

March 2010

Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure

I. Developing a Supplemental Poverty Measure

Since the official U.S. poverty measure was first published in 1964, there has been continuing debate about alternative approaches to the measurement of poverty. Recognizing that alternative statistics can provide useful information, the Office of Management and Budget's Chief Statistician formed an Interagency Technical Working Group on Developing a Supplemental Poverty Measure including representatives from BLS, the Census Bureau, the Council of Economic Advisers, the Department of Commerce, the Department of Health and Human Services, and OMB. The Working Group was charged with developing a set of initial starting points to permit the U.S. Census Bureau, in cooperation with the Bureau of Labor Statistics (BLS), to produce a Supplemental Poverty Measure (SPM). The new supplemental measure would be published initially in the fall of 2011 at the same time and detail as the 2010 income and poverty statistics that contain the official poverty measure, and annually thereafter. The President's 2011 Budget proposes resources to support this activity in the budgets of the Census Bureau and the BLS. Although the outcome of the 2011 appropriations process is unknown, developing and estimating an SPM will take substantial advance work and planning and the Working Group's observations are meant to assist the Census Bureau and the BLS in such planning.

The SPM would not replace the official poverty measure. The Working Group has designed it as an experimental measure that defines thresholds and resources in a manner different from the official poverty measure. The SPM should be considered a work in progress, with the expectation that there will be improvements to it over time. The first publication of the SPM should be accompanied by a detailed description of the methodology used to estimate the new supplemental measure. This description should be updated as changes are incorporated in the SPM.

The Working Group envisions that the Census Bureau will update the SPM on an annual basis and improve it as new data, new methods, and further research become available. Historically, BLS has contributed to research on and produced the poverty thresholds (based on BLS expenditure data) and provided these expenditure-based thresholds to the Census Bureau for use in its poverty measurement research; it will continue to play this role with the SPM. As with any statistic regularly published by a Federal statistical agency, the Working Group expects that changes in this measure over time will be decided upon in a process led by research methodologists and statisticians within the Census Bureau in consultation with BLS and with other appropriate data agencies and outside experts, and will be based on solid analytical evidence.

The official poverty measure, as defined in OMB Statistical Policy Directive No. 14, will continue to be produced and updated every year. This is the measure that is often identified in legislation regarding program eligibility and funding distribution. For a variety of reasons, the SPM is an inappropriate measure for these purposes. The SPM is designed to provide information on aggregate levels of economic need at a national level or within large subpopulations or areas. Since the SPM will be a new statistic, we lack any evidence on its performance over time. The SPM is also a more complex statistic than the official poverty measure in terms of how it estimates economic need. It would be inappropriate and extremely difficult to determine any single individual's economic status using the SPM.

For many years, the Census Bureau has estimated a number of alternative poverty measures, which are typically not available until some time after the official income and poverty data are released. These are made available on the Census Bureau's website. The development of an SPM will not stop the estimation and release of multiple alternative poverty measures whenever the Census Bureau deems appropriate. It is informative to view other alternatives which reflect the ongoing research of the Census Bureau regarding the measurement of economic need and poverty.

The Working Group decided that the SPM would be broadly based on the recommendations of the National Academies of Science (NAS) in their 1995 report, *Measuring Poverty*. The recommendations of that report, however, should be informed by the research of the past 15 years.

This document provides observations about how to make a series of initial choices in the development of the SPM. These observations reflect discussions and recommendations made by the technical working group to the Chief Statistician in the U.S. Office of Management and Budget and the Under Secretary for Economic Affairs in the U.S. Department of Commerce. In cases where there was not consensus within the Working Group, these two individuals made choices that are reflected in the specific recommendations provided.

It is important to emphasize that the decision-making process behind these observations was based on conceptual discussions about how best to estimate economic need; the actual resulting poverty rate estimates that the SPM will produce do not yet exist and thus were not known to the group that made these recommendations. While some parts of the recommended measure have been estimated in the past, the observations below define a measure that is different along some dimensions from any estimates that have been produced to date.

Using the NAS recommendations as a starting point, the SPM is necessarily a more complex measure than the official poverty measure, requiring more complex estimates of both poverty thresholds and household resources. In discussion about the topics laid out below, there are places where experts disagree. In deciding on these observations, the Working Group placed value on consistency between threshold and resource definitions,

data availability, simplicity in estimation, stability of the measure over time, and ease in explaining the methodology.

While the NAS recommendations provide the framework for a definition of the SPM, research over the past 15 years has suggested modifications to those recommendations in a number of cases. In a few cases, issues were raised that the NAS report itself did not address. The discussion below provides lengthier comments in those areas where these observations diverge from the NAS report recommendations.

II. Observations for the Initial Development of a Supplemental Poverty Measure

In considering the development of an NAS-like Supplemental Poverty Measure, there are a variety of issues on which there appears to be broad agreement within the research and policy community, but there are other issues whose resolution has been more debatable. This document provides observations to the Census Bureau about how initially to estimate a Supplemental Poverty Measure. The Census Bureau will develop this measure, however, and final decisions about the SPM to be published in the fall of 2011 will rest with that agency, in consultation with BLS and other relevant data agencies. It is possible, for instance, that additional research over the next year may lead the Census Bureau to make different choices from those suggested below.

A. Establishing a Threshold:

The poverty threshold sets the annual expenditure amount below which a family is considered poor. Following the recommendations of the NAS panel, this should be established on the basis of expenditures on a set of commodities that all families must purchase: food, shelter, clothing and utilities (FSCU). The threshold is determined based on expenditures among a population that is not poor, but is somewhat below the median. A key criterion for establishing the threshold and the resource definition (discussed below) is that these two concepts should be conceptually consistent with each other.

To establish this threshold:

- Use a reference sample that includes all family units with exactly two children. This diverges from the NAS recommendations, which use a two-adult, two-child reference family unit. In the 15 years since the NAS report, however, the composition of families in the U.S. has continued to change and a growing number of children live in families with only one adult, particularly in lower-income households. There are a variety of advantages to calculating the threshold from somewhat similar families, so the continuing use of two-child family units is recommended while allowing these two children to live in a wider variety of family settings. Expenditure data for family units with two children that do not contain two adults should be adjusted using the equivalence scale (discussed below) so that their expenditures are equivalent to those of a family unit with two adults and two children.

- Include in the definition of “family unit” all related individuals who live at the same address, any co-resident unrelated children who are cared for by the family (such as foster children), and any cohabitators and their children.
- Use a sample based on the most recent five years of available data on equivalized expenditures for the reference sample. The larger sample that is provided by five years of data will increase the stability of the thresholds and ensure that they move more slowly from year-to-year.
- From the distribution of equivalized FCSU expenditures within the reference sample, select the dollar amount at the 33rd percentile of the distribution. The NAS recommends taking a range; the 33rd percentile is at the center of this range and selects a point below the median but above those in extreme need. This point sets the threshold based on a level of spending on FCSU that two-thirds of American families are able to achieve or exceed. Shelter expenses should include all mortgage expenses since these must be paid on a monthly basis for a family to keep its housing.
- So far as possible with available data, the calculation of FCSU should include any in-kind benefits that are counted on the resource side for food, shelter, clothing and utilities. This is necessary for consistency of the threshold and resource definitions.
- Since the NAS report was issued, it has become clear that a significant number of low-income families own a home without a mortgage and therefore have quite low shelter expense requirements. Not taking this into account may overstate their poverty rates. This suggests the need to adjust the thresholds for housing status, distinguishing renters, owners with a mortgage, and owners without a mortgage.
 - In general, this adjustment should be done by ‘adjustment factors’ which adjust the ‘S’ component of FCSU up or down depending on the relative expenditures of each of three housing groups. Exactly how these adjustment factors are calculated should be determined by the statistical experts in the Census Bureau, in consultation with BLS and other relevant data agencies.
 - An initial and relatively simple calculation would involve estimating shelter expenses for each of these three groups in a range around the 33rd percentile. Call these amounts S1, S2, and S3, for shelter expenses around the 33rd percentile for renters, owners with a mortgage, and owners without a mortgage, respectively. Create three thresholds by replacing the ‘S’ component at the 33rd percentile with S1, S2, and S3.
- To allow for basic expenditures outside of FCSU, multiply the estimated amounts on spending for FCSU (adjusted by all the appropriate factors) among the reference sample by 1.2. The NAS panel refers to this multiple as ‘plus a little

more,' recognizing that there are other expenditures that families must make. The multiplier of 1.2 is the midpoint of the range recommended by the NAS panel. The result of this calculation provides the three reference threshold amounts that are to be attributed to 2-adult 2-child families, based upon their housing status. (Recall that all the expenditure data have been equivalized to a 2-adult 2-child family in the above calculations.)

- To define a threshold for families of different sizes, adjust the thresholds by the so-called 'three parameter equivalence scale' which is generally used in alternative poverty measures by the Census Bureau to adjust the reference thresholds for the number of adults and children in a family.

- Adjust the thresholds for price differences across geographic areas. The Census Bureau, in consultation with BLS and other relevant data agencies, should do this using the best available data and statistical methodology and these may change over time.
 - American Community Survey (ACS) data appear to be the best data currently available, from which one can create a housing price index based on differences in quality-equivalent rental prices of housing across areas. (Future work may provide price data that can be used to measure interarea price differentials on more items than housing alone.)
 - It would be good to differentiate this price index by Metropolitan Statistical Areas (MSAs) and by non-MSA areas in each State if possible.
 - Because of the problems created if these estimates vary substantially on a year-to-year basis, it would be good to utilize a 5-year moving average of the data for each year.
 - If based only on interarea housing price differences, this price index will weight only the housing-cost share of the threshold; the dollar value of other items in the threshold will remain unchanged across areas. Ideally, if more data become available, it would be attractive to move toward a price index that covers all items in the threshold. (These comments are similar to those made by the NAS panel recommendations.) With different thresholds for renters, homeowners with mortgages, and homeowners without mortgages, better data and future research might lead one to utilize different price weights for different groups. At this point, however, the available data are limited and this means that the area housing price adjustments will be similar for all groups and thresholds.

B. Estimating Family Resources:

The resource definition indicates the family resources that are taken into account in the poverty measure. Each family's resources are compared to the appropriate threshold. If their resources are below the threshold, all persons in the family are counted as poor. The resource definition should indicate the resources the family has available to meet its food, shelter, clothing, and utilities needs, 'plus a little more.'

Following the recommendations of the NAS report, family resources should be estimated as the sum of cash income, plus any Federal Government in-kind benefits that families can use to meet their food, clothing, shelter, and utility needs, minus taxes (or plus tax credits), minus work expenses, minus out-of-pocket expenditures for medical expenses.

- The family unit should include all related individuals who live at the same address, any co-resident unrelated children who are cared for by the family (such as foster children), plus cohabitators and their children. This is consistent with the way in which family units are constructed in developing the reference sample for the threshold.
- The Census Bureau has long experience in estimating in-kind benefits and taxes and they should continue to improve these estimates. Along with taxes, payments for child support should also be included in subtractions to income, to the extent that data are available to do this.
- As outlined by the NAS panel, work expenses include both standard expenses associated with commuting as well as child care. These expenditures can be thought of as subtractions from earnings, and they should be accounted for in order to calculate a ‘net wage’ that indicates the resources families actually have to spend from their work income.
 - Ideally, for child care expenses this adjustment would be based on actual reported expenses. In the absence of these data, the Census Bureau should make the best imputation possible of actual expenses. Many families find ways to meet their child care needs outside the market, so there is a great deal of variance in actual child care expenses. Any imputation method should take this skewness into account.
 - For other work expenses, the Census Bureau should investigate the comparative advantages and disadvantages of trying to measure actual expenses versus assigning an average amount to all working adults. Measuring actual work expenses is more attractive if other work expenses are highly variable across families.
 - The level of total work expenses subtracted from any family’s resources should be capped by the earning level of the lowest-earning adult.
- As outlined by the NAS panel, medical out-of-pocket expenses (MOOP) should be subtracted from income in calculating the resources available to a family. Accounting for out-of-pocket medical expenditures in this way assures that dollars spent on medical care are not considered available to purchase food or shelter. This recommendation has been debated, with some arguing that medical expenses belong in the threshold. There are valid arguments for including medical expenses in the threshold as well as drawbacks to this approach. There are valid arguments for subtracting medical expenses on the resource side and there are drawbacks to this approach as well. Given pluses and minuses to both approaches, these observations stay with the NAS recommendations and propose to subtract MOOP from family resources. There is great variation in the share of

their medical care that families pay for directly and in the dollars that they spend on their medical care. This makes it difficult to determine the appropriate amount of dollars for medical care that should be placed in a threshold for family-based expenditures. Given the data currently available, it does seem operationally easier to subtract MOOP from family resources if we are able to obtain reasonably good self-reported data on medical expenses. These self-reported data would resolve the problem of trying to impute a very skewed expenditure into family resources. In comparison, taking account of MOOP in the thresholds would require estimating a series of adjustment factors based on variables that reflect the skewed medical expenditures within specific demographic groups; thresholds would then differ for every variable on which the adjustment factors were based, creating a very large number of thresholds.

- Self-reported out-of-pocket medical expenses will be collected in the Current Population Survey (CPS) for the first time in 2010. If this proves to be reasonably reliable for statistical adjustment purposes, then these data should be used as the MOOP adjustment for each family. If these data do not appear reliable, then MOOP will have to be imputed in a way that takes into account the skewness in medical expenses within demographic groups. In either case, capping medical expenses above a certain level should be considered.
- It has been argued in the past that an adjustment to MOOP should be made for the uninsured, who may be spending less than is customary because they lack health insurance and cannot pay for health services. The Census Bureau should investigate the pros and cons of such an adjustment and its computation. If policy changes make health insurance coverage more broadly available, those without insurance are more likely to have preferred this status. In this case, an adjustment for lack of insurance seems less attractive.
- It is important to emphasize that this approach does nothing to estimate the value of medical care that families are receiving relative to their needs. Additional and improved measures of the affordability of medical care and/or the quality of medical care which U.S. families receive may be highly useful and important, but these are different statistics and will need to be separately developed and funded.

C. Updating Over Time:

- The resource calculations should be redone each year as new data are released on the income available to families in the most recent year.
- Techniques that impute the value of family unit resources, such as estimation of in-kind benefits, work expenses, taxes, etc., should be updated as often as possible. The measure should change smoothly and this requires regular updating of as many components as possible.

- The thresholds should be recalculated each year by adding in the latest year of available data and dropping the oldest year of data, so that the thresholds are always based on the latest five years of expenditure data. One reason to utilize five years of data to calculate the thresholds is to reduce the risk that they might change significantly from year-to-year.
- Adjustment factors used in the thresholds to calculate differences by housing status and for interarea price differences should also be recomputed regularly. These factors should also be based on multiple years of data so that they change more smoothly from year-to-year.
- Consistency over time in an SPM (as in any statistic) is a valuable characteristic so that, after an initial experimental period, any definitional changes to this measure should be weighed against the effect on historical consistency. As definitional changes are made to the SPM in the future, creating an historical series should be considered if this is possible with available historical data.