THE HAMILTON PROJECT

Advancing Opportunity, Prosperity and Growth

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Improving the Measurement of Poverty

The Brookings Institution

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Abstract

The authors recommend the adoption of a new poverty measure, along the lines recommended by the National Academy of Sciences (NAS), in order to provide a more accurate measure of economic need in the United States. The current poverty measure relies on 1955 data and a methodology developed in the early 1960s. The current measure is not sensitive to changes in tax policy, in-kind benefits, work expenses, or medical payments; all of these have changed substantially over the years and affect the well-being of low-income families. The authors indicate why the NAS approach is superior to other possibilities and discuss the specific decisions that must be made to effectively implement a new poverty measure. They present data that indicate how such a change could affect poverty rates. They recommend a new NAS study to develop a measure for a "decent living standard" at a level above the poverty level, and recommend additional federal data collection and research.

Contents

1. Introduction

Economic statistics should be designed to say something useful about the phenomenon they are measuring and how it is changing over time. There is almost universal agreement that the current U.S. measure of poverty is a flawed statistic. The thresholds for measuring whether a family is in poverty are based on fifty-year-old data about food consumption, updated only for inflation since the poverty measure was established in the 1960s. Moreover, the poverty measure is insensitive to many of the most important public policies that affect the economic well-being of low-income Americans. As a result, the official U.S. poverty rate does not provide adequate information about who is poor or whether key programs are helping to make progress against poverty.

We recommend that the nation adopt an improved measure of poverty. A measure of economic poverty should indicate how many families have sufficient economic resources to pay for their basic necessities, as those necessities are broadly understood. In a developed country like the United States, this measure should be at a higher level than what is needed merely to avoid starvation or homelessness. To avoid poverty, people must have the resources for the basic activities that allow them to participate in this society, such as purchasing adequate shelter, caring for their children, and holding a job. At the same time, a poverty measure should not be a measure of whether a family is facing economic stress or can afford a middle-class lifestyle. Large numbers of Americans may face serious economic stress while trying to make ends meet, but their situation should not be treated as synonymous with being in poverty.

In §2 of this paper we describe the principal problems with the current measure. In §3 we describe and recommend adoption of an improved measure, drawing from the recommendations of the National Academy of Sciences (NAS), and compare it to other alternatives. In §4 we discuss in greater detail the components of a new measure and how they should be determined. In §5 we discuss key issues in the process of adopting a new poverty measure. In §6 we provide a numerical example of what this new measure might mean for the poverty rate. Finally, in §7 we draw conclusions and propose some steps to move forward.

2. The Problem: An Out-of-Date Measure of Poverty

A poverty measure typically has two components: (1) The *threshold*, or *poverty line*, indicates the resource level below which a family is considered poor. (2) The *resource measure* defines how family resources are counted. The poverty rate is the percentage of persons whose family resources are below the poverty line. Neither of these components is well measured in today's official poverty calculation.

The current statistic was constructed in the early 1960s as part of the War on Poverty initiatives. The Social Security Administration (SSA) was asked to produce a way to measure poverty in the United States. Mollie Orshansky, an SSA analyst, created the modern poverty measure.[1]

The Current Poverty Line

Orshansky's definition of the appropriate poverty threshold for a family of four was simple:

Poverty threshold = 3 x subsistence food budget.

For the subsistence food budget, she used the Economy Food Plan, designed for "temporary or emergency use," and developed within the U.S. Department of Agriculture in 1961, using data from the 1955 Household Food Consumption Survey. The multiplier of three was used because the average family of three or more spent one-third of its aftertax income on food in the 1955 Household Food Consumption Survey.

The poverty threshold for other household sizes was determined by using an *equivalence scale*, which is an index that determines how much a family with a different number of people needs in order to live at an equivalent level. Orshansky used the reported expenditure ratios between different family sizes (which may or may not provide an equivalent level of well-being). For single people she took 80 percent of the two-person amount, with a lower level for persons aged sixty-five and above. With only minor changes, these are the thresholds that are used today to define the U.S. poverty line, updated by the Consumer Price Index for All Urban Consumers (CPI-U) each year to adjust for inflation.

While Orshansky's calculation was based on the best available data in 1963, it does not reflect current information on expenditure and need patterns. The Economy Food Plan from 1961 has little relationship to current eating habits. Food no longer constitutes one-third of family budgets (it is closer to one-eighth), in part because food prices have fallen over time relative to other components of a family's budget while other prices (such as housing) have risen. Moreover, it makes little sense to base the threshold on only one component of the set of necessities that a family must buy.

The current approach has also been criticized because it makes no adjustment for differences in cost of living across regions. At present, the same poverty line applies to families living in New York City and those living in rural Mississippi. In 2007 the poverty line for a family of four was $21,203 in all states except Hawaii and Alaska, which have poverty lines adjusted for geographic differences.

In addition, there is wide agreement that the equivalence scale used in this threshold is flawed. Subsequent research has concluded that the current equivalence scale does not accurately reflect differences in expenditures and needs for families of different sizes and compositions.

1. For a discussion of Molly Orshansky's work, see Fisher 1997.

The Current Definition of Family Resources

In the poverty rate calculation, Orshansky's definition of family resources was very straightforward: pretax cash income available to the family. While this definition may have been appropriate in the early 1960s, it has been severely criticized over time, for several reasons. First, family resources are not adjusted to reflect amounts paid in taxes or received in tax credits. While low-income families in the early 1960s paid limited federal taxes, today many low-income working families with children receive substantial tax subsidies through the Earned Income Tax Credit (EITC). At the state level, tax burdens on low-income families vary considerably from state to state. Hence, aftertax income is a much better measure of spendable resources than is pretax income.

Second, since the early 1960s the United States has created or expanded several significant programs that provide noncash resources to low-income families. These include the Supplemental Nutrition Assistance Program (SNAP, formerly the Food Stamp Program), housing programs that provide rent subsidies (public housing or Section 8 vouchers), and the Low Income Home Energy Assistance Program (LIHEAP). Many analysts believe that the resources provided through these programs are nearly the equivalent of cash and therefore should be counted in a family's resources. Families and individuals also benefit from medical assistance programs through Medicaid, the State Children's Health Insurance Program (SCHIP), Medicare, and others, although programs providing medical insurance differ from near-cash benefits in important ways that we will discuss later in this paper.

Third, the current measure of resources has been criticized because it does not recognize that many families face other necessary expenses (beyond taxes) that limit the resources they have available for food, clothing, and shelter. These may include child support payments, work expenses (including transportation and child care payments), and out-of-pocket medical expenditures.

Why Hasn't the Poverty Measure Been Updated?

Despite widespread agreement about its limitations, the poverty measure remains as Orshansky defined it. No other major economic statistic still relies on calculations from the early 1960s, based on 1955 data. There are several reasons for this, but we highlight two.[2]

First, the official definition of poverty does not reside in a statistical agency (as do most of our other statistics), but was originally set by a directive within the Bureau of the Budget that required the Census Bureau to regularly calculate and report on the Orshansky poverty measure. Poverty is currently defined by Statistical Policy Directive 14, issued in 1978 by the Office of Management and Budget (OMB; 1978). This means that authority to change the directive must come from OMB, which sits within the Executive Office of the President. (Congress can independently direct the creation of a new measure, but it cannot issue a new OMB directive.)

There is a reason why statistical activities are typically placed in statistical agencies with firewalls to keep them outside the immediate sway of short-term political forces. For many years, both Democratic and Republican administrations have chosen not to deal with the potential political issues of changing the poverty measure. Virtually any change would mean that the number of people in poverty would go up or down, and that relative poverty rates would change among age, race, and ethnic groups, and between states. Thus, there are political costs to making any changes that might change the poverty count. It has been easier simply not to make changes.

2. The reasons why the poverty measurement statistic has gone unchanged for so long are discussed further in Blank 2008.

Second, over time the poverty measure has become embedded in the rules that govern access to certain public benefits and that affect allocations of federal funds. Currently, eighty-two federal programs either use the poverty rate as a factor in allocating funds or use a version of the poverty thresholds as one element in their eligibility determination process (Gabe 2007). A change in the poverty measure that automatically resulted in modifications of funding allocations or program eligibility and benefits would have potential cost implications, create winners and losers, and likely reduce political support for such a change.

Why a Change Is Needed

While there are challenges to revising and modernizing the poverty measure, there are substantial costs to leaving it unchanged. A poverty measure should show how changes in the economy, policy, and behavior affect the well-being of low-income households. In important respects current poverty measure does not do this.

The outdated poverty line provides little guidance about what constitutes a basic level of resources for low-income families because it is an arbitrary line based on historical accident rather than on current data. This outdated resource definition prevents researchers and policymakers from accurately measuring the impacts of key public programs. Despite large increases since the 1960s in SNAP benefits, housing subsidies, tax subsidies, and publicly provided medical insurance, none of the expansions or changes in these programs has affected resources available to families as measured by the official U.S. poverty rate. This makes it easy to claim that "we fought a war on poverty and poverty won," as Ronald Reagan put it in 1988. There are a number of reasons why the poverty rate today is close to the poverty rate in the early 1970s—most significantly, economic, labor market, and demographic changes that limited progress against poverty. However, the fact that poverty measurement has not reflected the impact of policy has led to incorrect causal reasoning that blames public programs as ineffective because they did not appear to contribute to a reduction in the poverty rate.

If the poverty measure had adequately reflected the expansion in tax and in-kind programs to low-income families, all else equal, the poverty rate would have fallen. At the same time, other factors were making it harder for low-income families to meet basic needs. Medical care costs started to rise rapidly in the 1990s and out-of-pocket medical expenses rose, too, especially for elderly and disabled persons. Following welfare reform, more women entered the labor force and had to pay child care expenses out of their earnings. Finally, a growing number of nonresident fathers paid more in child support. All of these necessary expenses reduced the resources such families had to meet their basic expenses for food and shelter. In addition, in the late 1990s and early 2000s housing prices rose rapidly, but this had a limited effect on the poverty threshold in the current measure. If the poverty measure had taken some of these changes into account, the poverty rate might have risen.

The difficulties with the current approach to poverty measurement have become particularly apparent in the past few years as a number of states and localities have launched or are considering significant policy efforts to reduce poverty. For instance, New York City Mayor Michael Bloomberg has launched a set of antipoverty initiatives. Connecticut's legislature has set a goal of reducing child poverty by 50 percent by the year 2014. Several other states and localities have enacted or are debating similar efforts.[3]

3. For an overview, see Levin-Epstein and Gorzelany 2008.

As states and localities seek to develop poverty goals or strategies, they realize that in order to measure the effects of their initiatives they need a measure of poverty that takes into account the effects of policies such as health care or child care expansions, and changes in state tax structure. State and local efforts have also raised questions and concerns about the adequacy of the current federal thresholds. These factors have increased interest in a revised poverty measure from local and state constituencies. In the summer of 2008 New York City released its own newly calculated and revised poverty measure, based on applying the approach described below to New York data (NYC Center for Economic Opportunity 2008).

In short, to appropriately measure economic need in this country and to judge whether policies and economic changes are improving or worsening the lives of low-income families, an effective poverty measure is required. It is long past time to implement this at the national level.

3. An Improved Measure, Based on the Recommendations of the NAS Panel

In the early 1990s Congress asked the National Academy of Sciences (NAS) to bring together a panel of scholars to recommend an updated and effective way to measure poverty, based on the best scholarship currently available. (One of the two authors of this paper, Rebecca Blank, served on that panel.) The NAS panel released a report in 1995 with its recommendations for an improved poverty measurement approach (Citro and Michael 1995). In the years since, analysts have experimented with ways to implement these recommendations.[4] The authors support the approach suggested by this panel and believe that it is an effective way to move forward with a revised poverty measure. While we refer to this as the "NAS measure," we mean this conceptually and not precisely. In a number of cases the NAS proposed a range of options, or proposed an approach that has been refined by follow-up work. Hence, while our comments here are broadly based on the NAS report, they differ in some details.

The NAS Recommendations

The NAS recommended an approach that sets a threshold by utilizing current evidence on what families spend to meet basic needs, and counts family resources that are available to meet those needs. We describe specific calculations in more detail below, but present a quick overview here. The proposed threshold would be based on the most recent data on expenditures for a specified set of necessities (food, shelter, clothing, and utilities), plus a multiplier of a little more to allow expenditures on other items not included in the list of necessities.[5] The NAS panel proposed a range of possible points (between the 30th and 35th percentile) in the distribution of expenditures on these items only, using the Consumer Expenditure Survey (CES), which provides nationally representative data on household spending. This approach bases the poverty line on expenditures for a set of necessities, rather than just on expenditures for food. These thresholds would vary with family size and with cost-of-living differences between geographic areas.

The resource measure proposed by the NAS panel is substantially broader than the cash income definition used by Orshansky. According to the panel, the guiding principle should be that, after identifying the needs to be included in the threshold, the resource definition should count only those resources that are available to meet the specified needs. Accordingly, it should include cash income after tax liabilities and credits are taken into account, and include any in-kind benefits that can be used to purchase food, shelter, clothing, or utilities (such as food assistance or housing vouchers). Furthermore, resources should be reduced by expenditures on other necessary expenses that are not available to meet the basic needs in the thresholds; these are defined as child support payments, work expenses (transportation and child care), and medical out-of-pocket expenses. We refer to this calculation of resources as adjusted disposable income. Persons who live in families whose *adjusted disposable income* is below the threshold for their family size and geographic location would be counted as poor.

Although the official poverty measure remained unchanged, the NAS recommendations generated substantial interest among analysts at the Census

4. Some of these research papers are available at http://aspe.dhhs.gov/poverty/contacts.shtml, and can be accessed through the tab labeled "Research on Alternative Approaches to Poverty Measurement." Other papers are available at http://www.census.gov/hhes/www/povmeas/povmeas.html. We do not cite each of these papers, but refer the reader to these websites for more detailed information on the issues discussed.
5. This includes items such as household items and household operations, education, recreation, alcohol or tobacco, durable goods (furniture, appliances, and so on) and non-work-related transportation.

Bureau and the Bureau of Labor Statistics, who produced experimental values of these new thresholds and investigated the best ways to measure resources consistent with the NAS recommendations. The Census Bureau has released experimental poverty numbers based on variations of the NAS proposals, and has regularly updated (and improved) these numbers in the years since, as further research has led to further refinements in the calculations.[6]

What Are the Primary Alternative Ways to Define a Poverty Measure?

The current measure and the NAS recommendations are by no means the only possible approaches to defining poverty. The term *poverty* has no universally accepted meaning, and observers often note that defining *poverty* as "inadequate income" is inherently unsatisfying. One can have a low income temporarily while possessing substantial other resources and experience no serious deprivation. Conversely, one can have income above the poverty line and still experience a host of problems often associated with poverty.

Similarly, no single measure can capture all aspects of overall, or even economic, well-being. Any single indicator will fall short of articulating everything researchers would wish to know about income adequacy, health status, employment and education status, housing quality, social isolation, and other aspects of concern. Any poverty measure, then, must be clear about what it seeks to measure. The revised measure that we discuss here (like the official poverty measure) focuses on income adequacy. We think this is an appropriate focus, but emphasize that it is only one component of well-being; it would be valuable to regularly report on other measures of economic and social deprivation.

A second question is whether to use an absolute measure, a relative measure, or some combination of the two. The current U.S. approach relies on an absolute measure. The poverty line has been adjusted only for price inflation since the early 1960s. As real incomes grow, this measure moves lower and lower in the income distribution, all else being equal. In the early 1960s, the poverty line was just under 50 percent of median income for a family of four. By 2007, it was at 28 percent of the median.

The approach to poverty measurement in the European Union is to use a relative measure, defining the poverty line as 50 or 60 percent of median income. The poverty count then becomes the number of persons in families below this point in the income distribution. The rationale for a relative measure is that in developed nations poverty is fundamentally about having the resources to fully participate in society. This can only be measured in relation to the economic capacity of middle-income families. The rationale for a relative approach can be seen in Adam Smith's discussion in *The Wealth of Nations* (1776/2005, pp. 715–716):

> By necessaries I understand, not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even the lowest order, to be without. A linen shirt, for example, is, strictly speaking, not a necessary of life. The Greeks and Romans lived, I suppose, very comfortably, though they had no linen. But in the present times, through the greater part of Europe, a creditable day-labourer would be ashamed to appear in public without a linen shirt, the want of which would be supposed to denote that disgraceful degree of poverty which, it is presumed, nobody can well fall into without extreme bad conduct. Custom, in the same manner, has rendered leather shoes a necessary of life in England.

One strength of a relative measure is that it automatically adjusts for improvements in living standards, at least to the extent that median income is a rough measure of living standards. Moreover, it calls for no judgments about what categories of expenditures are or are not necessary, or about how

6. The estimates are posted at http://www.census.gov/hhes/www/povmeas/tables.html.

to determine adequacy, because it does not seek to measure the cost of a specific basket of goods or services. Instead, it measures the number of people living with resources below a certain point in the income distribution.

A common objection to a relative measure is that it relates information about inequality, not about basic economic need. Since it is solely based on a percentage of median income, it is difficult to say what aspect of family needs it is actually measuring. For instance, what is a family at 55 percent of median income able to do that a family at 50 percent of median income is not able to do? Moreover, one runs the risk that in a recession, when median incomes might decline, the thresholds for poverty measurement could also decline, without regard to the actual cost of necessities. Historically, there has been little support in the United States for a poverty measure defined as a share of median income.

Note that absolute and relative measures can be used together. In fact, the United Kingdom now uses three measures in tracking its progress toward its goal of ending child poverty by 2020. The principal measure is a relative one, based on 60 percent of median income. A second measure is an absolute one, for which 60 percent of median income was determined in 1998–99 and then subsequently adjusted only for price inflation. A third measure counts the number of children who are considered materially deprived based on family responses to a set of questions, and who also have income below 70 percent of median income. Policymakers have specified that they are making progress when all three measures are moving in a favorable direction (Department for Work and Pensions 2003).

Another approach to determining economic need is to calculate a family budget, in which one identifies a set of needs and establishes a process for determining what it costs to meet those needs. For example, the Economic Policy Institute has calculated basic family budgets, described as the income level a family needs to secure a safe and decent, yet modest, living standard in the community, for more than four hundred communities (Allegretto 2005). The budget items that are included in the basic family budgets are housing, food, child care, transportation, health care, other necessities, and taxes. Wider Opportunities for Women (2008) has worked with states, localities, and community groups to develop self-sufficiency standards based on a standard methodology that considers the costs of food, housing, medical care, transportation, child care, miscellaneous costs, and taxes.[7] The National Center for Children in Poverty (2007) has developed a methodology for a basic needs budget calculator.

Most family budget approaches result in a threshold that is twice the current poverty line or higher, but such a result is not inherent in the choice to use a family budget approach. Rather, one could use a similar methodology and end up with a lower figure by reducing the number of items in the budget, by changing how items are priced, or by using different standards of quality. The key difference between family budgets and the NAS approach is in methodology. A family budget approach makes specific judgments about the commodities that are needed, determines the price for these commodities, and builds an overall line based on the sum of these costs, whereas the NAS approach says it is preferable simply to look at the actual amounts that families are paying to meet those needs. For example, a family budget approach might determine an allocation for housing by using federal data about fair market rents, while the NAS approach relies on data about what families are actually spending. The family budget approach necessarily involves subjective judgments about the amount needed for a "decent" level of food, housing, and other items. The NAS approach avoids those subjective judgments by simply asking what families spend on these necessi-

7. Wider Opportunities for Women (2008) provides more information on self-sufficiency standards as well as an interactive map that links to reports on self-sufficiency standards in different states.

ties at a particular point in the distribution of consumption expenditures, although there is necessarily a subjective aspect of deciding which percentile point in the distribution to use. Furthermore, the family budget approach takes account of all items it considers (including such things as child care or health care costs) in the threshold, while the NAS adjusts family resources to reflect out-of-pocket expenditures for work-related expenses and health care. The NAS approach is considerably easier to implement since the basic budget approach typically sets budgets based on local commodities and prices; it would be more difficult to build an acceptable national budget for all low-income families.

A final approach to poverty measurement is to measure consumption rather than income. The argument is that looking at consumption comes closer to measuring economic well-being and deprivation than does looking at income.[8] It is argued that a consumption-based measure avoids the problems of unreported and underreported income (although consumption is also difficult to measure and may be misreported), and it better reflects the reality that short-term income fluctuations can be compensated for by using saved resources. The substantive argument against a consumption measure is that it does not express whether a family can produce the resources necessary to meet basic needs. For instance, we would argue that a family is poor if the family's very low income means family members cannot pay the rent bill, even if they are able in the short run to borrow or sell assets or receive help from family or friends. Moreover, if one believes that saving is important, a measure that would make it appear that poverty is declining if people were reducing their savings or increasing consumption by going into debt would be problematic. Finally, there are significant concerns about the adequacy of current consumption data. Attaining better consumption data is more costly than in other areas discussed below, where improved data could be readily obtained.

Why We Support the NAS Approach

While there is no flawless poverty measure, we have concluded that the NAS approach has a set of substantive and pragmatic advantages that lead us to recommend its use. We turn first to the substantive advantages. First, the NAS approach is premised on a clear logical framework: define a set of needs, determine the cost of meeting them, count the resources that are available to meet the needs, and do not count the resources that are not available to meet the needs. Second, the NAS approach was structured to address virtually all principal criticisms of the current poverty measure, in particular the following:

- The current measure is criticized because the thresholds are arbitrary, simply based on a dollar figure developed more than forty years ago, and adjusted only for price inflation since then. In contrast, the NAS thresholds are based on actual current expenditure levels for a defined set of basic needs.

- Unlike the current measure, the NAS measure considers tax liabilities and credits in family resources.

- Unlike the current measure, the NAS measure counts the value of near-cash benefits available to meet basic needs.

- The current measure does not recognize that funds spent to pay for child support, child care, and other work expenses are unavailable to meet costs of food, clothing, and shelter. The NAS measure does, by subtracting such expenses from adjusted disposable income.

- Unlike the current measure, the NAS measure adjusts for out-of-pocket medical costs. This allows the poverty measure to be affected by changes in availability of public and private insurance and by changes in the price of health care.

8. For an argument for a consumption-based measure, see Meyer 2008.

- Unlike the current measure, the NAS measure provides for geographic variation in prices.

- The NAS measure utilizes a more sensible set of equivalence scales than does the current measure.

- The current measure has become badly outdated because it has not been revised in forty-five years. The NAS explicitly recommended regularly updating the threshold calculations to reflect changing expenditure patterns.

With the improvements described above, the NAS approach effectively measures the impact of public policies in reducing or increasing poverty. This is fundamental to an improved definition of poverty.

In addition to its substantive advantages, several practical considerations lead us to support the NAS measure:

- Any effort to change the measure of poverty is fraught with political minefields. The NAS recommendations emerged from the work of an expert panel whose goal was not to increase or decrease the number of poor, but rather to use the best scientific evidence to produce a recommendation about how to improve poverty measurement. The findings of the NAS panel have now been discussed and debated for a dozen years. While individual analysts may have particular aspects for which they might recommend a different approach (e.g., how to treat medical expenses), there is substantial support for the overall recommendations among many who have been actively engaged in the debates over the years.[9]

- Because the NAS recommendations have been reviewed and studied for a dozen years, there is a body of research on virtually every aspect of the recommendations, as well as a history of efforts by the Census Bureau and others to apply the NAS recommendations in practice. Thus, we have a fairly good sense of which provisions are easiest to implement and which still need improved data collection.

- If the decision were made to not go with the NAS measure, there would be a real risk of having to go back to the drawing board. No alternative is remotely comparable to the NAS in the degree of study, research, and discussion that it has generated. If the Obama administration were to opt instead to simply invite debate on alternative approaches to poverty measurement, there is the prospect of a lengthy process that might not result in any alternative with a comparable base of support.

While all of these factors argue in favor of the NAS approach, we acknowledge that the approach is not perfect, and that certain aspects concern us. Among our concerns are these:

- The set of basic needs in the NAS thresholds—food, clothing, shelter, and a little more—is arguably narrow and reflects a conservative approach to setting the poverty line. Most families have substantial expenditures on items not included in this set of basic needs, and healthy child development necessitates more than food, clothing, and shelter. In addition, setting the level of the thresholds at a specific percentile of consumer spending can be criticized as arbitrary.

- The NAS decision to treat expenditures for work expenses and medical costs as exclusions from resources rather than to include them in the threshold makes a great deal of sense (as we discuss below), but it makes the dollar value of the poverty line more difficult to interpret. The poverty line is compared to adjustable disposable income rather than to cash income. This means that instead of saying that a family of four needs

9. For instance, an open letter on revising the official measure of poverty was released on August 2, 2000. It was signed by forty-two prominent poverty researchers, urging the adoption of the NAS recommendations. See also National Research Council 2005.

income above the poverty line to be out of poverty, one would say that a family of four needs after-tax and after-transfer income above the poverty line, after paying for medical and work expenses, to be out of poverty.

- Operationalizing the NAS recommendation in a satisfactory manner will require the accurate collection of some data that do not currently exist. As we discuss below, our judgment is that the NAS recommendation can be implemented on available data, but some of these data are not optimal and should be improved. (Of course, some other approaches would create even greater data collection needs than does the NAS approach.)

No matter what poverty measurement is selected, there will be some who will disagree with the choice. Some will argue that the poverty line or the resulting poverty rate is too high and others will argue that it is too low. There are many aspects of economic deprivation that the NAS approach does not measure. If, for instance, one wants a rough proxy for the number of Americans lacking adequate health care, adequate job skills, or the money to pay for good quality child care, the NAS measure identifies a much narrower population. As we noted at the beginning of this paper, the NAS definition is designed as a basic measure of needs and will not count as "poor" a large number of American families who are struggling to make ends meet.

Accordingly, while we recommend adoption of the NAS measure, we also recommend better data collection and more research that will allow this measure to be improved over time. In addition, we recommend that other measures of economic deprivation and well-being be explored. In particular, a new NAS panel should be charged with developing new measures for what is meant by a "decent standard of living," a level well above basic needs at which families can pursue the activities that most Americans would consider desirable such as homeownership, savings for college and retirement, quality child care, and adequate health care.

We end this section by underscoring an aspect of the NAS poverty measure that is particularly important to keep in mind as other alternatives are discussed. The NAS panel emphasized the need to be consistent between what is included in the threshold and what is counted in family resources. Some have argued that no change in the threshold is needed, but rather that the measure of resources should simply be modified to include the effects of taxes and in-kind benefits. This, of course, would unambiguously lower the poverty rate, but it would also create inconsistency between the threshold and the resource definition. The NAS approach is attractive for many reasons, but particularly because it proposes a consistent and credible statistic that is based not in presuppositions about what the level of poverty ought to be, but rather on a methodology that reflects spending patterns on basic needs by American families.

4. Making Specific Choices for the New Poverty Measure

This section discusses some of the key decisions that need to be made in calculating a poverty measure based on the NAS approach. We discuss the pros and cons of different approaches in the areas where there is controversy and disagreement. The appendix provides a template for the decisions that need to be made and for our recommendations.

Defining the Threshold

Estimating the benchmark threshold. In the NAS framework, the dollar amount of the threshold is benchmarked to a point in the distribution of expenditures by a family of four on food, shelter, clothing, utilities, plus a small multiplier. A valid matter of debate is which point one uses in the expenditure distribution. Orshansky multiplied food expenditures by three because at that time (the early 1960s) food represented one-third of average expenditures among families of three or more. The NAS panel worried that using average (mean) or median expenditures would set a point well above a minimally necessary level. Nevertheless, the panel was also clear that one should not take a point too far toward the bottom of the expenditure distribution since households with very low incomes may be seriously constrained in their spending on necessities. The panel recommended a range between the 30th and 35th percentiles. We suggest taking what is approximately the midpoint of that range, the 33rd percentile (i.e., the point below which one-third of households spend less and two-thirds spend more). We would use a multiplier of 1.2, the midpoint of the range of possible multipliers recommended by the NAS panel.

It is worth emphasizing that the 33rd percentile of expenditures on food, clothing, and shelter is well below the 33rd percentile on total expenditures and total income. Not included in this are expenditures on non-work-related transportation, household operations, education, recreation, alcohol or tobacco, durable goods (furniture, appliances, and so on), and a number of other miscellaneous categories. (Also not included are work transportation, health care, or child care expenditures, but we will subtract these from income, as we note below.) The multiplier of 1.2 is designed to allow (minimal) amounts for additional spending. We view this as a minimal threshold, which may err on the low side. Given the possibility for long and contentious debates about where to set the threshold, however, we prefer to take a point that is obviously chosen with caution. As we note above, many alternative measurement approaches result in substantially higher thresholds.

Equivalence calculations for families of other sizes. While the threshold is calculated among four-person families, poverty lines for families of other sizes are created by using the so-called three-parameter scale, which was developed as a refinement to the original recommendations in the NAS report and which has been broadly used since then. The formula is shown in the appendix. There has been widespread agreement that the three-parameter scale is superior to the equivalence scale used in the current poverty measure.

That said, we are somewhat concerned that four-person families are not very representative of some groups among the poor. Four-person families are far more likely to contain married couples and (among other things) have higher rates of homeownership than many other groups. Hence, one research area that we think needs further exploration is to look at the implications of using actual expenditure patterns for an alternative base family, or using several base families, instead of just using expenditure data for a family of four and then applying equivalence scales.[10]

Adjusting for price variation by region. To vary thresholds by cost of living requires a price index by region. The United States does not currently collect such data. However, the largest purchased item with significant cross-area variation in prices is housing and there are data from the Department of Housing and Urban Development (HUD) on fair market rents including both shelter and utilities, by geographic area among lower-income families.[11] This allows the creation of a housing cost index (by metro and nonmetro region within each state).

Assuming that the price of food and clothing does not vary much across geographic regions, one can develop an overall price index by weighting this cost index by the share of expenditures that goes to shelter and utilities.[12] Setting this index equal to one in the area with an average cost index, it can then be used to weight the threshold up (for areas with above-average prices) or down (for areas with below-average prices). Of course, if better price data become available, it may be possible to develop a better geographic price index in the future. Further work to improve this measure would be useful.[13]

Selecting the appropriate family unit. The current poverty measure aggregates resources among all persons who live together and are related by blood, adoption, or marriage, making the assumption that these individuals share income. Each unrelated individual in a household is assumed to rely only on his or her own resources. There is a debate as to whether all coresidents, not just related coresidents, should be assumed to share living costs.

While more and better information on the extent of resource sharing among different coresidents might persuade us differently, we recommend also including unmarried partners in the resource-sharing unit. We debated this point, since there is evidence that unmarried couples share less income than do married couples, but we have been persuaded that this change is, on balance, useful. This leaves each unrelated individual who is not partnered with anyone else in the household in her own unit for the purposes of poverty calculations. The ability to identify unmarried partners in household data has become substantially better, making it possible to use this expanded definition of an appropriate family unit.[14]

Updating the thresholds. These thresholds should be regularly updated. We recommend calculating the thresholds using at least the last three years of available data from the Consumer Expenditure Survey (CES) in order to increase sample size. (The appropriate CPI can be used to put all the data into the same inflation-adjusted real dollars.) In this case, one would pick the 33rd percentile of expenditures on food, shelter, and clothing from the data based on the past three (or more) years of CES data. The thresholds could be updated annually when a new year of consumer expenditure data becomes available, thereby creating a smoothed rolling average over time. The number of years used would depend on the sample size available for this calculation. Ideally, we should use a large enough sample that dropping one year and adding another does not produce instability in the estimates due to sampling error.

Regularly updating the thresholds will ensure that changes in expenditure patterns are reflected in the poverty line. For instance, if housing prices

10. Another alternative is to *equivalize* all household units—that is, to translate all expenditures into comparable family-size units using the equivalence scale, then to select the 33rd percentile of spending on necessities, using all households in the calculation.
11. For more information on fair market rents, including the methodology HUD uses to set fair market rents and a precise definition, see HUD 2007.
12. The NAS panel believed this to be a reasonable assumption.
13. For instance, for an effort to develop overall inter-area price indexes, see Aten 2006.
14. For instance, unmarried cohabiters with own children in the household are more likely to share resources, and long-term cohabiters are more likely to share resources. Unfortunately, we cannot distinguish these groups in our current data.

rise steeply, expenditures on housing will rise and this will be reflected in higher thresholds (and a changing mix of housing versus food and clothing expenses). This type of price change is considered an appropriate basis for threshold adjustment by almost everyone.

It is worth noting, however, that updating the thresholds will also allow them to change with real income growth. Hence, if incomes among people in the bottom half of the distribution grow faster than inflation, people in the bottom half may increase their spending on necessities. This will lead the thresholds to grow faster than inflation. In general, when real income grows, spending on necessities grows, but the share of spending for necessities falls. These thresholds will not rise one-for-one with economic growth, but they will rise. Of course, in a deep recession real spending on necessities may decline and thresholds might fall, although the rolling average calculation will help smooth this effect for short-term economic fluctuations.

The implication is that growing incomes result in rising standards of living that shift people's sense of how to define *deprivation* and *poverty*. We believe this is consistent with the evidence. Indeed, few would accept a poverty threshold from one hundred years ago, a time when many people still lacked indoor plumbing or electricity. Updating the thresholds on a regular basis adjusts slowly over time for shifts in expenditure patterns, which we think is appropriate.

Taking account of homeownership in the thresholds. The NAS report recommended that the same thresholds be used for homeowners with mortgages, homeowners without mortgages, and renters. We recommend following the NAS approach absent additional information, but believe this issue needs further research.

Conceptually, the housing component of the poverty threshold is intended to represent the amount that families at the 33rd percentile spend to meet their housing needs. Housing costs are quite different for homeowners without mortgages who own their homes free and clear, however, than they are for renters or homeowners with mortgages. Thus, applying a single threshold for all overstates the resources needed by homeowners without mortgages, and the 33rd percentile itself is affected by the share of these households among all reference (four-person) families. Moreover, even if a homeowner with a mortgage and a renter pay identical monthly amounts, they are not identically situated, because a portion of the owner's payment is being allocated to payments of principal, thus to the acquisition of an asset.

Accordingly, there are a number of questions that should be investigated. One question is whether it makes sense to utilize different thresholds for families with different housing situations. It is important to look at whether there are adequate data to estimate different thresholds and what the effect of separate thresholds would be. Another question is whether, in setting the thresholds, the amount being paid for payment of principal costs should be treated as a housing cost or as the cost of acquiring an asset.

It has been suggested that the right contribution of housing expenses in the poverty threshold might be the rental costs that a family would face if it were in rental housing. Hence, one might want to replace actual housing expenses with imputed rental expenses for homeowners. The extent to which such estimates can be computed consistently and effectively needs to be researched.

Defining Family Resources

In this section we discuss the appropriate way to calculate the resources that should be counted in calculating a family's poverty status. We focus on what can be done with current data. In several areas, we highlight ways of making these calculations that would be better if we had improved data.

Cash income. There is no disagreement that all pretax cash resources available to a family should be counted. The current poverty measure counts only these resources.

Child support. Currently, amounts paid in child support are counted twice: they are counted as income to the receiving family, but are not subtracted from the income of the payer. We recommend counting this as income to the recipient family only, and subtracting it from cash income ascribed to the payer. Note that data on child support paid will need to be improved in order to effectively implement this recommendation.

Taxes. There is widespread agreement that taxes paid should be subtracted from income and that refundable tax credits should be added to income because amounts paid in taxes are unavailable to meet basic needs, and amounts received in credits are available for those needs. The Census Bureau appears to do a reasonable job of imputing federal and state income taxes so that aftertax income can be calculated, although the Census models should be regularly benchmarked against IRS data and modeling.

If one wanted to look at the full economic picture for low-income families, however, one should ideally take all state and local taxes and tax credits into account. While the Census Bureau has models that simulate state income tax systems, simply taking state income taxes into account without also accounting for other state taxes may result in skewed estimates. Some states have no state income tax, but these states often have higher sales taxes that fall disproportionately on lower-income families because they spend most of their income. Hence, if state taxes are included, it would be preferable to include both state income and sales taxes.[15]

All else equal, the effect of including tax payments will be to increase resources (and reduce poverty) among low-income working families with children, due to the EITC. For low-income workers without children, the net effect of considering tax payments and credits is to decrease resources and increase poverty.

Near-cash benefits. The NAS report recommended that government benefits to families to help them purchase the necessities included in the thresholds should be counted as part of family resources. This includes food assistance programs (SNAP, school lunch and breakfast, and WIC), housing assistance programs (public housing subsidies and Section 8 vouchers), and heating assistance (LIHEAP). In-kind assistance received from these programs is much like a cash subsidy to the household. Of course, some of these programs are quite small (such as school breakfast); the first priority should be given to including the value of the larger in-kind programs in income.

While on balance we think it appropriate to count these in-kind benefits as resources, we should note that doing so creates an imbalance between how low-income and higher-income families are treated. For example, the measure would count the value of school lunch subsidies as income to the poor without counting the value of employer-provided meals, business lunches, and similar in-kind food amounts as resources for other families. Nevertheless, because our explicit focus is on whether families have the resources to meet defined basic needs, it seems appropriate to include all resources available to lower-income families.

Federal survey data ask directly about the receipt of many of these programs. In some cases they also ask about the dollar value of services received. Families often do not know the full value of their subsidy, however. (For instance, most families have no way to determine the level of subsidy they receive while living in public housing.) Hence, assigning benefit levels often requires a combination of self-reported

15. Some sales tax payments are already accounted for in the thresholds, since these are based on total family expenditures on food, shelter, and clothing, but virtually all states exempt food from sales tax or tax it at a lower rate, and sales taxes are typically not levied on rental or housing payments. Any sales tax calculation by state should take account of what is and is not taxed, and produce sales tax payment estimates that are consistent with the threshold expenditure estimates.

data and imputed data based on information from other data sources. Ongoing data work needs to be done to match self-reports of benefits received with administrative records, and to develop the best models for valuing the benefits from in-kind programs.

It is worth noting that publicly provided health insurance programs (such as Medicaid and Medicare) are not on the list of in-kind programs whose benefit value we think should be added to household resources. There are two primary reasons for this: First, medical care costs are not included in the thresholds and the thresholds and resources should be consistently defined. Program benefits should only be counted in the income measure if they increase the resources available to purchase necessities counted in the thresholds.

Second, it is extremely difficult to determine how much additional income should be added to family resources to reflect the value of public insurance. Research suggests that a dollar's worth of health insurance is valued by families at less than a dollar. That is, if families were given a cash grant equal to the dollar amount of the health insurance, they would spend only a small part of that money on insurance or medical expenses. Valuing the medical services received is not an attractive alternative since this makes sick people appear richer. The result is that the NAS panel recommended (and we agree) that measuring a family's ability to meet medical needs is not the same as an economic poverty measure of the resources available for food and shelter. A separate indicator of access to medical insurance or adequate medical care should be used, apart from the measure of economic poverty. (One such measure commonly used today is the share of the population that is uninsured.)

All else equal, the net effect of adding in-kind benefits into the resource calculation is to increase resources (and reduce poverty) among families that receive housing and food assistance. These are most likely to be single-mother families with children, disabled individuals, or elderly individuals.

Work expenses and out-of-pocket medical expenses. The NAS report recommended that two key expenses be subtracted from income: (1) work expenses and (2) out-of-pocket medical expenses. Both of these expenses are necessary in order for adults to be productive citizens, healthy and able to work. Both expenses have been changing over the past few decades due to increasing female labor-force participation rates and rapidly escalating medical costs. In addition, major public programs subsidize health care and child care expenses for workers. This affects the need for families to spend their own dollars on these items. When these programs expand or contract, families' out-of-pocket expenses and hence the resources they have available for food, shelter, and clothing will be affected.

Work expenses include transportation as well as child care. When the poverty line was defined in the 1960s, few women with children worked and few families had work-related child care expenses. Today, able-bodied adults in low-income families are generally expected to work; major policy changes in the 1990s emphasized the need for single mothers to enter the work force. If society expects that both women and men will work, the costs of going to work should be subtracted from resources. If a working woman uses half of her wages to pay for child care, her resources available to buy necessities for her family are reduced and the poverty measure should reflect that.

Information on work expenses is not currently collected in the primary data set from which poverty rates are calculated. Using other data on work and child care costs, an average level of transportation expenses can be imputed to workers, and child care can be imputed to families in which all adults work, based on the number and ages of the children. However, improving data collection about actual child care and other work-related expenses should be a future priority, as should efforts to improve modeling and imputation.

Out-of-pocket medical expenses reflect the money that a family pays directly for health care. Families with better insurance are likely to face fewer out-of-pocket expenses. For instance, the recent expansion of prescription drug coverage for senior citizens should significantly reduce their out-of-pocket expenditures. Families living in communities with better public health services should pay less out of pocket. Of course, some low-income families without insurance will not seek needed medical help because of its cost. This measure does not seek to judge whether medical care is adequate, but only seeks to ensure that family resources are measured after medical expenses are paid.

Like child care expenses, medical expenses currently must be imputed to families, since there is no direct information on this in the primary data set that is used to calculate poverty. An approach was developed in the late 1990s to impute medical expenses to families with different compositions and different age structures, though this work could be improved with more recent data. In particular, better data on detailed medical expenditures are now available, and more-effective estimates of how to match family characteristics and out-of-pocket expenditures can be developed.

All else equal, the net effect of adjusting for work expenses is to reduce resources (and increase poverty) among low-income working families. The net effect of adjusting for out-of-pocket medical expenditures is to reduce resources (and increase poverty) among those with medical costs. This last adjustment particularly affects elderly households.

Including items in the thresholds versus accounting for them in family resources. Some have proposed that medical expenses and child care should be included in the thresholds rather than being subtracted from family resources. The argument for doing so is that these expenses are just as essential as are other expenses in the threshold. Moreover, if these expenditures are only treated as adjustments to income, the measure is not adequately reflecting the reality that a family's expenditures may be constrained because it lacks sufficient resources or cannot purchase the needed good or service in their area. For example, an individual may have low out-of-pocket medical expenses because he or she is deferring needed medical care. Similarly, there is no distinction being made between the individual who has no child care costs because she is receiving a subsidy that covers her child care payments, and the individual who is using informal unpaid care because she cannot afford to do otherwise.

We agree that work and medical expenses represent basic needs that should be accounted for in a poverty measure. However, we believe, as the NAS panel did, that these items should be subtracted from resources rather than being added to the poverty thresholds for three practical reasons:

First, if health care or child care costs were to be added to the thresholds, it would be necessary either to use average costs across the population or to develop a large number of separate thresholds. Each approach is problematic. While all persons expend money on food, shelter, and clothing, not all low-income families include workers (for instance, the disabled or elderly often do not work) and a substantial share of low-income persons (particularly those with publicly funded health insurance) report limited medical expenses in any given year. Hence, if possible it would be better to collect these data (or impute these amounts) for individual families to reflect their particular needs. This provides a more accurate measure of poverty than placing the average level of spending on work expenses and on medical expenses in the thresholds. Otherwise, the poverty line is overestimated for nonworkers or those with minimal medical expenses and underestimated for others.

An alternative is to have multiple thresholds so that people with different work or health profiles have different poverty lines (by number of children, age of adults, disability status, and other characteristics). We do not like this approach for three reasons: First, the distribution of out-of-pocket medical expenses is highly skewed. Even within relatively homogenous subgroups of the population (married couples with two children, for example), the mean dollars of medical expense (which would be accounted for in the threshold) do not represent reality for most individuals. Relatively few people have very high expenses while many have low expenses. Putting average expenditures into thresholds defined for population groups based on a few demographic characteristics cannot take this skewness into account, and using median expenses would not effectively reflect the circumstances of those families with expenditures far above or below the median. We can only take account of this sort of skewness by imputing medical expenses to individual households.[16] Similarly, some working families have very high expenses for child care, while others have low or no expenditures. In 2005 only about half of families with working mothers and children under five reported incurring child care costs. Thus, applying a threshold based on average costs across all families, or even average costs among those incurring costs, would significantly understate needs for some and overstate needs for others.

Second, if medical care and child care costs were to be included in the thresholds, it would then be necessary to determine appropriate valuations for the government benefits received by families that reduce medical care and child care costs. If, for example, the threshold included an average amount for medical care costs, including insurance, then it would be necessary to ascribe a valuation to both Medicaid and employer-provided health insurance coverage. Similarly, if the threshold included child care expenses, it would be necessary to add into family resources a valuation for child care subsidy and, possibly, other programs—e.g., Head Start and subsidized prekindergarten—that reduce the need for child care. (One might also need to develop an approach to produce appropriate thresholds for families that rely on unpaid relative care or parental sharing of child care and thus incur no paid child care costs.) All of these complexities further militate against the threshold approach.

Third, putting medical expenditures and child care expenditures into the thresholds would require many more thresholds, and the data often have quite poor information on levels of disability or medical needs, so it is difficult to assign families to appropriate threshold categories. Moreover, the *poverty line* is a concept used in many ways. We worry that having hundreds of different thresholds will make the poverty threshold a less useful and more confusing concept.

Overall, items should be included in the threshold when they are necessities purchased by all households to which one can appropriately apply broadly defined equivalence scales and geographic price adjustments. Items belong in the calculation of family resources when they affect the ability of that family to access the necessary items included in the threshold, when their individual distribution across households is important, and when some households have these resources and some do not.

Housing expenses. Some have proposed that the value of homeownership should be imputed into the resources available to families. This would mean assigning additional "income" to homeowners to reflect the fact that they were receiving housing services from their home that are not reflected in their housing expenditures. We disagree with this approach for three reasons. First, when the value of housing is rising, homeownership is—in effect—an appreciating asset, but in no other case is an income stream from an appreciating asset attributed to family resources. Moreover, when the value of housing is falling, family income would need to be lowered. Second, given the focus of the poverty threshold on expenditures, threshold differences should be based on groups with distinctly different spending patterns. If all homeowners paid less for their shelter than renters pay, we would argue for separate thresholds for homeowners, but the data do not support this. Third, imputing the value of

16. Of course, ideally our data would improve over time so that we would not have to impute out-of-pocket medical expenses, but rather could use household-based information.

home services to homeowners is a difficult task; there is currently no agreed-upon methodology for how to do this for low-income homeowners as part of a poverty threshold or resource calculation. One cannot "spend" imputed homeowner services, and we are not sure this should be added into family resources in the same way as a housing subsidy or cash income.

5. Recommendations Regarding How to Implement the Approach

In moving forward, there are a number of questions to consider in thinking about how a new measure would be produced and introduced. We address these implementation questions in this section.

Directing the development and publication of a new measure. The order to a statistical agency to develop and report on a modern poverty measure could be given either by the Obama administration or by an act of Congress. There are pros and cons to each alternative.

The argument for this being done by the administration is that it does not require legislation and could readily be accomplished by an Executive Order directing a statistical agency to develop a new measure. If such an approach is taken, the order should be drafted to ensure that development of the measure be handled as similar statistics are handled, giving the statistical agency full authority for long-term development and updating of such a measure. It is important that poverty measurement, like other economic statistics, be free from inappropriate department-level interventions. That is, the definition of poverty measurement should not vary over time based on political convenience.

The argument for adopting a new measure through legislation is that the development of the measure requires more than technical expertise. It also calls for a set of value judgments that may be better made by elected representatives. Moreover, legislation will make key decisions about the measure transparent to all. The downside, of course, is that it would be problematic if legislation establishing a new measure became subject to political "horse trading." In general, we are uncomfortable with having Congress give direction to statistical agencies about how to measure specific economic concepts since this opens up future opportunities for inappropriate legislative interference with government statistics. It is only the long history of inaction on the poverty measure that persuades us that a legislative approach might be useful. If done legislatively, it is important that authority for ongoing improvements and updates on the poverty measure be given to a statistical agency, rather than being frozen in time by a piece of legislation.

Such legislation was introduced in the fall of 2008 in the 110th Congress. The Measuring American Poverty Act of 2008 (HR. 6941/S. 3636; the MAP Act) was introduced by Rep. McDermott in the House and Sen. Dodd in the Senate. It would direct the development and adoption of a poverty measure based on the recommendations of the NAS, but also would provide the relevant agencies with authority to improve the measure over time.

Additional data analysis and data collection. As we have emphasized above, there is a need for improved data collection and better methodologies to effectively implement the new measure. These concerns are not simply technical. For example, the methodology to determine out-of-pocket medical expenses will have significant effects on the poverty rate among the elderly. Key goals of data improvements should be to produce a measure based on sample sizes that produce stable estimates, to minimize reliance on imputations wherever possible, and to improve data so that imputations that must be done are based on the best available methodologies and data.

Some data work needs to be done before a new poverty measure can be implemented:

- Investigation of the implications of using the four-person reference family to set the threshold versus using other alternatives that would allow data from other family types to affect the thresholds in ways other than through the equivalence scales

- A review of the best way to compute the shelter share of the basic necessities threshold, including research on whether there is a need to handle homeowners' expenses differently from renters' expenses and to distinguish between homeowners with and without mortgages

- A review of the best way to impute medical care and child care expenses from the most recently available data

While this work needs to be done in the next year before a new measure of poverty is released, other work can proceed in the longer term. Some data improvements—for example, revising questions in Census questionnaires—will take time. Others may require expanding sample sizes and developing new means for data collection. Ongoing work needs to pay attention to the best imputation methods for the value of certain government benefits, the best way to take account of regional price variations, the best models for tax imputation, and other issues. The Obama administration should direct the statistical agencies to identify priorities for improved data collection and analysis, and should work with Congress to provide the funding needed to do this work.

The use of the poverty measure by programs. How should a new measure relate to the existing poverty measure, and what effect should it have on current program benefits, eligibility, and allocation of funds? Here we strongly recommend that the new and existing measure should operate simultaneously, at least for a significant transition period. This is important to ensure historical continuity in the data and because there may be unanticipated glitches in the initial reports under the new measure. Experience will help to better understand how trends compare and diverge between the older and newer approaches.

Moreover, we think it essential that moving to a new measure not have any immediate effect on eligibility or amount of benefits or allocation of funds under existing programs. Politically, of course, such an approach is important because it is otherwise doubtful that there could be any progress in movement toward a new measure. Substantively, though, congressional committees need to have the opportunity to consider on a case-by-case basis how, if at all, the new measure should affect decisions about benefits and funds allocations. For example, SNAP sets its gross income eligibility limit at 130 percent of poverty. If the poverty threshold is changed, it is possible that SNAP might wish to change the percentage of poverty used, or that it might opt to develop eligibility rules that are not based on a multiple of the poverty line rather than simply use 130 percent of the new threshold. Accordingly, rather than any automatic effect, we recommend that each relevant committee consider whether, or to what extent, to modify its eligibility, benefits, or funding allocation rules in light of the new measure.

Some programs may decide that they do not wish to use the calculation of resources under the new poverty measure for calculating program eligibility, but that they would prefer simply to use cash income as the measure of family resources. Determining program eligibility is very different from accurately measuring economic need for statistical purposes. Indeed, trying to collect information on the wider variety of resources needed to calculate the new poverty measure may make little sense for many program purposes. For example, it may be complex and administratively burdensome for a program eligibility determination to adjust family income for out-of-pocket medical expenditures, work expenses, or tax payments. For good reasons many programs exclude nonrecurring lump sums, like the EITC, when determining monthly eligibility. Many programs also exclude income from other means-tested programs in determining eligibility. Hence, many programs will want to use a simpler resource measurement based on cash income.

We would draw an analogy between poverty measurement and program eligibility similar to that between the measurement of unemployment in the overall economy and eligibility determination for Unemployment Insurance (UI). The official definition of *unemployed* used for statistical purposes is not the one used in determining UI eligibility.

Additional measures of economic well-being and exclusion. Finally, as we have discussed, a new measure of poverty cannot provide, in itself, information about all aspects of economic well-being. The federal government should seek to make progress in a set of closely related areas. So, in addition to reporting poverty rates and characteristics, the statistical agencies should ensure that they are regularly reporting on other aspects that can be derived from the income data: the levels and trends in extreme poverty (income below 50 percent of the poverty line) and in near-poverty; the poverty gap (i.e., the aggregate amount by which those in poverty fall below the poverty line); and a comparison of pretax, pretransfer poverty with posttax, posttransfer poverty.

In addition, we recommend the following:

- Per the approach taken in the MAP Act, Congress should direct the NAS to undertake a study to develop a "decent living standard" threshold. The pending legislation (HR. 6941, 2008, Sec. 1150B (c); S. 3636, 2008, Sec. 272 (c)) would define such a standard as "the amount of annual income that would allow an individual to live beyond deprivation at a safe and decent, but modest, standard of living." This effort would explicitly recognize the need for recognition and rigorous development of a measure of a decent living standard above the poverty level.

- Again per the approach taken in the MAP Act, Congress should direct the development of a medical care risk index, measuring the extent to which individuals are at risk of being unable to afford needed medical treatment, services, goods, and care. Considering both the lack of and the adequacy of health insurance, this will provide valuable data for health policy analysis and insight into medical risk that simply cannot be collected in the course of measuring poverty status.

- The relevant statistical agencies should begin regularly reporting on a relative income measure (e.g., the share of individuals and families with incomes below 60 percent of median income). Whether or not this is referred to as a type of poverty measure, it would be useful to regularly track and initiate a research agenda to better understand the characteristics and nature of deprivation faced by families with incomes substantially below the median.

- A measure of income poverty does not provide information about family assets and wealth. A research and data development agenda directed toward improving measures of assets for low-income and all Americans is needed.

Reporting multiple measures of poverty. If the old measure of poverty is to be continued and if additional measures of economic need are to be developed over time, how should these different measures be reported? We believe that there is value in having one primary statistical measure of poverty, but anyone who uses data knows that a wide number of alternative measures can help in interpreting changes in the data. We recommend that the Census Bureau report the new poverty measure as its primary measure of poverty in its annual income and poverty report. Additional tables in this Census Bureau report (and tables online that are more extensive) can provide information on the old poverty measure and its performance, as well as any newer measures such as decent living standards, poverty gaps, or relative poverty.

What would this cost? One reason that an improved measure of poverty is politically feasible is that it is a very low-cost change. There are two types of expenses associated with our proposed recommendations. First, there is research that needs to be done in the next two to three years, both to produce an appropriate new national measure with the best available data and to investigate some of the alternative measures of need that we propose. Second, there are ongoing annual expenses for the work needed to produce and update this new measure, and there are costs associated with additional questions that will need to be added to certain federal data sets in order to provide the information needed to calculate this new measure in the best way possible. The MAP Act estimates the first cost at $2 million over two years, and the second cost at $5 million per year in perpetuity. We believe that these cost estimates are good ballpark figures for the associated costs of this proposal.

6. An Example of What This Might Mean for the Poverty Rate

As we have tried to indicate in this paper, there is still work to be done and some decisions to be made before the release of a final improved poverty measure. However, to give a flavor for the sort of effects that such a measure might have, we present here some data from the Census Bureau that compare poverty under the current measure and under an approximation to the NAS measure. We emphasize that the numbers we present here are not the final numbers that would emerge from a new measure. Nevertheless, they use a methodology that is quite close to what we recommend along most dimensions.

TABLE 1

Poverty Rate by Different Poverty Measures, 2006

	Current official Measure	Alternative measure: NAS Approximation
Poverty threshold (for a four-person family)	$20,444	$21,818
Percent Below Poverty Level, All Persons	12.3%	13.6%
Avg. poverty gap per poor person	$8,085	$7,138
	Percent Below Poverty Threshold	
Children	17.4	15.5
Nonelderly adults	10.8	12.3
Elderly	9.4	16.5
White	10.3	11.9
Black	24.3	22.8
Other	13.9	16.1
Hispanic origin	20.6	24.6
Native born	11.9	12.5
Foreign born		
Citizen	9.3	14.2
Non-citizen	19.0	25.2
No workers in family	36.8	39.3
At least one worker	8.2	9.2
In family with children	14.1	13.2
Married-couple	7.2	7.2
Male head	18.7	18.5
Female head	37.8	33.7

Note: 'NAS Approximation' is the Census MSI-GA-CE alternative poverty measure. It is the NAS recommendation for the U.S. poverty measure with out-of-packet medical expenditures subtracted from income, regional price adjustments, and thresholds calculated based on updated consumer expenditure data. Aggregate data for total persons' poverty rate are available at http://www.census.gov/hhes/www/povmeas/altmeas06/nas_measures_historical.xls. Disaggregated data by subgroup are provided by Kathy Short of the Census Bureau.

Table 1 shows the current official poverty numbers for 2006 in Column 1. Row 1 indicates that the poverty line for a family of two adults and two children under the official measure was $20,444. Row 2 shows that 12.3 percent of the population was living in families whose resources were below the official poverty line. Row 3 indicates the average poverty gap per poor person is $8,085. This indicates that the average poor person lives in a family whose income is $8,085 dollars below the poverty line for their family size, and signals that there is a significant number of people whose incomes are quite low relative to the poverty line.[17] The other rows indicate that poverty rates are higher among children, people of color, noncitizens, nonworkers, and female-headed families.

Column 2 shows the numbers under an approximation to the NAS poverty line that we recommend using. The poverty line under the NAS calculation is $21,818, slightly higher than under the official measure, although we note above that this threshold has a different meaning under the alternative measure: it is the threshold after taxes and in-kind benefits are added and after certain expenses (work, medical, and child support) are subtracted. If nothing else changed, using the new threshold would increase poverty rates slightly. Even if the threshold did not change, some aspects of the NAS poverty measure would reduce poverty (such as adding tax credits and in-kind benefits into family resources) and some aspects would increase poverty (such as subtracting child care and out-of-pocket medical expenses from resources). The net effect is a 1.3 percentage point increase in poverty in these calculations. The overall number of poor individuals goes from 12.3 percent to 13.6 percent of the population under the alternative measure. The average poverty gap declines by more than $900, primarily because there are more resources among poor families under the NAS definition than under the official definition. This is not surprising, since the NAS definition takes account of benefits such as SNAP and housing assistance received by very poor families.

The distribution of poverty among subgroups of the population changes substantially under the alternative poverty definition. Children's poverty levels drop somewhat while elderly poverty increases substantially. This is because many families with children receive EITC income, as well as in-kind benefits such as SNAP. The higher elderly poverty rates are primarily due to the subtraction of out-of-pocket medical expenses and the application of the same thresholds as are used for nonelderly adults. Note that under some alternative NAS estimates children's poverty changes little or increases, so the precise effect on children's poverty will likely depend on a the precise implementation of the NAS approach.

Poverty among white and Hispanic families goes up slightly under this alternative measure, while poverty falls slightly among black households. Poverty increases more among noncitizen foreign-born families. These families are less likely to receive in-kind benefits and more likely to pay out-of-pocket medical expenses.

Among families with children, in this particular calculation overall poverty rates fall slightly, driven by a decline in poverty among female-headed families. (Of course, a poverty rate of 33.7 percent among female-headed families under the alternative measure is still extremely high!) This suggests that the net effect on the resources of single-mother families of adding in-kind and tax benefits is greater than the reductions due to excluding child care and out-of-pocket medical expenses.

While not shown in Table 1, there are also changes in the geographic distribution of poverty. In general, because of the price adjustments, poverty in

17. Some people report negative incomes. For the purpose of calculating a mean poverty gap, all such incomes are set to zero.

more expensive metropolitan areas will rise while poverty in less-expensive rural areas will fall. The data in the table indicate that poverty levels will shift under a new measure. Nevertheless, the whole point of the new measure is to measure more adequately the full set of resources available to families for their necessities.

We want to emphasize that we do not believe the poverty rates shown for 2006 in the table provide a reason to accept or not to accept the new NAS measure. The value of a new measure is not whether it makes the numbers in poverty at the starting point go up or down. Rather, the value of a new measure is in its ability to provide a conceptually improved measure of poverty, with a defensible threshold and a measure of resources consistent with the threshold. Such a measure will more accurately reflect the trends in poverty over time. Both the current measure and the NAS measure show how poverty changes as jobs and cash income vary with economic growth; and both show how these measures change as household composition and family structure changes. Nevertheless, the NAS measure will also show how poverty changes as tax policy and in-kind benefits for food and housing change. It shows how poverty changes as work behavior shifts, affecting both cash income and work expenses. It shows how poverty changes as the health care sector changes, with shifts in public and private insurance affecting the money that families have to spend out of their own pockets on medical care. Finally, the NAS measure shows how families are faring as relative prices shift between regions and between urban or rural areas of the country. In short, it is the trends over time and the responsiveness of the NAS measure to key social, economic, and policy changes that makes it a much more attractive measure than the current poverty measure. This is not something that the table can show, but it will become apparent if we calculate and present a revised poverty measure over time.

7. Conclusion

It is long past time for action to improve the poverty measure. While no alternative is perfect, the approach recommended by the NAS panel and reflected in the MAP Act has much to commend it, as it addresses virtually all of the principal criticisms of the current measure. An improved measure will enhance the general understanding of who is in poverty and of the effectiveness of government programs and policies that seek to improve the conditions of low-income Americans. While an improved measure will not in itself reduce poverty, it is important to have an accurate yardstick that helps evaluate the extent of and changes in economic need among American families.

Appendix: Detailed Calculations for the Recommended New Poverty Measure

Part A: Calculating the Threshold

Take the one-third point (i.e., the 33rd percentile) in the distribution of expenditures on food, clothing, shelter, and utilities, averaged over three years of data from the most recent Consumer Expenditure Survey, based on a sample of four-person families only. Multiply this dollar amount by 1.2 to scale it up for other necessary spending.[18]

Calculate the equivalence scale using the three-parameter scale. This calculates the relative amounts needed for families of fewer or more than four persons using the following index:

Equivalence index = *(Number of adults)*$^{0.5}$ for one- and two-adult families

= *(Number of adults + 0.8 x Firstchild + 0.5 x Number of other children)*$^{0.7}$ for single-parent families

= *(Number of adults + 0.5 x Number of children)*$^{0.7}$ for other families.

Vary these thresholds by geographic differences in the cost of living. The cost-of-living index is based on the best available data on relative housing prices across areas (using data on fair market rents collected by HUD.) Such scales have been constructed for metro and nonmetro areas by state. Calculate an index of housing prices by area based on relative housing costs. Create a full price index by assuming that the price of other goods is identical across areas. This means reweighting the housing price index by applying it only to the share of expenditures in the threshold that are spent on housing. Set the average of this index equal to one, so that it has no effect on the threshold amount in the average-priced location.

This threshold applies to all related individuals who live together and are related by blood, adoption, or marriage, and also includes any unmarried partners and their families within the residential unit. Each unrelated individual who lives alone or with others is considered a separate unit; the resources of unrelated individuals are compared to a threshold appropriate for their family size. Make no distinction in thresholds between households that do and do not include members age sixty-five and older.

These thresholds should be based on at least a three-year rolling average, using at least the last three years of available consumer expenditure data (updating earlier years with a CPI-U price index, so the numbers are all in comparable real dollars). This increases the sample size from which expenditure data are selected, and allows the thresholds to change only slowly as expenditure patterns and prices change. The thresholds would be updated annually when a new year of consumer expenditure data becomes available.

Part B: Calculating Family Resources

The resources available to families to purchase necessities will be defined as the sum of the following:

Cash income. All cash resources obtained by the family from any source.

Adjusted for child support payments. Child support payments should be deducted from the income of those who pay them and added to the income of those who receive them.

18. Note that calculations that have been done to estimate NAS-based experimental poverty measures typically exclude mortgage interest payments from shelter expenditures, since those are considered 'asset investments.' If these were included, the thresholds would be higher.

Adjusted for taxes. Any taxes paid should be subtracted from resources; any credits received should be added to resources. Tax calculations will apply to the year for which taxes are calculated. Hence, taxes paid in January or February for the previous year will be subtracted from the previous year's income. (A more nuanced future tax model might ascribe taxes paid or refunds received to the years in which they are actually paid or received; our data at present make this impossible to calculate.) This calculation should include federal income and FICA taxes. Ideally, state and local taxes should also be included in the calculation, but should be included only if both income and sales taxes are appropriately accounted for.

With in-kind benefits added if they increase family resources for the necessities included in the threshold. The benefits received from food programs, housing assistance programs, and utility assistance programs should be included in family income and should be counted at the face value of the benefits received. These would be capped at the dollar value of the amount allocated to that commodity in the thresholds. For example, if $8,000 of the threshold amount is due to housing expenses, then the dollar value of in-kind subsidies for housing would be capped at $8,000. Modeling the largest in-kind programs is most important, but ideally even small programs can be included over time. (The cost of the transfer is not always equal to its value to the recipient, but for these particular programs we assume that the benefits are the equivalent of cash dollars.)

With work expenditures and medical out-of-pocket expenses subtracted. Work expenses should include costs of transportation and dependent care expenses. Out-of-pocket medical expenses include all dollars spent out of family resources for medical care. When appropriate, dollar amounts of these may be capped to reflect only those expenses considered necessary; for instance, child care expenses should be capped at the earnings level of the lowest-earning spouse.

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