

# 4

## Defining Resources

**T**he determination of whether a family (or an individual) is in or out of poverty requires two pieces of information: a poverty threshold and an estimate of the family's economic resources. In the two preceding chapters, we examined thresholds and adjustments to them; in this chapter, we review definitions of family resources. We recommend a definition and analyze the elements that go into its derivation, considering for each the justification, methods and data for implementation, and needed research for improved implementation.

### OVERVIEW AND RECOMMENDATION

The definition of family resources that has been used for determining poverty status in the United States ever since the current measure was adopted in the 1960s is annual gross money income. We believe this definition is seriously flawed and recommend a change: namely, that family resources be defined as disposable money and near-money income that is available for consumption of goods and services in the poverty budget.

A key to our recommendation is the principle of consistency between the resource definition and the threshold concept. That is, a defensible measure of poverty requires that resources and needs—the thresholds—be defined consistently. Hence, we approached the task of evaluating alternative family resource definitions by constant reference to the proposed concept for the poverty thresholds—namely, a budget for food, clothing, and shelter and a small additional amount for other needed consumption. For consistency with this budget concept, the definition of resources should include the value of

near-money benefits, such as food stamps, that are available for consumption; it should exclude expenditures that are nondiscretionary and not available for consumption: out-of-pocket medical care expenditures (including health insurance premiums), income and payroll taxes, child care and other expenses that are necessary to earn income, and child support payments to another household. Instead of allowing for these kinds of expenses in the poverty budget, we propose, rather, to deduct them from resources for those families that incur them.

Even within the constraints imposed by our choice of a concept for the poverty thresholds, there are alternative ways to define family resources. We considered these from the perspective of two other criteria: that the definition be publicly acceptable and operationally feasible. Data limitations are a particularly important consideration for the family resource definition because of the costs of estimating resources for a large enough sample of the population from which to reliably determine the poverty rate for the nation as a whole and for various population groups. Indeed, data limitations will likely hinder the extent to which complete consistency between a threshold concept and a resource definition can be achieved in practice. Nonetheless, we stress the importance of striving for consistency.

In this respect, the current U.S. poverty measure has been deficient from the beginning. Most obviously, the poverty thresholds were derived from after-tax income data while resources were defined in before-tax terms. The reason for this discrepancy was that the data source for measuring poverty, the March income supplement to the Current Population Survey (CPS), did not obtain information that would readily allow families' taxes to be estimated.<sup>1</sup> Income and payroll taxes on the working poor were low when the poverty measure was developed, but they subsequently increased and, more recently, declined again. The official poverty statistics reflected none of these shifts in tax policy, although they affected the resources available to poor and near-poor families.

Other inconsistencies in the measure became apparent as society changed and new government programs were enacted. More mothers went to work outside their homes, thus incurring child care costs, yet the different needs of working and nonworking families were not reflected by modifying either the thresholds or the resource definition. In-kind benefit programs that provide such commodities as food and housing were small in scope when the current measure was developed but have increased enormously since then, yet the resource definition does not include their value.

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<sup>1</sup> The CPS surveys 60,000 households each month with a series of questions that are used to determine the official monthly unemployment rate. The income supplement every March asks about sources of income for each adult household member for the previous calendar year (see Chapter 5 and Appendix B).

Since the current measure was adopted, data sources and procedures for estimating income have improved substantially. In 1980, the March CPS income questions were expanded, and questions were added about major in-kind benefits. In 1983, the Survey of Income and Program Participation (SIPP) was initiated to obtain more complete information on economic resources.<sup>2</sup> Also, methods were developed to adjust the March CPS income estimates in various ways (e.g., by subtracting taxes), and work is in progress on similar methods for SIPP. Yet, there has been no change in the data source or the definition of resources that is used to measure poverty.

Not only does the current poverty measure violate the consistency principle, but so does much work to date to investigate alternative measures. For example, the Census Bureau over the past decade has published a series of “experimental” poverty rate estimates from the March CPS: they are based on changes to the family resource definition but not on changes to the thresholds (see, e.g., Bureau of the Census, 1993a, 1995).<sup>3</sup> In some instances, this approach makes good sense: thus, the Census Bureau’s estimates in which federal and state income taxes are subtracted from resources reflect a definition that is more consistent with the original threshold concept than is the current before-tax resource definition. In other instances, the changes to the resource definition are not consistent with the official thresholds. In particular, estimates by the Census Bureau (and others) in which the value of public and private health insurance benefits is added to families’ resources violate the consistency principle. Since the official thresholds were first developed, medical care costs have escalated greatly, so it is inconsistent to add the value of health insurance benefits to resources without also increasing the thresholds.

The effect of just adding insurance values without also raising the thresholds is to ignore the added costs of staying out of poverty. It is also to assume that health insurance benefits are fungible (i.e., that they can be spent for other goods, such as food and housing) when this is not the case, except insofar as such benefits may free up other resources. Also, medical care costs vary significantly across the population, so that for appropriate comparisons of poverty among groups (e.g., the elderly versus younger people), it is not sufficient to increase the thresholds by an average amount for medical care.

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<sup>2</sup> SIPP is a panel survey. Under the design used for the 1984–1993 panels, a new sample of 12,000–20,000 households was started each February and the members interviewed eight times at 4-month intervals, for a total of 32 months. Beginning in 1996, SIPP will be designed to have panels that last 48 months each and have larger samples of households (see Chapter 5 and Appendix B).

<sup>3</sup> The Census Bureau has been constrained in that Congress requested publication of estimates on the basis of alternative resource definitions (specifically, definitions that added the value of in-kind benefits), but the U.S. Office of Management and Budget did not change the thresholds.

We discuss these issues more fully in a later section of the chapter. Here we want to emphasize our principle of consistency between the definition of family resources and the threshold concept.

**RECOMMENDATION 4.1.** In developing poverty statistics, any significant change in the definition of family resources should be accompanied by a consistent adjustment of the poverty thresholds.

### ALTERNATIVES FOR DEFINING RESOURCES

We considered three main alternatives to the current definition of family resources as gross money income. One alternative—the one we recommend—is to define resources as disposable money and near-money income. A second alternative, which is strongly advocated by a number of researchers, is to look at actual consumption or expenditures rather than income. A third alternative is a hybrid definition that adds to disposable income some kind of valuation of a family's asset holdings that could be used to finance consumption over a short period. This alternative is sometimes called a "crisis" definition of resources. Each alternative raises issues of determining the particular elements that comprise the definition—in a manner consistent with the threshold concept—and of determining appropriate and feasible methods and data sources for implementing each element.

#### Resources as Disposable Income

In comparing a definition of family resources as disposable money and near-money income with the current gross money income definition, it is clear that disposable income is preferable for measuring poverty in terms of satisfying the consistency principle. This conclusion holds whether the measurement uses the concept underlying the thresholds as originally defined or the concept that we propose.

The problem with the gross money income definition of family resources in relation to the threshold concept is that it is both too inclusive and not inclusive enough. Gross money income excludes the value of such in-kind benefits as food stamps, school meals, and public housing, yet these benefits support the types of consumption that were implicitly included in the originally developed poverty budget of food times three (and are included in the proposed poverty budget of food, clothing, shelter, and a little more). At the same time, gross money income does not exclude income and payroll taxes, but families have no choice in paying these taxes, and the money so spent cannot be used for consumption. Gross money income also does not exclude some other kinds of expenses that are not really discretionary and hence are not available for consumption of food, housing, and similar items. These

expenses include out-of-pocket costs for medical care (including insurance premiums), expenses necessary to earn income (e.g., child care, commuting costs), and child support payments to another household.

By not taking account of taxes and other nondiscretionary expenses or the value of (nonmedical) in-kind benefits, the gross money income definition does not adequately characterize the extent of poverty overall or the extent of poverty among various population groups. Moreover, the gross money income definition cannot capture the effects on poverty of important government policy changes, some of which are designed explicitly to combat poverty. For example, the Earned Income Tax Credit (EITC), which operates as a type of negative income tax, was recently expanded with the explicit goal of eliminating (or greatly reducing) poverty for the working poor. Yet it cannot have any effect on the official poverty count because the current measure does not take account of either positive or negative taxes.

For example, prior to expansion of the EITC, a working family that paid taxes might have sufficiently low gross income to be classified as poor by the current measure. But if in the next year the family received a tax refund due to the expanded EITC that moved it above the poverty line, the current measure would still classify the family as poor. Another working family that paid taxes might have sufficiently high gross income to be classified as not poor under the current measure although its disposable income (after taxes) was below the poverty line. If in the next year the second family's taxes were offset by the EITC, both the current measure and a measure that uses a disposable income definition would classify the family as not poor. The current measure would show no change in the family's poverty status across the 2 years, but a measure using disposable income would show the family as poor in the first year and as having moved out of poverty in the second.

A disposable money and near-money income definition estimates the amount of resources a family actually has available for consumption. It includes the value of in-kind benefits that support consumption and excludes taxes and other nondiscretionary expenses that are not available for consumption. Such a definition provides a much better basis for comparing the extent of poverty across population groups—for example, distinguishing between working and nonworking families. It also provides a much better basis for identifying trends in poverty over time and the effects of public policy initiatives and societal changes on poverty trends.

### *Adjusting Income, Not Thresholds*

Some analysts have proposed to attain a consistent poverty measure, not by changing the resource definition from gross to disposable income, but by constructing a larger array of thresholds: for example, higher thresholds for families with children in which the parents work than for other families with

children, or higher thresholds for elderly people with higher expected out-of-pocket medical care costs.<sup>4</sup> We rejected this approach for a number of reasons.

Clearly, the poverty thresholds need to vary by family composition in order to represent (at least approximately) equivalent levels of need for such basic consumption items as food, clothing, and shelter. We have also argued that the thresholds should reflect the substantial differences that are evident in the cost of housing across geographic areas. However, proliferating the number of thresholds to account for other circumstances raises concerns of feasibility (as well as some concerns about presentation).

It would require a large number of added thresholds to properly account for the variations among families in their expected nondiscretionary expenses, such as out-of-pocket medical care costs, taxes, or work expenses. Not to account for such variations would be to assume that different kinds of families—e.g., families with different numbers of earners or families with or without members in poor health—face average costs when this is not the case. But the sample size of the Consumer Expenditure Survey (CEX), the basic source of data on spending, is too small to produce reliable estimates of all the needed thresholds. It might be possible to use other data sources to develop amounts for nondiscretionary expenses by which to adjust the basic thresholds derived from the CEX, but such an approach would be complicated and imprecise. A preferable approach, we believe, is for the survey that measures families' incomes to measure their actual nondiscretionary expenses at the same time. Depending on the scope of the income survey, some imputations from other data sources may be necessary to implement this approach (see below), but, overall, it seems more feasible to annually estimate disposable income than all the various thresholds.<sup>5</sup>

Another though less important problem with proliferating the number of thresholds concerns presentation: it would be difficult to have a reference threshold to use in public discussion of the poverty level. Thus, instead of citing the poverty line for a family of four, as is common practice, one would have to cite the poverty line for a family of four with, say, one earner—not nearly as intuitive a concept.

Still another less important problem is that, as Watts (1993) argues, the use of different thresholds for such characteristics as work status can distort com-

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<sup>4</sup> Renwick and Bergmann (1993), for example, would use an income definition net of taxes and including values for in-kind benefits, but would account for out-of-pocket medical care costs, child care, and other work expenses in the thresholds rather than by adjusting income.

<sup>5</sup> Indeed, adjusting the thresholds rather than estimating disposable income does not wholly reduce the data demands on the income survey. For example, the income survey will need to ascertain such characteristics as health status of family members and whether the family pays child support in order to select the appropriate threshold for determining the family's poverty status.

parisons of the depth of poverty across population groups in relation to their basic consumption needs. Thus, whether child care or other work expenses are included in the thresholds or subtracted from income will not affect the poverty rate or the dollar size of the poverty gap. However, the relative importance of that gap, that is, the welfare ratio (the ratio of income to the poverty threshold), will be affected. Specifically, if the poverty thresholds are adjusted to include work expenses rather than deducting them from income, poor working families will appear relatively less poor than poor nonworking families with the same composition and dollar gap between income and needs. As Watts notes, however, one could argue that a poor working family is less well-off than a poor nonworking family with the same composition and gap between income and needs because of the greater demands on the working family's time (see Appendix C).

### *Recommendation*

For a consistent measure of poverty with the proposed threshold concept, gross money income should be adjusted to obtain a disposable money and near-money income definition of family resources. Although there are issues of precisely how to define and estimate particular components of disposable income (e.g., whether and at what level to cap the deduction for child care expenditures by working parents), they do not affect the logic of the basic approach. The two other alternatives we considered (see below) also can satisfy the consistency principle; however, there are operational reasons and, in the case of the crisis definition, conceptual reasons to prefer the disposable income definition.

**RECOMMENDATION 4.2. The definition of family resources for comparison with the appropriate poverty threshold should be disposable money and near-money income. Specifically, resources should be calculated as follows:**

- estimate gross money income from all public and private sources for a family or unrelated individual (which is income as defined in the current measure);
- add the value of near-money nonmedical in-kind benefits, such as food stamps, subsidized housing, school lunches, and home energy assistance;
- deduct out-of-pocket medical care expenditures, including health insurance premiums;
- deduct income taxes and Social Security payroll taxes;
- for families in which there is no nonworking parent, deduct actual child care costs, per week worked, not to exceed the earnings of the parent with the lower earnings or a cap that is adjusted annually for inflation;

- **for each working adult, deduct a flat amount per week worked (adjusted annually for inflation and not to exceed earnings) to account for work-related transportation and miscellaneous expenses; and**
- **deduct child support payments from the income of the payer.**

In the remainder of this section, we review the major alternative family resource definitions and our reasons for deciding against them. In the rest of the chapter we develop in more detail the proposed definition of disposable money and near-money income. Although the definition meets the test of operational feasibility, the decision to adjust income rather than the thresholds does increase the data requirements for the survey that is used to determine families' poverty status. The March CPS does not collect all of the needed information for estimating disposable money and near-money income and, for various reasons, it is not likely to become better suited for this purpose in the future. SIPP currently obtains most of the needed information and, because it is designed as an income survey rather than as a supplement to a labor force survey, can readily be modified to provide an adequate database. We conclude (see Chapter 5) that SIPP should become the basis for the official poverty statistics in place of the March CPS.

### **Resources as Consumption or Expenditures**

Many researchers argue that it is preferable, for a combination of theoretical and empirical reasons, to look at what families actually consume or spend rather than at their income in order to determine their poverty status (see, e.g., Cutler and Katz, 1991, 1992; Jorgenson and Slesnick, 1987; Mayer and Jencks, 1993; Slesnick, 1991a, 1991b). A basic premise of this view is that families and individuals derive material well-being from the actual consumption of goods and services rather than from the receipt of income per se; hence, it is appropriate to estimate their consumption directly.

To "estimate consumption" does not usually mean to inspect people's clothes or what they actually eat but, rather, to estimate what they spend on such items. Researchers in the field define consumption as a subset of families' total expenditures, excluding taxes, contributions to pension funds (which represent savings), and, often, gifts, and including expenditures made with assistance from in-kind benefit programs, such as food stamps. The data source for estimating consumption or expenditures is the CEX.<sup>6</sup>

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<sup>6</sup> The CEX has two components—the Diary Survey and the Interview Survey. Researchers typically develop consumption-based measures of poverty from the Interview Survey, which provides detailed information on expenditures each quarter for about 5,000 "consumer units" (see Appendix B).



*Rationale*

One argument that is often made for consumption (or expenditures) as the resource definition rather than income is that consumption is a better estimate of families' long-term or "permanent" income. Thus, Friedman's (1957) permanent income hypothesis suggests that current income is comprised of a permanent component and a transitory component. Families with low levels of current income are disproportionately comprised of families with temporary income reductions. If consumption is based on permanent income and not on transitory income, families with negative "income shocks" will have consumption levels that are high relative to their income levels because they expect their long-term income to be higher, on average, than their current income. Consequently, they "dissave" in order to smooth consumption and thereby material well-being: for example, they may liquidate their savings accounts or borrow on their credit cards. Such families may be income-poor but able to maintain a constant standard of living through dissaving. The reverse will be true of high-income families, who will have consumption levels that are low relative to their income levels and positive savings.

Modigliani and Brumberg's (1954) closely related life-cycle model of behavior assumes that current consumption is equal to average lifetime resources. Thus, younger families, by borrowing, and older families, by spending down assets, tend to exhibit high consumption-to-income ratios, while middle-aged families with the highest earnings potential tend to exhibit relatively low consumption-to-income ratios. Again, it is supposed that families smooth consumption and well-being on the basis of wealth and on expected earnings by saving and dissaving at various points during their life cycles.

We note that it is not necessary to accept all of these arguments in order to support a consumption definition of resources. Thus, one need not accept the life-cycle model or the view that what is wanted is a measure of long-term or permanent income. One could simply believe it is preferable to estimate a family's actual consumption rather than the consumption that it could potentially achieve from its available income.

Another point that is often made in support of using consumption or expenditures rather than income as the resource definition is that income is poorly measured. Those making this argument can cite the known under-reporting of asset income (and other sources) in the March CPS, the likelihood that income earned "off the books" or illegally is not reported at all, and the fact that self-employed people who report business losses are often able to take sufficient cash out of their business to sustain their own standard of living.

*Implications*

Consumption and income definitions of resources have somewhat different implications for who is counted as poor. A consumption resource definition

will include in the poverty count people who are income-rich but consumption-poor, that is, people who choose to spend at levels below the poverty threshold when they actually have incomes above that level. Some of these people may contract their spending because they foresee a drop in their income in the future, while others may simply opt for a low standard of living. In contrast, an income resource definition will exclude people from the poverty count who have an adequate income during the measurement period, whether they spend it or not.

At the same time, a consumption resource definition will exclude from the poverty count people who are income-poor (e.g., because they lost a job) but who sustain their consumption at a level above the poverty threshold by such means as borrowing from relatives or charging to the limit on their credit cards. In contrast, an income definition will count such people as poor.<sup>7</sup> This statement applies both to the current gross money income definition and to the proposed disposable money and near-money income definition.<sup>8</sup>

What one thinks of the contrasting ways in which consumption and income resource definitions treat people who are income-rich but consumption-poor and people who are in the reverse situation depends on one's view of the meaning and purpose of a poverty measure. One view is that the poverty measure should reflect the *actual level* of material well-being or consumption in the society (in terms of the number of people above the threshold), regardless of how that well-being is attained. Another view is that the poverty measure should reflect people's *ability* to obtain a level of material well-being above the threshold through the use of their own income and related resources. Some with this view would go farther to say that the members of a society have a *right* to be able to consume above the poverty level without having to resort to such means as begging, unsecured borrowing, stealing, or losing their homes. (For a discussion of the two perspectives, one emphasizing people's actual consumption levels and the other their ability to consume at a level above poverty from their own income, see Atkinson, 1989.)

In a somewhat different vein, a focus on current income (e.g., income available to families over a period such as a year) accords with the view that there is policy interest in measures of relatively short-term economic distress

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<sup>7</sup> As currently implemented, an income definition will also count as poor self-employed people who have business losses in accounting terms but nonetheless have adequate cash flows from their businesses for their own needs. However, it is not necessary to estimate self-employment income in business accounting terms, and, in fact, SIPP obtains reports of cash drawn out of businesses.

<sup>8</sup> A crisis definition that adds asset values to income will similarly count some of the income-poor as not poor. It may even more closely resemble a consumption definition in this respect if it also includes credit card and overdraft limits.

among the population. This viewpoint would reject the notion that it is preferable to estimate permanent or life-cycle income. Furthermore, its proponents would argue that including amounts in income that are obtained by such means as charging to the limit on one's credit cards distorts the purpose of the poverty measure as a timely policy indicator of the possible need for public or private action to alleviate economic distress (see, e.g., Ruggles, 1990). Thus, a consumption resource definition is likely to lag behind other indicators of economic distress because of all the steps that families can take to sustain their consumption. In contrast, an income resource definition will include income-poor families who may be reaching the end of their ability to sustain their consumption through such means as unsecured borrowing. Hence, it may prove more useful as a warning signal to policy makers.

### *Assessment*

On the fundamental question of whether to base the definition of family resources for the poverty measure on income or consumption, we believe that there are merits to the conceptual arguments on both sides of the debate. On balance, many members of the panel find more compelling the arguments in favor of a consumption definition that attempts to assess actual levels of material well-being. However, in the United States today, adequate data with which to implement a consumption-based resource definition for use in the official poverty measure are not available.

Although the federal government sponsors several comprehensive large-scale income surveys, the only regular consumption survey is the Consumer Expenditure Survey. Although the CEX had its beginnings nearly a century ago, it was conducted only every 10-15 years until 1980, when an annual survey began. The sample size of the CEX is significantly smaller than the sample size of the major income surveys, and the delay between collection and release is longer for consumption data than for income data.

The CEX is currently intended to support the periodic respecification of the market basket for the Consumer Price Index (CPI) and, more generally, to provide information on expenditure patterns. Its design—which features two separate surveys, one focused on larger and more regular expenditures and the other on smaller items—does not readily permit the development of a comprehensive resource estimate for individual families, which is essential for poverty measurement.<sup>9</sup> The CEX questionnaire is very detailed and complex, and response rates for the survey, which have averaged about 85 percent since 1980, are significantly lower than response rates for the major income surveys. Studies of data quality in the CEX have documented serious recall and other

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<sup>9</sup> The CEX also does not readily support development of annual resource estimates (see Appendix B).

kinds of reporting errors. It would require a large commitment of funding to expand and improve the CEX to the point that it could be used for the ongoing measurement of poverty for both the total population and various groups.

Of course, income surveys also have reporting problems, and, indeed, many studies using a consumption or expenditure resource definition have found lower poverty rates than those using an income definition. One reason for the differences is that consumption exhibits less variation across families than does income. As a consequence, and since average consumption and average income are close to one another, the poverty rate will usually be lower with a consumption definition than with an income definition. Another reason for the differences is that the comparisons have not used the best available income data. Poverty measures constructed with CEX income data are much higher, and those constructed with March CPS income data are somewhat higher, than those obtained from CEX expenditure data. However, poverty measures constructed with SIPP income data are almost as low as those obtained from CEX expenditure data (see Chapter 5), largely because of improved reporting of many sources of income in SIPP for lower income people, compared with either the March CPS or the CEX (see Appendix B).

We conclude that the measurement of poverty in the United States must continue, at least for some years, to be based on an income definition of resources. As discussed further in Chapter 5, we urge work on improving the CEX so that it would be possible to consider seriously the use of a consumption- or expenditure-based definition of family resources for measuring poverty in the future.

Finally, we note that if a consumption-based resource definition is adopted for the poverty measure at some future time, there will still be the need for consistency between the resource definition and the threshold concept. As an example, with the proposed threshold concept, the consistency principle would require that work expenses not be considered as part of families' consumption, just as they are excluded from disposable income. The CEX, as currently designed, can produce consumption estimates that make most of the adjustments that we recommend to the resource definition for consistency with the proposed threshold concept. Thus, the CEX obtains information on most types of in-kind benefits, taxes, out-of-pocket medical care expenses, child care costs, and child support payments. However, commuting costs cannot be separated from other transportation expenses, and imputations are required for subsidized housing.

### **A Crisis Definition of Resources**

In addition to their current income, many families have some cash on hand, and some families may have available one or more assets (e.g., savings ac-

counts, bonds, stocks, automobiles, real property) that can be converted to cash to support current consumption. Also, some families receive lump sums during a year (e.g., realized capital gains, gifts, inheritances) that could be used for consumption purposes. By definition, assets are stocks, and income is a flow, so adding the two is not appropriate. (Similarly, by definition, lump sums represent transfers of capital not income.) Also, income includes income flows from assets (interests, rents, dividends), as well as from earnings and transfers.

However, some analysts have argued that the resource definition for poverty measurement should add to income the values for asset holdings of at least some types. Thus, David and Fitzgerald (1987) propose a crisis definition that would include regular income plus the value of financial assets that are readily converted to cash (e.g., savings accounts).<sup>10</sup> They argue that it is particularly important to include asset values for poverty measures that pertain to short periods (e.g., 1 or 4 months) because many people with short spells of low income may not be in a crisis situation so long as they have assets on which to draw. In fact, the major public assistance programs that have short accounting periods typically limit the amount of assets that applicants can hold and still be eligible for benefits. For example, Aid to Families with Dependent Children (AFDC) and food stamps pay benefits to people who experienced an income drop as recently as a month ago only if their "countable" assets are below a certain limit.

The argument is less compelling to include asset values for poverty measures that pertain to periods of a year (like the current measure) or longer. If one takes a longer term view of poverty and with an income definition, a poor person is someone who has insufficient income from assets and other sources with which to support consumption at an adequate level over an indefinite period. If one instead adds assets in by some method and counts them as spendable, one is taking a short-term view because the assets can only ameliorate the poverty temporarily.

### *Methodological and Measurement Issues*

There are several possible methods for implementing a crisis definition of resources, which adds the value of assets or lump sum amounts to income (see Ruggles, 1990:Chap. 7). (Under any of these methods, to avoid double counting, reported income from assets must first be subtracted from resources.) One approach is to use a simple cutoff, as in AFDC and other assistance programs: that is, to stipulate that families, by definition, are not poor if they have more than a certain level of assets. The limit in assistance programs is

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<sup>10</sup> They would exclude income from assets (e.g., interest) to avoid double counting.

generally in the range of \$1,000-\$3,000 for financial assets, and participants are usually also allowed to have a home, furnishings, and an inexpensive car. These limits may be too low for a poverty measure that is calculated on a basis longer than the 1-month accounting period used in such programs as AFDC.

Another approach is to convert assets to an annuity and add the annuity value to income.<sup>11</sup> This approach is appealing for the elderly poor who are out of the work force and hence have little prospect of moving out of poverty. It makes little sense to assume that they should use up their assets all at once, rather than stretching out the amount that they could realize by an annuity. However, the annuitization approach may understate the potential contribution of assets for other people. The contrasting approach is to assume that people will draw on the full value of their assets; however, this method may overstate the contribution of assets by assuming their easy convertibility to cash.

In addition to methodological issues in valuing assets, there are substantial estimation problems. It is difficult to obtain accurate reporting of asset values (and asset incomes) in household surveys. The March CPS asks about savings interest, dividends, and net rental income, but not about the underlying asset values, which would have to be imputed by using an assumed rate of return. Moreover, nonresponse rates to the asset income questions in the March CPS are high. SIPP obtains extensive information on both asset income and asset holdings; for most types of assets, income amounts are ascertained every 4 months and value amounts once a year. Nonresponse rates to yes-no questions in SIPP on asset ownership are low, but nonresponse rates to the income and value questions are high (although not as high as in some other surveys).<sup>12</sup>

### *Implications*

Some work has been done by the Census Bureau and others to evaluate the effect of including the value of one or more types of assets in the resource definition for measuring poverty. David and Fitzgerald (1987:Table 4) compared a crisis measure of poverty to the current measure, using data from the 1984 SIPP panel: the crisis measure added to money income the capitalized value of reported interest from the prior interview. They assumed a 6 percent

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<sup>11</sup> Moon (1977) used the annuitization approach (developed originally by Weisbrod and Hansen, 1968) in measuring the economic well-being of the elderly poor.

<sup>12</sup> Recently, the Health and Retirement Study, a panel survey of people ages 51 to 61, achieved more complete reporting of asset values by a technique called "bracketing," in which holders of an asset who don't know or refuse to provide a value are asked if the value is above a certain amount; if yes, whether it is above another (higher) amount, and so on. High rates of response are obtained by this method, although the response categories are very broad—for example, less than \$1,000, \$1,000 to \$10,000, \$10,000 to \$50,000, \$50,000 or more (Juster and Suzman, 1993:16-20).

interest rate and, to avoid double counting, they excluded interest amounts from income. When poverty status was determined on a monthly basis, the crisis poverty rate was 3 percentage points (21%) lower than the official rate; when the determination was made using a 4-month accounting period, the crisis rate was 2 percentage points (14%) lower than the official rate. However, when the determination was made on an annual basis, the crisis rate was only 1 percentage point (8%) lower than the official rate. David and Fitzgerald (1987:Table 7) found that the addition of the capitalized value of stocks and rental property made little difference, as very few families with money incomes below the poverty level reported such assets. Ruggles (1990:151) confirms that relatively few income-poor families have assets: in 1984-1985, 88 percent had less than \$1,000 in financial assets, and only 7 percent had more than \$3,000 in such assets.

The Census Bureau has developed estimates of the effects on the poverty rate of adding to income an estimated value for (net) realized capital gains and an estimated annuity value for home equity (net of property taxes). These estimates rely on complicated imputation procedures using data from other sources and numerous assumptions (see Bureau of the Census, 1993a:Apps. B,C), so the results should be viewed solely as illustrative. Nonetheless, they provide a rough sense of the implications for the poverty rate. In general, including realized capital gains has almost no effect, even for the elderly;<sup>13</sup> however, including an annuity value for home equity has a substantial impact, particularly for the elderly. Thus, in 1992 (Bureau of the Census, 1993a:Table 2), the inclusion of home equity value would have reduced the aggregate poverty rate by about 1 percentage point (from 14.5 to 13.0%) and the poverty rate for the elderly by almost 4 percentage points (from 12.9 to 9.0%).

### *Assessment*

In general, we do not believe that it is appropriate to include asset values as part of family resources for purposes of the official poverty measure, for both conceptual and practical reasons. As noted above, to count assets as spendable is to take a short-term view of poverty. The year-long accounting period for the poverty measure, which we recommend retaining, argues for an income

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<sup>13</sup>The Census Bureau's estimates of realized capital gains, derived from its federal income tax simulation model, take account of losses as well. From an asset accounting viewpoint, this approach is correct. From the viewpoint of a crisis definition of resources, one could argue that the actual cash received from a sale of an asset is what should be added to regular money income, even if that amount represents a loss in terms of the original asset value. In any case, the Census Bureau's current ability to simulate capital gains with any degree of accuracy for individual families is very limited: the simulation uses Internal Revenue Service (IRS) data on probabilities of incurring capital gains and the mean amounts by categories of adjusted gross income, type of return, and age of tax filer.

definition of resources rather than a definition that includes asset values. In addition, it is difficult to obtain accurate estimates of asset values in household surveys. Finally, as a practical matter, very few people who are income-poor on an annual basis have financial or other assets, with the exception of housing.<sup>14</sup>

We do recognize, however, that for some purposes, it may be desirable to have companion measures of poverty that take account of at least some types of assets. Thus, although we propose that the official poverty measure continue to be based on annual data, we believe it would be useful to develop measures for shorter and longer time periods as well (see Chapter 6). Measures for shorter periods (e.g., 4 months) may be more useful than annual measures to evaluate how effectively government assistance programs with short accounting periods target benefits to needy people. For consistency with program rules, short-term poverty measures would need to include financial asset values. In fact, it is likely easier, using SIPP data, to develop short-term measures that add asset values to income than to develop such measures on an annual basis. Fewer changes in family composition are likely to occur in a short time period and, hence, there will be less difficulty in attributing the asset values measured at the beginning of the accounting period to the appropriate family unit.

Finally, we support research and development to improve the reporting and valuation of assets for such purposes as estimating the distribution of wealth in relation to the distribution of income. The economic poverty measure is just one important indicator of economic deprivation and well-being; other indicators are important to develop, both in their own right and to provide an added perspective through cross-tabulation with the poverty measure.

## PROPOSED RESOURCE DEFINITION

The rest of this chapter details the components of the proposed definition of family resources.

### Money Income

The proposed definition of disposable money and near-money income begins with gross money income as defined for the current poverty measure. In the March CPS, money income is the sum of about 30-odd sources that are identified separately in that survey—including, for example, wages, net self-employment income, Social Security, private pensions, cash public assistance,

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<sup>14</sup> See the discussion below of adding imputed net rent to the income of homeowners. This approach, which we urge be developed, treats housing as an in-kind benefit rather than an asset.



child support, alimony, interest on savings accounts, and dividends. SIPP asks about more than 60 separate sources of money income (see Appendix B).

### **Nonmedical In-Kind Benefits**

Both the concept that underlay the original official poverty thresholds and the concept that we propose represent budgets for family consumption needs. Given such a concept, the resource definition should add to money income the value of near-money in-kind benefits that are intended to support consumption. Indeed, there is virtually unanimous support in the research community for this position: see, for example, the comments of Ellwood and Summers (1985), Blinder (1985), and Rees (1985) at a Conference on the Measurement of Noncash Benefits sponsored by the Census Bureau.

At the time the current poverty measure was adopted, such programs as food stamps and public housing provided benefits to relatively few families. Since then, they have made important contributions to reducing material hardship in the United States, and it makes no sense for their contributions to be ignored in the official poverty measure. We refer here to nonmedical in-kind benefits; the next section considers medical care benefits and out-of-pocket medical care costs. A major issue concerns the best method to assign an appropriate value to nonmedical in-kind benefits, given that recipients may not value them as highly as the equivalent amount of cash. The Census Bureau in its work over the past decade to develop experimental estimates of poverty based on an adjusted income measure has wrestled with the issue of valuation. We review the approaches that the Census Bureau has adopted at various times and suggest areas for research.<sup>15</sup>

Another issue is which types of benefits to include. The Census Bureau's work to date has covered food stamps, public and subsidized housing, and regular and subsidized school lunches. Benefits from the Low-Income Home Energy Assistance Program (LIHEAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and the School Breakfast Program, which are covered in SIPP but not in the March CPS, also seem prime candidates to include. For many other types of in-kind benefits (e.g., Meals on Wheels and other food programs for the elderly and free or subsidized meals or housing from employers), there are limited or no available data and no experience with valuation. A recommendation by the Panel to Evaluate the Survey of Income and Program Participation (Citro and Kalton, 1993:79-80,83) that SIPP use one or more of its topical modules to examine the range of in-kind programs and identify those that may be sufficiently widespread to warrant regular measurement may be the place to start.

The value of employer-provided in-kind benefits that are necessary for

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<sup>15</sup> Smeeding (1982) initiated the work at the Census Bureau to value in-kind benefits.

work (e.g., child care, parking, training subsidies, or free uniforms or tools) should not be included because the definition of disposable income excludes out-of-pocket costs for child care and other work-related expenses, net of any employer subsidy.<sup>16</sup> Also, employer contributions for pensions should not be included. The National Income and Product Accounts (NIPA) include such contributions as income and, conversely, exclude actual pension income. However, the contrasting approach that has traditionally been followed for poverty measurement, namely, counting pension income as received and excluding pension contributions, makes much more sense for a measure of current economic poverty. Other kinds of employer benefits, such as contributions for life or accident insurance, are more problematic. To the extent they free up resources for consumption, they should be counted as income. However, there are measurement problems. Also, such benefits are difficult to value because of the likelihood that recipients would place a lower value on the benefit than its cost to employers. (This problem affects other in-kind benefits as well, but perhaps not to the same extent; see below.)

#### *Census Bureau Valuation Procedures*

The Census Bureau's procedures for assigning values for food stamps, school lunches, and public housing rely on the market value approach, in which the full private market value of the benefit (minus contributions by the recipient) is assigned as income.<sup>17</sup> For food stamps, the procedure is very simple, counting as income the full face (market) value of food stamp benefits that are reported for the year by respondents to the March CPS. For "regular price" school lunches, the procedure for determining the subsidy value uses information from the U.S. Department of Agriculture (USDA) on subsidies per meal for lunches that are provided at the "full established price." (Because of USDA assistance to the states, the full price represents less than the total cost of the meal.) The annualized subsidy value is added to family income for children ages 5-18 whose families reported in the March CPS that they "usually" ate hot lunches at school during the year and did not receive these meals free or at a reduced price. For those children who are reported to have received free or reduced-price school lunches, an additional subsidy value is assigned, also using information from the Department of Agriculture. Unlike food stamps, which function virtually like money, the approach of counting school

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<sup>16</sup> The alternative approach of adjusting the thresholds would involve adding child care and other work expenses to the thresholds for working families, and then adding the value of employer subsidies to income (see Renwick and Bergmann, 1993, for an example). The net effect would be about the same as under our approach but actually more data-intensive to implement (data would be needed to estimate the threshold amounts and the subsidies).

<sup>17</sup> See Chapter 5 for a description of the effects on poverty rates of adding values to disposable income for these programs with the current valuation methods.

lunch subsidies as income at the full subsidy value is not without problems (see Bureau of the Census, 1993a:ix). Thus, participating families have no choice about the type or quantity of food and may well value the benefit at less than the full subsidy value.

The procedure for valuing rent subsidies for people living in public or subsidized housing is complex (see Bureau of the Census, 1993a:B-1) because the March CPS ascertains residence in such housing but not the rents paid by residents or the rent subsidies. To estimate the subsidy values to add to the CPS income amounts, the Census Bureau uses the results of an analysis from the 1985 American Housing Survey (AHS), updated each year to reflect changes in the Consumer Price Index for housing. In the AHS analysis, the Census Bureau compared the actual gross rent (including utilities) paid by families in subsidized housing to the estimated market rent these families would have been expected to pay if their units had not been subsidized. The comparisons were carried out separately for families in three income groups: under \$6,000, \$6,000-\$9,000, and \$10,000 and over. The market rent estimates for each set of comparisons were developed by using the coefficients from a model that related gross rent for two-bedroom nonsubsidized units by region from the AHS to number of bathrooms, number of appliances, number of housing flaws, and presence of satisfactory neighborhood services. The relative subsidies estimated for two-bedroom units were assumed to apply to smaller and larger units.

For 1981-1985, the Census Bureau developed values for in-kind benefits using two other approaches in addition to market value: the recipient value approach and an approach called "poverty budget shares" (see Bureau of the Census, 1986). The recipient value approach attempts to measure the value of a benefit to the recipient, which may be lower than the market value. However, in many cases it is difficult to measure recipient value. The poverty budget shares approach links the value of in-kind benefits to the current poverty measure by placing a limit on the value of specific benefits that is equal to the amount spent on the item by unsubsidized families and individuals with incomes near the poverty level. (The limit is equal to the lesser of the market value or the poverty budget share value.) The assumption is that recipients cannot use "extra" amounts of an in-kind benefit to meet their basic needs for other items.

Comparisons of estimates of nonmedical in-kind benefit values using the three methods indicate that the recipient value approach and, to a lesser extent, the poverty budget shares approach had less effect in lowering poverty rates than the market value approach. Thus, in 1985, the market value approach to adding values for food stamps, school lunches, and subsidized housing to money income reduced the poverty rate by 1.5 percentage points (from 14 to 12.5%)—an 11 percent reduction in the rate (Bureau of the Census, 1986:Table C). The recipient value approach reduced the rate by 1.2

percentage points (to 12.8%), while the poverty budget shares approach reduced the rate by 1.4 percentage points (to 12.6%). These results reflect the more conservative assignment of values to in-kind benefits of the recipient value approach and, to a lesser extent, the poverty budget shares method, compared with the market value approach.

### *Assessment of Valuation Approaches*

The Census Bureau adopted the current market value approach for valuing in-kind benefits and dropped the other two approaches on the basis of recommendations at its 1985 Conference on the Measurement of Noncash Benefits.<sup>18</sup> At this conference, Chiswick (1985) noted that the validity of the market value approach depends on two assumptions: (1) that a household would pay the same market price (on average) as that used in estimating the market value, and (2) that the household would, in the absence of the noncash transfer, have consumed at least that much of the good or service in question. With the exception of food stamps (which are virtually the same as cash), Chiswick argued that the recipient value approach is conceptually superior to the market value approach. The reason is precisely that the assumptions underlying the latter may not hold and, hence, the value that the recipient places on a good or service may be far below the market value.

Some participants at the conference argued against the view that the recipient value approach is the superior concept (see, e.g., Browning, 1985). Also, all of the participants agreed that there is as yet no reliable way of estimating recipient value. Indeed, Chiswick made the point that the Census Bureau's recipient value estimation procedure was instead a "matched estimate" technique, which stratified families, on the basis of their survey responses, into cells defined by income and demographic characteristics and by whether they were subsidized or not. Under this procedure, the cash equivalent value of the subsidy was taken to be the difference between the expenditures on the good or service by unsubsidized and subsidized families within each group. A flaw in this approach was that it ignored the selection bias for participation in assistance programs.

No one at the conference supported the poverty budget shares method, which Chiswick (1985) described as a "bounded market value" approach. The upper limit on the market value assigned to a family for an in-kind benefit was usually the amount spent on the good or service by nonparticipants who were near the poverty level, under the assumption that values in excess of that amount could not always substitute for other needs. Flaws in this approach, as Chiswick noted, were that it treated any benefits above the threshold level as

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<sup>18</sup> An exception was medical care benefits, for which the Census Bureau adopted a "fungible value" approach; see next section.

having no value to the recipients and that it assumed the same demand for subsidized goods and services among program participants as among near-poverty nonparticipants.

### *Needed Research and Development*

We agree with the Census Bureau's use of market values for food stamps and other nonmedical in-kind benefits, primarily on the ground of operational feasibility. The major problem area concerns public housing, for which it is most likely that recipients would not value the benefit as much as an equivalent amount of cash and for which there are difficulties in accurately ascertaining the market value or the recipient value.

The Census Bureau has changed its procedure for estimating rental subsidies several times over the decade to strive for greater accuracy. Yet there is evidence that problems remain. Thus, the Census Bureau's aggregate estimates of housing subsidies are considerably below the subsidy amounts reported as outlays by the U.S. Department of Housing and Urban Development (HUD). For example, Steffick (1993) cites 1990 total outlays of \$13 billion but the Census Bureau estimates \$9 billion in total subsidies for that year. The distribution of subsidy amounts among families may also be problematic. As an example, although housing costs vary considerably by geographic area, the Census Bureau's estimates distinguish only the four major regions (see Steffick, 1993, on this point). Finally, the Census Bureau is still using data from the 1985 American Housing Survey, which are now quite old. At a minimum, the Census Bureau should reestimate its model with later AHS data. Ideally, more research should be conducted on methods for valuing housing subsidies.

We note that SIPP affords the opportunity to improve the valuation of nonmedical in-kind benefits. SIPP includes more benefits (specifically, LIHEAP, WIC, and School Breakfast) than does the March CPS and provides more accurate reporting because of more frequent interviews. SIPP also ascertains housing costs (rent and utilities) for people in subsidized as well as unsubsidized housing and so provides a much better basis for imputing rental subsidies than does the March CPS, which lacks housing cost data. The Census Bureau is currently developing an in-kind benefit valuation program for SIPP, and we urge that this work move forward.

### **Medical Care Needs and Resources**

The issue of how best to treat medical care needs and resources in the poverty measure has bedeviled analysts since the mid-1970s, when rapid growth in the Medicare and Medicaid programs (and in private health insurance) led to a concern that the official measure was overstating the extent of poverty among

beneficiaries because it did not value their medical insurance benefits. Yet after almost two decades of experimentation, there is still no agreement on the best approach to use. (See Moon, 1993, for a review of past approaches and suggested alternatives.)

Two problems make it very difficult to arrive at a solution that both achieves the necessary consistency between the threshold concept and the resource definition and is feasible to implement. The first problem is that medical care benefits are not very fungible—they may free up resources to some extent, but they by no means have the fungibility of, say, food stamps. There are two reasons that food stamps are essentially interchangeable with money: (1) virtually all households spend at least some money for food, so the receipt of food stamps frees up money income for consumption of other goods and services; (2) the maximum food stamp allowance is low enough that it is unlikely households would receive more benefits than the amount they would otherwise choose to spend on food. Neither of these conditions holds for medical care benefits: not all families have medical care needs during a year, and, although medical care benefits for low-cost services (e.g., a prescription drug or a doctor visit) may free up money income for other consumption, the “extra” benefits received from insurance (or free care) to cover expensive services (e.g., surgery) are not likely to free up money income to the same degree. Hence, approaches that add the value of medical insurance benefits to income without also increasing the thresholds have the perverse effect that sick people look better off than healthy people even though their extra “income” cannot be used to support consumption. In the more common practice of assigning average benefits for groups (i.e., valuing medical benefits at the assumed insurance premium amount), the result is similar—to make sicker groups, such as the elderly or disabled, look better off than healthier groups.

However, any attempt to develop thresholds that appropriately recognize needs for medical care runs into the second problem: that such needs are highly variable across the population, much more variable than needs for such items as food and housing. Everyone has a need to eat and be sheltered throughout the year, but some people may need no medical care at all while others may need very expensive treatments. One would have to develop a large number of thresholds to reflect different levels of medical care need, thereby complicating the poverty measure. Moreover, the predictor variables used to develop the thresholds (e.g., age, or self-reported health status) may not properly reflect an individual’s medical care needs during any one year: some people in a generally sicker group may not be sick that year and vice versa for people in a generally healthier group. The result would be that it would be very easy to make an erroneous poverty classification.

A related issue is that, until very recently, hardly any research on this topic considered the question of out-of-pocket medical care costs. Even groups with good medical insurance coverage, such as the elderly, pay some of their

medical expenses directly, and the dollar amounts for such expenses as health insurance premiums, deductibles, copayments, and payments for uncovered services can be high. Yet little thought has been given to how to adjust the poverty thresholds or the family resource definition to appropriately account for these costs.

*Proposed Approach: Recommendation*

We propose an approach that separates the measurement of economic poverty from the measurement of medical care needs and the adequacy of resources to meet those needs. Hence, the concept we propose for the poverty thresholds includes such budget categories as food and housing but not medical care. For consistency, we propose that medical insurance benefits *not* be added to income and that out-of-pocket medical care expenses (including health insurance premiums) be *subtracted* from income.

Although the proposed measure excludes medical care from both the poverty thresholds and family resources, it does not ignore the effects of the health care financing system or of people's health status on economic poverty. If people incur higher out-of-pocket medical care expenses (e.g., because they are sicker or have inadequate or no insurance coverage), their disposable income for comparison to the poverty threshold will be lower, and vice versa. The proposed measure will also be sensitive to any changes in the health care financing system that increase families' disposable income and thereby reduce economic poverty (e.g., more widespread insurance coverage with limits on out-of-pocket expenses), as well as to changes that decrease disposable income and thereby increase economic poverty (e.g., tax increases to pay for health insurance). In contrast, the current poverty measure cannot be sensitive to changes in health care financing, whether these changes increase or reduce families' disposable income.

Although the proposed measure is far better than the current measure in accounting for health care costs and resources, it does not directly assess the extent to which everyone has access to a package of health insurance benefits that protects them against the risk of being unable to afford needed medical attention. Hence, it is very important that research continue on developing indicators of the adequacy of health insurance coverage. We urge that these indicators be cross-tabulated with but kept separate from the economic poverty measure: that measure cannot directly include all aspects of well-being, and it is particularly difficult to try to include medical care in it.

**RECOMMENDATION 4.3. Appropriate agencies should work to develop one or more "medical care risk" indexes that measure the economic risk to families and individuals of having no or inadequate health insurance coverage. However, such indexes should be kept separate from the measure of economic poverty.**

*Alternative Approaches*

Several participants in the Census Bureau's 1985 Conference on Measurement of Noncash Benefits, including Ellwood and Summers (1985), Ward (1985) and Smolensky (1985), took positions that agree with our recommendation to exclude medical care needs and resources from the poverty measure. But other participants, including Blinder (1985) and O'Neill (1985), argued just as strongly for including medical care benefits (averaged for groups) in income and adjusting the thresholds if needed. (O'Neill thought that the thresholds would not have to be adjusted very much.) Aaron (1985) agreed that it would be difficult to include medical care in the poverty measure, but he was uncomfortable with excluding it entirely. Citing a suggestion by Burtless, Aaron proposed a two-index method of defining poverty as a possible way out of the dilemma: count people as poor if they do not have enough income to meet their nonmedical needs, or if they lack adequate health insurance (or sufficient remaining income to purchase such insurance), or both.

Clearly, considerable controversy surrounds this issue. Hence, we review in some detail the pros and cons of alternative approaches to treating medical care needs and resources in the measurement of poverty—beginning with the current measure—and why we chose our recommended approach.

*Current Poverty Measure* When they were developed in the early 1960s, the official poverty thresholds implicitly included (through the multiplier) an allowance for some out-of-pocket medical care expenses. Estimates are that such expenses accounted for 4 percent of median income in 1963 (Moon, 1993:3); 7 percent of total expenditures in the 1960-1961 CEX (Jacobs and Shipp, 1990:Table 1); and 5 percent of personal consumption expenditures in the 1960-1961 NIPA (Council of Economic Advisers, 1992:Table B-12). The official thresholds included *no* allowance for medical expenses that could be covered by insurance.

On the income side, the current measure assigns no value to health insurance benefits and makes no adjustments for above-average or below-average out-of-pocket expenditures. Hence, families with above-average expenditures may be erroneously counted as not poor, and families with below-average expenditures may be erroneously counted as poor. The biases are not likely to be offsetting but rather to err in the direction of underestimating poverty, because above-average out-of-pocket medical care expenses can be very high indeed. In the 1987 National Medical Expenditure Survey (NMES), about 60 percent of families had annual out-of-pocket expenses (excluding premiums) that were less than 2 percent of their annual income, but 10 percent had expenses that exceeded 10 percent of their income; see Table 4-1. Over 20 percent of the elderly had expenses that exceeded 10 percent of their income, as did 19 percent of families with annual income below \$20,000.



**TABLE 4-1** Annual Family Out-of-Pocket Expenses for Personal Medical Care Services as a Percent of Family Income, Percentage Distribution, 1987

Family Characteristics (% of all Families)	Families by Expenses as a Percent of Income <sup>a</sup>							
	No Ex- penses	0.01– 0.99%	1.0– 1.9%	2.0– 2.9%	3.0– 4.9%	5.0– 9.9%	10.0– 19.9%	20.0% or More
Total <sup>b</sup>	11.0	30.5	17.4	9.7	11.0	10.2	5.6	4.4
Family Income								
Under \$20,000 (42%)	17.7	18.3	11.9	8.0	10.9	14.0	10.1	9.0
\$20,000–\$39,999 (30%)	7.1	32.2	19.8	12.1	13.7	9.9	3.6	1.6
\$40,000 or more (27%)	3.6	48.0	23.6	9.9	8.5	5.0	1.0	0.4
Age and Insurance Status								
Under 65								
Any private insurance (64%)	7.1	37.2	20.6	10.3	10.9	8.2	3.4	2.1
Public insurance only (7%)	40.4	24.9	7.5	5.6	4.9	6.2	5.7	4.9
Uninsured (9%)	23.1	21.1	13.2	9.0	8.6	11.5	6.6	6.8
65 or older								
Medicare only (2%)	13.7	12.5	7.3	10.7	11.5	15.0	15.9	13.1
Medicare and public (2%)	33.3	20.0	13.1	6.5	8.2	7.4	3.8	7.7
Medicare and private (16%)	4.2	14.9	13.3	9.4	16.0	18.7	12.7	10.6

SOURCE: Taylor and Banthin (1994:Table 8); data from the 1987 National Medical Expenditure Survey; percentages do not always add to 100 because of rounding.

<sup>a</sup>Expenses include out-of-pocket expenses for inpatient hospital and physician services; ambulatory physician and nonphysician services, including vision care and telephone calls with a charge; prescribed medicines; home health care services; dental services; and medical equipment purchases and rentals for all family members. Expenses exclude health insurance premiums.

<sup>b</sup>Estimated total population is 100,225,000 families, excluding 0.4 percent with zero reported income.

*Adding Health Insurance Benefits to Income* Work by the Census Bureau and others on valuing health insurance benefits was stimulated by the expansion of health insurance coverage in the public and private sectors. The work began on the assumption that health care benefits could be added to income just like other in-kind benefits (e.g., food stamps), without adjusting the

poverty thresholds. Analysts quickly moved from trying to add to income the actual benefits received by a particular individual because this approach had the perverse effect of making sicker people look richer than healthier people. However, as Moon (1993) points out, the preferred strategy of adding average insurance values for groups is hardly better, because it has the effect of making sicker groups (e.g., the elderly or disabled) look richer than healthier groups.

Over the years, the Census Bureau has tried several approaches to valuing Medicare and Medicaid benefits, including a market value approach, a recipient value approach, the poverty budget shares approach, and the current method, called the “fungible value” approach. (See Chiswick, 1985, for a critique of the first three approaches.) The agency has also assigned values to employer-provided health insurance. In all of this work, the Census Bureau has compared estimates of income including values for health insurance benefits to the official thresholds without adjustments.

In brief, the fungible value approach for valuing Medicare and Medicaid benefits starts with the market insurance value but includes only the portion that is determined to be fungible in the sense that it frees up resources that could have been spent on medical care (see Bureau of the Census, 1993a:B-1–B-3). The determination of the fungible portion of Medicare or Medicaid is made by comparing a family’s income to a poverty threshold consisting only of food (based on the USDA Thrifty Food Plan) and housing (based on fair market rents determined by HUD). Then for each family, the value of the mean Medicare or Medicaid benefits (or both) for families in the same risk class is added to income to the extent that the family has any income that exceeds the new, lower threshold.<sup>19</sup>

The effects of adding Medicare and Medicaid benefits to income without adjusting the thresholds are dramatic; see Table 4-2.<sup>20</sup> In 1986 (the last year for which estimates are available to compare across valuation methods), the fungible value approach reduced the poverty rate by 1.1 percentage points (or 8%) for the total population and by 2.5 percentage points (20%) for the

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<sup>19</sup> The risk classes for Medicare are people age 65 and over and the blind and disabled by state. The risk classes for Medicaid are people age 65 and over, the blind and disabled, nondisabled people age 21-64, and nondisabled people under age 21, by state. As an example of the calculation, if a family’s risk class had average Medicare benefits of \$2,500 per year and \$1,000 of income that exceeded its food and housing needs, then only \$1,000 of the Medicare benefits would be added to income.

<sup>20</sup> These and other estimates derived from the Census Bureau’s experimental poverty series should be viewed as approximate. In most instances, one cannot determine from the published tables the purely marginal effects of a particular change because the tables generally show the *cumulative* effects of more than one change. For example, one definition might add food stamps and the next might also add Medicare. An estimate of the effects of Medicare obtained by comparing poverty rates between the two definitions will thus be affected by interactions between the effects of food stamps and Medicare.

**TABLE 4-2** Poverty Rates with and without Insurance Values for Public and Private Medical Care Benefits Under Different Valuation Approaches, Selected Age Groups, 1986, in Percent

Population Group and Medical Care Benefit	Fungible Value <sup>a</sup>	Market Value <sup>b</sup>	Recipient Value <sup>b</sup>
<b>Total Population</b>			
Official definition	13.6	13.6	13.6
Including Medicare only	13.1	N.A.	N.A.
Including Medicaid only	13.1	N.A.	N.A.
Including Medicare and Medicaid	12.5	10.3	12.3
Also including employer-provided insurance	12.0		
<b>People under Age 18</b>			
Official definition	20.5	20.5	20.5
Including Medicare only	20.3	N.A.	N.A.
Including Medicaid only	19.4	N.A.	N.A.
Including Medicare and Medicaid	19.2	16.1	19.0
Also including employer-provided insurance	18.4		
<b>People Aged 25-44</b>			
Official definition	10.2	10.2	10.2
Including Medicare only	10.0	N.A.	N.A.
Including Medicaid only	9.8	N.A.	N.A.
Including Medicare and Medicaid	9.6	8.4	9.6
Also including employer-provided insurance	9.1		
<b>People Aged 65 and Over</b>			
Official definition	12.4	12.4	12.4
Including Medicare only	10.0	N.A.	N.A.
Including Medicaid only	12.3	N.A.	N.A.
Including Medicare and Medicaid	9.9	4.1	8.2
Also including employer-provided insurance	9.8		

NOTE: The Census Bureau uses a single market value approach to estimate the value of employer-provided health insurance benefits; the effects are shown in the fungible value column because the latter is the current preferred approach for valuing public health insurance benefits.

N.A., not available.

<sup>a</sup>Calculated from Bureau of the Census (1988b:Tables F, H).

<sup>b</sup>Calculated from Bureau of the Census (1988a:Tables C, 1).

elderly. The reductions in the poverty rate under the recipient value approach were somewhat larger: 1.3 percentage points (10%) for all people and 4.2 percentage points (34%) for the elderly. The reductions in the poverty rate under the market value approach were quite large: 3.3 percentage points (24%) for the total and 8.3 percentage points (67%) for the elderly.<sup>21</sup>

Adding in the value of employer-provided health insurance further reduces poverty (see Table 4-2), although not to a marked extent.<sup>22</sup> In 1986, the effects were greatest for working-age people 25-44 (reducing their poverty rate by 0.5 percentage point, or 5%) and least for those aged 65 and over (reducing their rate by only 0.1 percentage point, or 1%).

Moon (1993:6-7) terms the current Census Bureau fungible value method for valuing government medical insurance benefits an improvement over previous approaches but still flawed:

By allowing the value of benefits to fully fill in the gap between food and housing costs and the poverty line, the formula effectively assumes that all resources beyond food and housing would be devoted to medical expenses up to the poverty line. This is an improvement over counting the full value of medical benefits as part of resources, but it still has the essential problem of treating as fungible benefits that can be used for only one purpose. For the elderly, it effectively establishes a new—and lower—poverty threshold equivalent to the food and housing minimum budgets.

If the expansion of health insurance benefits that began in the 1960s had served to offset the out-of-pocket expenses component of the poverty thresholds, then it might have been appropriate to add insurance values to resources in some way without adjusting the thresholds. However, what happened is that demand for medical care increased dramatically: per capita medical care spending more than doubled over the 1970-1990 period, rising from \$1,166 to \$2,566 (in 1990 dollars). Individuals' out-of-pocket *share* declined, but the real-dollar average of out-of-pocket expenditures increased by 25 percent—from \$478 in 1963 to \$597 in 1990, both figures representing about 4 percent of per capita median income (Moon, 1993:23). In other words, health insurance paid for increased use of medical services, but it did not reduce average out-of-pocket expenses. One reason is that many forms of insurance require individuals to pay part of their expenses, so that the higher demand for medical

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<sup>21</sup> The poverty budget shares approach reduced the poverty rate in 1985 (the last year in which this approach was used) by 1 percentage point (7%) for the total population and by 3.1 percentage points (25%) for the elderly, similar to the effect of the fungible value approach (Bureau of the Census, 1986:Tables C, D).

<sup>22</sup> The Census Bureau estimates employer contributions through a model developed from a statistical match of the March CPS and the 1977 National Medical Care Expenditure Survey. The Census Bureau hopes soon to update its model by using data from the 1987 NMES—see Bureau of the Census (1993a:B-3-B-4).

care induced by the availability of insurance coverage carried with it somewhat higher out-of-pocket spending.<sup>23</sup>

One can debate the extent to which the poverty thresholds should be raised to allow for the increase in the standard and costs of medical care that has occurred since the 1960s, just as one can debate the extent to which the thresholds should be raised to allow for increases in the overall standard of living. Some spending for medical care services is discretionary (see below), but to add the value of health insurance benefits to income (in whole or in part) but not to add any amount to the poverty thresholds—to allow either for medical care needs that would be covered by insurance or for higher out-of-pocket expenses—is to ignore completely the increased costs of medical care and to assume the fungibility of medical care benefits. This approach is perverse, particularly for people with high health care needs (who may also have above-average out-of-pocket costs). As we recommend above (Recommendation 4.1), poverty estimates of this type are not appropriate.

*A Comprehensive Single Index* The treatment of medical care needs and resources in the poverty measure must be consistent for both the thresholds and the family resource definition. It must also be complete by taking account of total medical care needs, whether covered by insurance or paid for out of pocket. One option described by Moon (1993) that meets these criteria is to develop a comprehensive single index of poverty that includes both nonmedical and medical needs and resources. Under this approach, the thresholds would have an allowance for medical care spending covered by insurance and an allowance for out-of-pocket expenditures. Correspondingly, the value of each family's insurance coverage would be added to income up to the level of the budget allowance (i.e., there would be no value added for additional insurance coverage). Also, the amount of a family's out-of-pocket expenses that exceeded the average budget allowance would be subtracted from income; if a family had below-average out-of-pocket expenses, the difference would be *added* to income). Because of the great variability in medical care needs, Moon suggested separate thresholds by health care risk category on the basis of such characteristics as family size and health status, which could be proxied by age or measured directly.<sup>24</sup>

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<sup>23</sup> A study by the Office of Technology Assessment (1992) cautions that a causal relationship between health insurance coverage and increased use of medical care services is not established. However, the literature finds strong evidence of such a relationship (see, e.g., Hafner-Eaton, 1993; Hahn, 1994; Newhouse and The Insurance Experiment Group, 1993; Spillman, 1992; see also the review in Office of Technology Assessment, 1994). These findings support the expectation from economic theory that consumption of medical care, like other goods and services, is sensitive to relative prices (which are lowered by insurance coverage).

<sup>24</sup> Wide variations in total medical care expenditures (covered by insurance and out of pocket) are evident in the 1987 NMES (see Lefkowitz and Monheit, 1991). Thus, people aged 65 and over with Medicare and some private insurance who were in fair or poor health had

This option is consistent and complete, but it has many practical difficulties. On the threshold side, the problem is the necessity to develop a large number of different thresholds, which greatly complicates the poverty measure and distorts comparisons of the ability of different types of families to meet their basic (nonmedical) needs in terms of income-to-poverty ratios (welfare ratios). For each of the various thresholds, it must be decided how large or small to make the allowance for medical care needs.

On the resource side, there are problems with both the out-of-pocket and the insurance components. Some out-of-pocket expenditures are discretionary (e.g., elective cosmetic surgery) or incurred for services that are not strictly needed to treat a physical health problem (e.g., extra laboratory tests or ineffective drugs). To subtract such expenses from income could make people look poor when, in fact, the medical expenses were optional. Unfortunately, there are no data available with which to determine the proportion of out-of-pocket medical care expenses that could be termed discretionary or unnecessary, whether on an average basis or for people in particular health care risk categories (e.g., there are no data to determine the proportion of spending on cosmetic surgery that is in fact elective and not needed for physical health reasons). It seems unlikely that people would choose to pay for discretionary medical care expenses that moved them below the poverty line, but it could happen in some instances.<sup>25</sup>

With regard to the insurance component, there is the problem that people who lack insurance or have inadequate insurance but who either are not sick during the year or who receive uncompensated care could look poor when they are not. This result could come about because such people would have no or an insufficient insurance value added to their income to offset their insurance "needs" on the budget side. It is true that people lacking adequate insurance are more at risk than other people, but depending on their actual health experience during the year, they may not actually be poorer than other people.<sup>26</sup>

*A Two-Index Poverty Measure* To try to overcome some of the complexities of combining nonmedical and medical care needs and resources in a single poverty measure, some researchers have suggested a two-index ap-

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average expenditures of \$6,459, compared with \$2,575 for those in excellent or good health. For people under age 65 with some private insurance who were in fair or poor health, average expenditures were \$3,152, compared with \$1,047 for those in good health.

<sup>25</sup> Discretionary and unneeded medical care expenses would likely pose more of a problem for measuring the distribution of disposable income and income-to-poverty ratios across the entire population.

<sup>26</sup> It is one of the healthier age groups—people aged 18-24—who are most apt to report that they lacked health insurance coverage at any time during the year: 29 percent did so in 1992 compared with 15 percent of all people (Bureau of the Census, 1993b:Table 24).

proach. Moon (1993) represents the first attempt to flesh out how such a measure might be implemented. As developed by Moon, a two-index poverty measure would have a nonmedical needs threshold that would be compared with income minus actual out-of-pocket medical care expenditures. It would also have a medical needs threshold that would represent the value of a basic insurance package with no deductible or copayment provisions. This threshold would be compared with the value of a family's insurance package: if the package is insufficient because it requires out-of-pocket payments (e.g., for deductibles or premiums), the family's income (before subtracting actual out-of-pocket payments) would be compared with the nonmedical needs poverty threshold to see if enough additional income is available to cover the required expenses. If a family lacked health insurance coverage, its income would be evaluated to determine if the family could afford to buy a complete insurance package. People would be classified as poor if their family fell below either *one or both* of the nonmedical and medical needs thresholds.

Moon identifies many problems with trying to implement the medical component of a two-index measure. On the threshold side, it would be necessary to specify and price out a basic insurance package, something that would involve considerable judgment. Indeed, Moon suggests that a preferable procedure might be to use estimates of medical care expenditures for people covered by insurance, from such sources as the NMES, perhaps adding a factor to account for insurers' administrative costs. Another problem on the threshold side is that it would not suffice to have a single insurance package (or estimate of expenditures) as the standard: rather, multiple standards would be needed for different size families and for people in different health status categories (perhaps proxied by age). Finally, there would be a need to reprice the various insurance packages (or obtain updated expenditure estimates) at frequent intervals to keep pace with changes in the health care system and the implementation of any changes in the system.

On the resource side, there are many operational problems. Thus, it would be necessary to determine for each family:

- part-year versus full-year coverage. For example, families with Medicaid coverage beginning halfway through the year, after having to spend down their income, should not be assigned the same Medicaid value as families covered all year.
- coverage of family members. Some members may have more complete coverage than others.
- benefits provided by private insurance. Compared with the plan that is costed out for the thresholds, some actual plans might be more generous than needed for some services and not generous enough for others (i.e., there is a problem of fungibility among types of medical care benefits). Data would need to be obtained on plan benefits and also on the copayment requirements for the private insurance plan(s) held by families.

- the status of families without insurance. It would be hard to set an income cutoff to use to determine if families without insurance could afford it if they chose, because—unless the health care system is changed—insurance may not be available at any price to some people.

The advantage of a two-index approach is that it provides a clean measure of nonmedical resources assessed against nonmedical needs and then explicitly measures risk with regard to adequacy of insurance coverage (or ability to purchase such coverage and also pay required out-of-pocket expenses). However, the difficulties in defining the basic insurance package, keeping it up to date with changes in the health care system, and obtaining the necessary information each year on families' actual insurance coverage appear to be overwhelming.

Also, there is a fundamental asymmetry in the concept that underlies a two-index approach. It appropriately treats people with adequate (or more-than-adequate) insurance, in that it compares their insurance coverage with an insurance standard rather than adding insurance benefits to income and assuming that those benefits can be used for nonmedical needs. (This is the big problem in the work to date by the Census Bureau and others on valuing medical care benefits.) It also properly categorizes people with inadequate or no insurance coverage as medically at risk. However, it seems inconsistent to require that the *poverty* count include people who are medically at risk even though they have adequate income to meet their nonmedical needs. Some people who are medically at risk will indeed incur high out-of-pocket medical care expenses that will make them poor on the nonmedical side, but others will be healthy all year (or will have received uncompensated care) and hence will not necessarily be poor on the nonmedical side. To call such people poor because they had a high risk that never materialized seems illogical. Indeed, work by Doyle, Beauregard, and Lamas (1993:Table 1a) with data from the 1987 NMES indicate that a two-index measure could increase the poverty rate by 8 to 9 percentage points (60%) overall and by larger percentages for young adults and workers, even though many of these people had adequate income for their nonmedical needs.<sup>27</sup>

In sum, we conclude that there is a fundamental problem with trying to combine nonmedical and medical care needs and resources in a poverty measure: namely, that the two components are essentially measuring different things. The nonmedical component is assessing on a retrospective basis each family's actual ability to meet its needs during that year for such goods as food

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<sup>27</sup> Doyle, Beauregard, and Lamas (1993) estimate poverty rates from the 1987 NMES for the following: the current measure; a measure that subtracts average out-of-pocket medical care costs from the thresholds and subtracts both taxes and actual out-of-pocket medical expenses from gross income; a single-index comprehensive measure; and two variations of a two-index measure. See Chapter 5 for an estimate of the effect on poverty rates of the proposed measure.



and housing—needs that are universal and cannot be deferred. The medical component, in contrast, is measuring a *risk* that may not actually materialize. Thus, someone in a high-risk health category may have a good year and need only minimal medical care, but no one can have a year in which he or she does not need to eat. Therefore, including medical care needs and resources in the poverty measure, whether by a single or two-index approach, is to mix apples and oranges: goods (e.g., food), for which needs do not vary greatly within categories (e.g., family size), and medical care, for which actual needs can vary substantially from expected needs or risk.

### *Separate Measures of Medical Care Risk and Economic Poverty*

Given all of the conceptual and operational difficulties with the alternatives, we believe that the proposed approach—namely, to exclude medical care needs from the poverty thresholds and to subtract out-of-pocket medical care expenditures from income—is preferable. However, this approach is not without problems, and we would be remiss not to point them out.

First, there are some practical problems of implementation concerning the quality and sources of data for estimating out-of-pocket medical care expenditures. (These problems are not unique to the recommended approach—they also affect the one-index and two-index approaches described above.) Thus, recall and other errors by survey respondents can diminish data quality (e.g., respondents may report total expenditures rather than the out-of-pocket costs that remain after payments by their insurance plans). With regard to data sources, the March CPS has never asked about medical care costs. SIPP has regularly included a question on out-of-pocket expenses, but it has generally done so only once a panel and only for costs incurred in the month preceding the interview. Clearly, research and development will be needed to obtain data of reasonable quality for use in a poverty measure. It may be that initial implementation should be carried out by means of imputing out-of-pocket medical care expenses from other data sources.<sup>28</sup>

A more serious problem (which also affects other approaches) is that not all out-of-pocket expenses are necessary, and there is no easy way to separate discretionary from needed expenses. We considered capping the amount of

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<sup>28</sup> The NMES, which about once every 10 years collects very detailed information on medical care treatments and costs from households and from their health care providers and insurers, would be the obvious source for such imputations. Data from the 1987 NMES were used by Doyle, Beauregard, and Lamas (1993) and Weinberg and Lamas (1993) in analyzing the effects of a two-index measure of poverty. NMES may also provide guidance for the measurement of out-of-pocket expenses in SIPP (or the March CPS), although it would clearly not be possible to replicate its in-depth approach. The “bracketing” technique discussed above with reference to reporting of assets could perhaps be used to improve reports of out-of-pocket medical care expenditures in SIPP.

out-of-pocket expenses that would be deducted from income, similar to the proposal to cap the deduction of child care expenses from the earnings of working parents (see below). However, the two situations are not the same. The assumption is that additional child care expenses, above a reasonable allowance to make it possible to work, bring added benefits that the family chooses to pay for, so that, for purposes of poverty measurement, it makes sense to cap the deduction. But it does not make sense to cap the deduction for out-of-pocket medical care expenses when they are incurred to treat an illness or disability.<sup>29</sup> A sick person with high medical care expenditures is not made better off than a healthy person with no or relatively low expenditures; at best, the added expenditures serve only to restore the sick person to a healthy state.

Given that one cannot distinguish between discretionary expenditures (which, ideally, should be disregarded, i.e., not deducted at all) and expenditures that are needed to restore health, we decided not to propose a cap on the deduction for out-of-pocket medical care expenses for the poverty measure. However, this situation could change in the future. For example, if insurance plans that significantly limit families' out-of-pocket liabilities for medical treatment are widely available, then it may well be appropriate to cap the deduction. One could then assume that medical care spending above the limit was discretionary.

Finally, an objection to our proposed approach, voiced by Moon (1993), is that it does not explicitly acknowledge a basic necessity, namely, medical care, that is just as important as food or housing. Similarly, the approach devalues the benefits of having health insurance, except indirectly, in that people who have medical costs that are covered by insurance will be measured as better off than people who have to pay such costs out of pocket.

Moon suggests that one variant of the proposed approach that would acknowledge medical care needs is to have the poverty budget include an allowance for average out-of-pocket expenses. Under this approach, people with above-average expenses would have the difference subtracted from income, and people with below-average expenses would have the difference *added* to income. (Note, however, such a measure would still not acknowledge insurance benefits.) To be completely satisfactory, Moon argues that the poverty thresholds should vary in the allowance they make for out-of-pocket expenses by different family characteristics.

Yet to move in the direction of a poverty measure that accounts for medical care needs and resources leads right back to the complex set of difficulties discussed above for which there appear to be no solutions. Single-index approaches, whether dealing only with out-of-pocket expenses or with

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<sup>29</sup> Some of these expenses may also be unnecessary, but the consumer (the patient) usually has little control over treatment decisions by providers.

insurance values as well, entail all of the problems with multiple thresholds. Two-index approaches have a similar problem of defining the insurance standard appropriately for different types of families; furthermore, such approaches do not avoid the problem that the medical component is measuring risk, not the ability to satisfy actual needs during a particular year.

Moon (1993:18) suggests that a way out of this morass could be to have a clean nonmedical poverty measure and a *separate* health care risk measure. The two could always be cross-tabulated, but the poverty measure per se would be reserved for the nonmedical component. This suggestion is in fact our proposal. Not only do we recommend a consistent measure of economic poverty, in which disposable income net of out-of-pocket medical care costs is compared with a poverty budget for food, clothing, and shelter, and similar items, but we also support the development of one or more indexes of medical care risk.

The necessity to monitor people's risks of incurring medical care costs that exceed their ability to pay is clear. Current indicators that simply record the presence of any type of health insurance coverage are too simplistic (see, e.g., Bureau of the Census, 1993b:Table 24). What is needed are measures of the adequacy of coverage and the ability to pay for required out-of-pocket costs. It will be difficult to develop good measures, but the effort appears well worth the costs. We repeat, however, that measures of medical care risk should be developed separately from the economic poverty measure. To do otherwise is to overwhelm the poverty measure with operational and conceptual difficulties.

### Taxes

Both the concept that underlies the official poverty thresholds and the concept that we propose represent budgets for consumption after taxes; however, the current definition of family resources is before taxes. For consistent measurement, there is little disagreement that income and payroll taxes need to be taken into account: such tax payments represent a mandatory cost of obtaining income and hence are not available for consumption. It seems particularly important to take account of taxes because of frequent changes in tax laws that may leave gross incomes unchanged but affect net incomes to a significant degree.

The Census Bureau has considerable experience with estimating Social Security payroll tax and federal and state income tax liabilities (see below). Improvements in the methodology are certainly possible and should be pursued; also, for completeness, estimates should be developed for local income taxes, where applicable. However, there is no need to wait for further research to implement the tax adjustments that the Census Bureau has already developed.

We do not propose that adjustments be made to income for other kinds of

taxes, such as sales, excise, or property taxes. These taxes are an integral part of consumption, and the CEX expenditure data that we recommend be used to develop the reference family poverty threshold include them (e.g., clothing expenditures in the CEX include the applicable sales taxes). It is true that such taxes vary from locality to locality, so that the average amounts included in the thresholds may not be completely appropriate for specific areas (even with the housing cost adjustments by region and size of place). Yet it is clearly not feasible to develop the large number of thresholds that would be needed to take account of different levels of property and other consumption taxes across areas. It might be possible for people with above-average values of consumption taxes to subtract the difference from income (and vice versa for people with below-average values). However, the costs of obtaining the necessary data would be high and the measurement problems would be great.

#### *Census Bureau Tax Estimation Procedures*

For more than a decade, the Census Bureau has published experimental poverty estimates that deduct payroll and federal and state income taxes from annual income as measured in the March CPS (see, e.g., Bureau of the Census, 1993a). The current procedure for imputing Social Security payroll taxes is straightforward. CPS-reported wage and salary earnings are multiplied by the Social Security payroll tax for the employee portion up to the specified limit; CPS-reported net self-employment earnings are multiplied by the (higher) payroll tax rate for the self-employed up to the specified limit; and certain employees (based on unpublished statistics from the Social Security Administration) are assigned noncovered status (e.g., federal government employees and proportions of workers in certain occupation groups).

For imputing federal income taxes, including the refundable Earned Income Tax Credit, the current Census Bureau procedure involves a complex series of operations. The Bureau first assigns members of CPS households to tax filing units, using a set of rules to try to approximate Internal Revenue Service (IRS) filing provisions. Next, the Bureau calculates adjusted gross income by summing reported amounts for wages and salaries, net farm and nonfarm self-employment income, net rental and property income, dividends, interest, income from estates and trusts, private and government pensions, unemployment compensation, and alimony; plus a portion of Social Security income and imputed amounts for net realized capital gains; minus imputed contributions to Individual Retirement Accounts (IRAs). Statistics of Income (SOI) data from the IRS are used for the capital gains and IRA imputations; the May 1983 CPS pension supplement is also used to estimate probabilities for IRA contributions. No attempt is made to adjust for other exclusions from income, such as moving expenses or alimony paid.

Second, the Census Bureau determines which tax filing units itemize

deductions and the amount of their deductions. A statistical match of data from the March CPS and the AHS is used to determine mortgage and property tax amounts for homeowners in the CPS; probabilities of itemizing are applied to assign itemizing status;<sup>30</sup> and amounts of itemized deductions are computed using a matrix derived from SOI data.

Third, the Census Bureau computes the standard deduction according to the number of exemptions and calculates tax liabilities using the appropriate tax schedule for the simulated return type. Finally, the Bureau estimates the dependent care tax credit (using data from the June 1982 CPS supplement to estimate probabilities of tax filers paying for child care) and computes the EITC (which can be larger than the tax liability).

For estimating state income taxes for those states with such taxes (44 in 1992), the current Census Bureau procedures involve variants of the federal income tax simulation model. The definitions of tax filing units and adjusted gross income used in the federal model are used in the state models. Not all details of each state's income tax system are simulated, but the important aspects are accounted for. Census Bureau staff have found that their estimates of state income tax liability are biased upwards, probably because they use the federal definition of adjusted gross income and do not incorporate the various adjustments made by a number of states.

### *Assessment*

The simulation of Social Security payroll taxes, as noted above, is quite straightforward. In contrast, there are a number of problems with the simulation of federal and state income taxes (see Nelson and Green, 1986), some of which are particularly important for poverty measurement.

A key problem concerns the determination of dependent members of tax filing units. This classification is essential for computing initial tax liability and for computing the dependent care tax credit and the EITC, both of which are important for the working poor. The March CPS lacks information on whether children in one household are dependents of a taxpayer in another household and, conversely, whether a taxpayer is claiming members of another household as dependents. The March CPS also lacks other information (e.g., child care and homeowner costs) that could improve the accuracy of the tax simulations.

By comparison, SIPP has the advantage of including extensive information relative to federal income taxes. (SIPP also asks about state and local income taxes.) Generally, SIPP panels each year include a tax module that

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<sup>30</sup> The probabilities of itemizing are derived for homeowners by monthly mortgage categories from the 1979 Income Survey Development Program Research Panel and for renters by adjusted gross income categories.

asks about tax payments for the previous year. (SIPP panels also generally obtain information about dependent care and housing costs.) Questions on tax filing status, number of exemptions, type of form filed (joint, single, etc.), and schedules filed (A, C, etc.) are answered by more than 90 percent of respondents, but questions on adjusted gross income, itemized deductions, tax credits, and net tax liabilities have high nonresponse rates. The primary reason for the nonresponse is that respondents are asked to produce their tax form and use it as the basis for answers to these questions, but only about one-third do so; see Bureau of the Census, no date(a). The Census Bureau has begun work to develop a tax estimation model for SIPP similar to the one used for the March CPS. The SIPP tax information, even with quality problems, should make possible improved estimates of income tax liabilities for families in the survey.

### **Work-Related Expenses**

The current poverty measure takes no explicit account of expenses, such as child care and commuting costs, that are necessary to earn income. As originally developed, the official poverty thresholds implicitly included some allowance for such costs (through the multiplier), but the thresholds have never been adjusted to reflect increases in these costs due to changes in societal work patterns. In particular, many working families face sizable child care expenses that would not have been necessary 30 years ago. Perhaps more important, the fact that the allowance in the official thresholds for work-related expenses is averaged over all families means that the thresholds do not adequately distinguish between the needs of working and nonworking families. To properly assess poverty for both working families and nonworking families, we believe it is incumbent either to develop thresholds that appropriately account for needed work-related expenses or to deduct such expenses from income.<sup>31</sup> Our proposal is to deduct child care and other work-related expenses from income (rather than creating additional thresholds, for the reasons that we presented above).

#### *Child Care*

In 1960, an estimated 72 percent of families with children had a parent who could care for the children at home, while the remaining 28 percent had both parents in the work force or were headed by single parents. The situation was just the reverse in 1990, when an estimated 69 percent of families with children had both parents in the work force or were headed by single parents

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<sup>31</sup> Not discussed here are various arguments for distinguishing between working and non-working families in terms of the value of time, see Appendix C.

and only 31 percent had a parent at home (estimated from Bureau of the Census, 1992d:Tables 56, 67, 618, 620). While only a fraction of families with both parents (or the only parent in the work force) pay out of pocket for child care, the estimated share of their income that is spent on child care can be significant. Thus, in 1987, one-third of all employed mothers and almost three-fifths of employed mothers with a child under age 5 paid for child care. The average amount they spent accounted for 7 percent of their total family income. Of employed mothers with family income below or near the official poverty line, one-quarter paid for child care, and the average amount they spent accounted for 22 percent of their total family income (O'Connell and Bachu, 1990:Table 7).

In order to more appropriately characterize the poverty status of working versus nonworking families, we propose to deduct weekly out-of-pocket child care costs from the income of families with both parents or the only resident parent in the work force, for each week worked in the year. We further propose to limit the deduction to the earnings of the parent with the lower earnings or to the value of a cap that is adjusted annually for inflation, whichever is lower (see below).

To make this adjustment to income in the March CPS requires imputing child care expenses because the survey does not ask about expenditures, whether for child care or other items. However, information is available on the numbers and ages of children and on the work status of parents with which to make a reasonable imputation. In contrast, SIPP has regularly asked about child care costs, either as part of a detailed child care module or as a single question in one of the other modules. Indeed, we used SIPP data to impute child care costs to the March CPS to analyze the effects on poverty rates of implementing the proposed measure (see Chapter 5).

On the question of how high to set the cap for child care expenses, one possibility is to set it at a percentage of median expenditures, following the procedure that we recommend to derive the food, clothing, and shelter component of the poverty thresholds. Data from the 1990 SIPP indicate that median weekly child care expenditures for working families with such expenses were \$44 for families with one child and \$51 for families with two or more children.<sup>32</sup> However, amounts that are below these medians may be too low to serve as a *cap*, particularly for larger families, for several reasons. For example, they do not make allowances for such factors as the age of the children, and child care expenditures for children under 5 are considerably higher than for school-age children (see O'Connell and Bachu, 1990:Table 7). Indeed, the relatively low median expense by families with two or more children relative to families with one child is undoubtedly because more families in the former group have older children.

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<sup>32</sup> Based on tabulations prepared for the panel; dollar amounts are for 1992.

An alternative would be to use the caps specified for the federal income tax dependent care tax credit.<sup>33</sup> Currently, the IRS limits eligible dependent care expenses to \$2,400 a year for one dependent, or \$46 per week, and \$4,800 a year for two or more dependents, or \$92 per week. By comparison, the AFDC program currently allows a maximum deduction of \$175 per month (\$40 per week) for work-related child care expenses for each child aged 2 years or older and a maximum deduction of \$200 per month (\$46 per week) for each younger child, giving a maximum deduction for families with two children of \$86 per week. The Food Stamp Program has the same limits, and also allows deductions for day care expenses incurred for adult dependents and expenses incurred so that the caretaker can attend school.

Whatever cap is set, the guiding principle that we recommend is that it should represent a reasonable level of expenses necessary to hold a job, excluding additional expenses that parents may elect in order to provide enrichment for their children. In other words, we propose treating child care costs solely from the viewpoint of calculating a measure of disposable income that recognizes that some portion of the earnings of working families is not available for consumption.

We are very much aware that there are many other aspects of child care beyond out-of-pocket costs that are important to examine in order to measure well-being of children (and their parents) in a broader sense. The quality of the care is one key aspect. Families with high child care costs may be less well off in terms of resources available for consumption, but they may have a higher level of overall well-being if their expenditures are for a high-quality program that enhances the development of their children and correspondingly increases the mental comfort of the parents. Indeed, families with high child care costs may be better off on some dimensions than families with no such costs, if the latter situation results from leaving the children at home unattended (rather than because child care is donated by a grandmother or other loving relative or because the family receives a subsidy). As with the treatment of medical care expenditures, we believe that it is important to develop measures of the adequacy of child care, but we underline the necessity of keeping such measures separate from the economic poverty measure.

### *Other Work-Related Expenses*

Most workers incur commuting and other costs (e.g., union dues, licenses, permits, tools, uniforms) to hold a job and, consequently, have less than the full amount of their earnings available for consumption. Hence, we propose to subtract a flat weekly amount for other work-related expenses (updated annually for inflation) from the earnings of each adult for each week worked

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<sup>33</sup> Watts (1993) recommends this approach, and we adopted it for our analysis in Chapter 5.



in the year. The amount deducted should not exceed the person's earnings. For working families with children, the earnings of the parent with the smaller amount of earnings should limit the combined deduction for child care expenses and that parent's own other work-related expenses.

The reason to deduct a flat amount, rather than actual expenses, is because of the tradeoff that people often make between housing and commuting costs—by choosing a more expensive home closer to work or a less expensive one farther away. The adjustment to the poverty thresholds for geographic area differences in housing costs will be the same for all families in an area (see Chapter 3). For example, within a large metropolitan area that, on average, has higher housing costs relative to smaller areas in a region, the families of people who commute from outlying suburbs with cheaper housing costs will have the same housing cost adjustment as the families of people who commute short distances from more expensive, closer-in neighborhoods. For consistency, then, each worker needs to have the same work expense deduction.

Tabulations that we obtained from Wave 3 of the 1987 SIPP panel provide a basis for designating a flat weekly amount of work-related expenses.<sup>34</sup> They indicate that 84 percent of workers drove to work; 10 percent had parking or public transportation expenses; and 30 percent had other work expenses (e.g., for uniforms). Summing the three categories (driving, other transportation costs, and all other work expenses), 91 percent of all workers had some type of work expense. For workers with low to moderate family incomes (specifically, with per capita family income below the third decile), 74 percent drove to work; 10 percent had parking or public transportation expenses; and 25 percent had other work expenses. In all, 85 percent of these workers incurred some type of work-related expense.

In 1992 dollars, the mean weekly amount for combined work-related expenses for all workers (including those with no expenses) was \$29 (\$1,450 for a 50-week work year); the median weekly amount was \$17 (\$850 for a 50-week work year).<sup>35</sup> We believe it would be reasonable to develop an amount for the work expenses deduction as a percentage of the median. For our empirical analysis in Chapter 5, we deducted about \$14.40 per week (\$720 for a 50-week work year), which represents 85 percent of the median.

### Child Support Payments

Since the current poverty measure was developed, the number of parents who live apart from their children has grown, and a large fraction of them incur

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<sup>34</sup> The 1984-1987 SIPP panels included a work expense module. It would be useful to repeat such a module periodically, to determine if there is a need to realign the amount of the work expense deduction in real terms.

<sup>35</sup> Combined work-related expenses were calculated for the first job reported by each worker in Wave 3 of the 1987 SIPP panel by summing the reported weekly amount for parking and

child support obligations. A recent estimate (Sorenson, 1993), using data from the 1990 SIPP panel, was that 14-18 percent of men aged 18-54 were noncustodial fathers. The range (rather than one number) comes from two factors—nonresponse to the question on parenthood and an apparent undercount of black noncustodial fathers relative to black custodial mothers. About 44 percent of noncustodial fathers paid child support, and, on average, the payments accounted for about 9 percent of their families' incomes (calculated from Sorenson, 1993:Table 3).<sup>36</sup>

The current poverty measure counts child support payments as income to the recipient families, but it does not subtract such payments from the income of the payers. Yet child support payments, which are not discretionary in the sense that gifts of money to another household would be, cannot be used to support consumption by members of a payer's current family. For consistency, we propose to subtract child support payments from the income of the paying family (and to continue to count them as income to the recipient family).

The March CPS does not ask about child support payments to another household, and no information is available with which to make a reasonable imputation. The addition of one two-part question—whether the respondent pays child support and, if yes, how much—would remedy this deficiency. SIPP, in contrast, has regularly asked about child support payments, and we used SIPP data to estimate the effect on the poverty rate of subtracting child support payments from the payer's income (see Chapter 5).

### Home Ownership Services

Economists have long argued that estimates of families' economic resources, to be comparable for renters and homeowners, need to take account of the flow of services that owners obtain from their homes. Thus, analysts who estimate resources by using a consumption definition almost always add the rental equivalence value (or "imputed rent") for homeowners to their other expenditures. The value added is net of owners' actual outlays for mortgage principal and interest, property taxes, and maintenance costs (i.e., nothing is added if owners already have mortgage, tax, and maintenance expenses that equal or exceed the estimated rental equivalence value). The intent is to measure housing consumption in a comparable manner for renters and owners by estimating what an owner would have had to pay in rent (not including

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public transportation, the reported annual amount divided by 12 for all other expenses (e.g., uniforms), and the reported weekly miles driven to work times the 1987 IRS mileage allowance of 22.5 cents per mile. Mean and median values for all workers were then updated for price changes to 1992.

<sup>36</sup> Presumably, some noncustodial mothers also pay child support, but Sorenson's analysis was restricted to men.

utilities). If the rental equivalence value is not added to homeowners' consumption, then people who own their homes outright or who have housing costs below the rental value of their homes would appear to consume less than renters or homeowners with higher costs.<sup>37</sup>

The same logic applies to resource estimates that are based on an income definition, namely, that people with low or no mortgage payments or other homeownership costs should have a rental equivalence value added to their income to recognize the fact that they do not face the same housing costs as renters or other homeowners. The concept of imputed rent is hardly intuitive or palatable to many people, yet, theoretically, the case is unarguable: owners with low housing costs have more of their income available for consumption of other items (e.g., food) and, hence, not to include imputed rent is to underestimate their income relative to their poverty threshold. The imputed rent value would be net of mortgage and other costs that do not exceed the amount of imputed rent: that is, we do not suggest that homeowners who assume mortgage payments that exceed the rental value of their home obtain a deduction from income. An alternative would be to develop separate thresholds for owners with low or no housing costs and other owners and renters.

Data from the 1991 American Housing Survey indicate that 39 percent of low-income households own their homes, compared with 68 percent of other households.<sup>38</sup> Among low-income households headed by someone aged 65 or older, 61 percent own their homes, compared with 81 percent of other households headed by someone aged 65 or older (Grall, 1994:Tables 4,5). The question is what proportion of low-income homeowners would likely have significant amounts of imputed net rent added to their income. A high proportion of low-income homeowners—66 percent—do not have a mortgage. However, a large proportion of low-income homeowners who do not have mortgages (62%) nonetheless have housing costs (for property taxes, insurance, and utilities) that are 30 percent or more of their income (34% have housing costs that are 50% or more of their income). An even higher proportion of low-income homeowners who have a mortgage (89%) have housing costs that are 30 percent or more of their income (65% have housing costs that are 50% or more of their income) (Grall, 1994:Tables 5,11,12). Overall, perhaps one-fourth of low-income homeowners could have significant

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<sup>37</sup> Similarly, consumption-based resource estimates typically include the estimated service flows from automobiles and consumer durables (and, correspondingly, exclude actual expenditures on these items).

<sup>38</sup> The AHS "low-income" measure is not the same as the current poverty measure: it uses the official poverty thresholds, but it defines the unit of analysis as the whole household, not the family, and it measures income for the 12 months preceding the interview, which is not necessarily a calendar year. There are other differences as well (see Bureau of the Census, 1991).

amounts of imputed net rent added to their income that could possibly raise them above the poverty line (those owning their homes free and clear with other housing costs less than 30% of income). These homeowners represent one-tenth of all low-income households.

Although, for consistency, imputed net rent should be added to homeowners' income for purposes of poverty measurement, the idea is not easy to implement, at least not in the near term. Rental equivalences can be determined by asking owners what they think their houses would bring in rent. The CEX includes such questions, which could be added to SIPP or the March CPS, but the responses are likely to be subject to reporting errors. Another method is to collect data on housing characteristics (a topic not currently covered in SIPP or the March CPS) and, by means of hedonic regression equations, estimate rental equivalences for houses of particular types (e.g., with one, two, or three bathrooms, with or without air conditioning, etc.). This method requires asking a large number of questions of renters, including net rent and characteristics of their housing for input to the regressions, and also of owners, including characteristics of their housing for imputing rental equivalence from the estimated regression coefficients. With either method, homeowners must be asked about their mortgage payments and property taxes in order to make a net calculation; SIPP obtains this information but the March CPS does not.

Finally, some analysts argue (see, e.g., Ruggles, 1990) that it may not always be appropriate to base imputed rent on the characteristics of one's current home. Thus, many elderly people who have paid off their mortgages or have low payments continue to live in homes that are larger than their current needs. It would seem inappropriate to impute a full rental value for a larger-than-needed home, although it is not clear what type of downward adjustment to the value would be appropriate. One approach would be to cap the amount of imputed rent at the level of the housing component of the poverty thresholds to recognize that the imputed rent offsets housing costs but does not represent additional money that is actually available for other consumption.

Given the practical difficulties, we do not propose that the income calculated for a family for purposes of poverty measurement now include imputed rent. However, we urge that high priority be given to research to develop data and methods that could make possible a reasonably accurate calculation of imputed net rent. The next regular review of the poverty measure should give serious consideration to revising the income definition to include imputed net rental values in homeowners' income.