. While this may not be the most precise method of measuring medical expenses, what it may lack in accuracy it may gain in ease of implementation.

Another example would be the valuation of housing subsidies. The report “Experimental Poverty Measures: 1999” presented two approaches. One used a data-intensive hedonic regression method coupled with a statistical match to the AHS. The other method simply applies average FMRs to adjust poverty thresholds. The second method is much simpler to implement, lends itself to a production mode of data estimation, and is accessible to researchers working in other data environments. However, it also produces values of housing subsidies that might be considered, on average, to be overestimates of actual amounts.

Further work in this area will continue to take account of these important issues: replicability of measures, timeliness of data needed for measures, and concerns about confidentiality that could preclude public use of data. Balancing these concerns with precise and accurate measures continues to be a goal of this research.

Conclusion

This paper discusses recent research efforts aimed at improving experimental poverty measures. These efforts extended previous experimental poverty measures by taking advantage of more recent information from the 1996 panel of the Survey of Income and Program Participation, the March 2001 Current Population Survey, the 1996 Medical Expenditure Panel Survey, the 1997 to 2001 Consumer Expenditure Surveys, and 2000 Fair Market Rents from the Department of Housing and Urban Development.

While the methods discussed here are intended to improve upon previous methods, most of the changes represent only modest variations on the measure originally prescribed by the National Academy of Sciences panel. Variations presented here retain the basic structure of the NAS proposals but explore alternatives that reflect unresolved technical or conceptual issues. The suggested improvements also do not affect most of the previous conclusions about the relative incidence of poverty among various demographic subgroups. The measures presented here, like the measures in the NAS report and in previous Census Bureau reports on experimental poverty measures, show that there are more elderly, more married-couple families, more families in the West and Northeast, and in suburban areas classified as poor than are currently identified with the official poverty measure.

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