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THE CASE FOR "DIRECT" MEASURES

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THE CASE FOR "DIRECT" MEASURES

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ABSTRACT

Although there has been much discussion in the United States regarding the definition of economic poverty, we continue to measure poverty almost exclusively in terms of current income. However, there are many reasons to supplement measures of income-poverty with “direct” measures of poverty, that is, with measures that capture the inadequate consumption of particular goods and services. First, direct and indirect measures of poverty represent alternative conceptions of poverty. Second, experiences of “direct” poverty are of both normative and instrumental concern. Third, direct measures of poverty have a number of practical uses, particularly in the context of welfare reform.

In recent years, there has been much discussion in the United States regarding the definition and measurement of economic poverty. The most widely publicized report, *Measuring Poverty: A New Approach* (Citro & Michael, 1995), describes revisions to the "official" poverty definition recommended by the Panel on Poverty and Family Assistance, a panel established by the Committee on National Statistics of the National Research Council at the request of the U.S. Congress. This report extends research conducted by Ruggles (1990), Ruggles and Williams (1989), Renwick and Bergmann (1993), the U.S. Census Bureau (1995), and others.

Although this discussion is productive and may lead to an improved official definition of poverty, it has focused almost exclusively on measures of income-poverty. Only a handful of scholars in the U.S. (e.g., Gundersen, 1996; Haveman & Buron, 1993; Mayer & Jencks, 1989; Rodgers & Rodgers, 1993) have proposed supplemental measures of poverty based on something other than current income.[1] The predominance of income-based measures of poverty implies that poverty is a unidimensional construct, when, in fact, it is multidimensional (Desai & Shah, 1988). As Sen (1979) has noted, there are at least two conceptions of economic poverty: "Direct" measures of poverty define as poor "those whose actual consumption fails to meet the accepted conventions of minimum needs," while measures of income-poverty define as poor "those who do not have the ability to meet these needs within the behavioral constraints typical of that community" (p. 291; see also Ringen, 1988).

Throughout this paper, "material deprivation" and "material hardship" refer to the inadequate consumption of particular goods and services such as food, housing, clothing, and medical care, that is, to direct measures of poverty. It is argued below that material deprivation is an important object of scientific investigation and that measures of income-poverty may not identify those who experience this type of deprivation. This discussion has important implications because measures of income-poverty are widely used. For example, estimates of official poverty rates are used to assess the relative economic well-being of various demographic groups, and changes in these poverty rates are frequently used to evaluate economic performance and public policy. Estimated poverty rates are also used to allocate federal funds among states or other localities,[2] and poverty guidelines[3] are used to determine whether individuals are eligible for such programs as Medicaid, Food Stamps, and Head Start (Citro & Michael, 1995, Table D-1). If these income-poverty thresholds do not accurately identify families that experience material hardship, then important resources--in the form of financial and in-kind assistance; program and policy planning; and scholarly effort--may be misdirected. In this case, it may be important to supplement measures of poverty with measures of deprivation. On the other hand, if measures of poverty do indeed capture experiences of material deprivation, then the familiar and simpler measures of poverty may suffice--at least in the current social, economic, and political environment.

This paper is organized as follows: The first section places direct measures of poverty in the context of existing poverty measures. The second section presents a rationale for supplementing measures of income-poverty with measures of material deprivation. The third section summarizes and concludes.

EXISTING MEASURES OF POVERTY

Amartya Sen’s discussion of well-being suggests a very general classification scheme for existing measures of poverty. According to Sen (1992, p. 39), well-being refers to the quality (i.e., “wellness”) of a person’s being. However, there are three distinct interpretations of well-being (Sen, 1985). The first involves utility: Well-being reflects the extent to which one is “satisfied” or the extent to which one’s desires are fulfilled. The second interpretation involves "opulence": Greater command over commodities corresponds to greater well-being. The third interpretation, Sen's own, involves "functionings." Sen (1985, p. 10) suggests that well-being is reflected in a person's achievement, that is, what she manages to do or to be with the commodities and characteristics at her command.

A relatively small number of scholars have considered measures of poverty that reflect the notion of utility. In short, these researchers define poverty as a certain welfare level u and seek to determine how much income various family types need to obtain u . Typical questions used to define "subjective" poverty thresholds include: (1) the minimum income question ("Living where you do now and meeting the expenses you consider necessary, what would be the smallest income [before any deductions] you and your family would need to make ends meet?"); and (2) the income evaluation question ("Which after-tax monthly income would you, in your circumstances, consider to be very bad? bad? insufficient? sufficient? good? very good?"). This approach to poverty measurement was of particular interest in the 1970s and 1980s (e.g., Colasanto, Kapteyn, & van der Gaag, 1984; Danziger, van der Gaag, Taussig, & Smolensky, 1984; Goedhart et al., 1977; Hagenaars, 1986; van Praag, Spit, & Van de Stadt, 1982).

Although subjective assessments of economic well-being provide important information, it is not clear that subjective thresholds should be used to define poverty.[4] Recent research indicates that respondents do not interpret the relevant questions and response categories consistently and have difficulty estimating the necessary income and expenditure information (Garner & de Vos, 1995; 1996). More generally, the fact that utility is shaped by experience may make subjective measures of poverty and well-being undesirable. In other words, "a person who is ill-fed, undernourished, unsheltered and ill can still be high up in the scale of happiness or desire-fulfilment if he or she has learned to have 'realistic' desires and to take pleasure in small mercies" (Sen, 1985, p. 21), but it is not clear that this person is better off than one with better living conditions but more ambitious desires.

Much more widely accepted are measures of poverty that reflect command over resources. In the U.S., we define poverty almost exclusively in terms of current income: According to our official poverty definition, families whose annual incomes fall below certain minimum thresholds are considered poor.[5] Although there has been much discussion in recent years regarding ways to improve our definition of poverty (e.g., Citro & Michael, 1995; Renwick & Bergmann, 1993; Ruggles, 1990; Ruggles & Williams, 1989; U.S. Bureau of the Census, 1995), these recommendations have largely emphasized the development of improved measures of current economic resources and improved poverty thresholds. Thus, these revised poverty measures remain firmly grounded in the notion of "opulence."

Finally, a handful of scholars (e.g., Donnison, 1988; Gundersen, 1996; Mauldon, 1996; Mayer, 1993; Mayer & Jencks, 1989; 1993) have considered more "direct" measures of poverty. These measures indicate whether individuals or households actually consume minimum levels of particular goods and services (Ringen, 1988; Sen, 1979). Because they capture actual rather than potential outcomes, direct measures of poverty are related to functionings. In particular, direct measures of poverty (inversely) measure certain *basic* functionings--such as being well-nourished, being adequately sheltered, and being in good health--that are necessary inputs for higher-level functionings (Sen, 1993, note 30).[6]

RATIONALE FOR DIRECT MEASURES OF POVERTY

The rationale for a scientific interest in direct poverty measures is three-fold: First, direct and indirect measures of poverty are not simply alternative ways to measure poverty but actually represent alternative *conceptions* of poverty (Sen, 1979). Second, material deprivation is of both normative and instrumental concern. Third, deprivation measures have a number of practical uses and are therefore important supplements to measures of income-poverty.

Income-Poverty and Material Deprivation as Alternative Conceptions of Poverty

Because living conditions are shaped by much more than current income (Mayer, 1993; Mayer & Jencks, 1989; Sen, 1979; 1981; 1993), income and material well-being, or poverty and material deprivation, are conceptually distinct.[7] Households with the same "income-to-needs ratio" (annual household income divided by the household's official poverty threshold) may have different living standards for several reasons. First, indicators of annual income may misrepresent actual household economic and material resources (Mack & Lansley, 1984, pp. 129-132; Ringen, 1988; Rodgers & Rodgers, 1993). Households with low levels of current income may have accumulated savings which can be used to purchase goods and services,[8] and households with access to credit may borrow to finance current consumption. Moreover, goods and services may be obtained without income, savings, or credit. As Ringen (1988) suggests:

> Income is a useful resource only in consumer markets, but consumption is produced and distributed in many other "markets" as well. We produce consumption for ourselves within households, we are given consumption goods as gifts, we exchange consumption goods via barter, we receive "free" services from the government, we consume leisure, and we enjoy the free consumption of public goods. (p. 358)

In fact, since households may obtain current consumption goods and services from several sources, measures of deprivation might identify the "truly poor," that is, those who do not have access to savings, credit, or formal and informal sources of assistance.

Second, households face different demands on their economic resources (Mack & Lansley, 1984, pp. 129-132; Ringen, 1988; Sen, 1985; 1987a; 1992). The need for out-of-pocket health care and child care expenditures varies across households, for example, as does tax liability. Households also face substantial cost-of-living differences, particularly for housing (see, e.g., Kokoski, Cardiff, & Moulton, 1994). Despite these phenomena, official poverty thresholds are adjusted only for differences in household need attributed to household size and--for the elderly--age.[9]

Third, our official definition of poverty has not been adjusted for important changes over time in public assistance benefits and consumption patterns. For example, the proportion of *in-kind* public assistance benefits (e.g., Food Stamps, Medicaid, and housing subsidies) has increased,[10] but these benefits are not counted as income. Therefore, officially poor families may be less vulnerable to deprivation than they were in the past ("Improving the Measurement," 1998). On the other hand, as a result of changing consumption patterns and changing relative costs, families now spend larger portions of their incomes on health care and child care and a smaller portion on food. Therefore, the appropriate multiplier is likely to be greater than three, implying that poverty thresholds should be higher (Ruggles, 1990). This suggests that poor families may be more vulnerable to material deprivation than they were in the past. Finally, indexing poverty thresholds by the Consumer Price Index may be inappropriate because low-income families spend a greater proportion of their incomes on food, housing, and other necessities than more affluent families. If the prices of these items have changed at different rates than the prices of other items, then income-poverty ratios will be biased indicators of the ability to purchase necessities (Ruggles, 1990; Wolff, 1997, p. 111). For all these reasons, measures of income-poverty--and, in particular, our official definition of poverty--are not likely to be valid proxies for material deprivation.[11]

Empirical studies confirm the distinction between material hardship and income-poverty. For example, Mayer and Jencks (1989) found that a family's income-to-needs ratio explained only 24 percent of the variance in the number of material hardships experienced. At an aggregate level, several studies indicate that trends in the distribution of material deprivation have not paralleled trends in the distribution of income, at least during the 1970s and 1980s (Jencks & Torrey, 1988; Mayer, 1993; 1997a; 1997b; Mayer & Jencks, 1993). These conceptual and empirical distinctions provide an important rationale for supplementing measures of income-poverty with measures of deprivation.

<u>The Issue of Preferences</u>

Before ending this discussion of poverty and deprivation as conceptually and empirically distinct, it is important to address the issue of "preferences" or "tastes." In addition to the reasons cited above, households with similar economic resources may have different living standards due to differences in values and priorities. For example, a particular household may choose to live in a housing unit that the Census Bureau would classify as overcrowded, perhaps so that an adult can be close to his employer or so that children can attend a particular school. Or, to take a more pernicious example, a household may experience food shortages because the householder "chooses" to spend a portion of household income on illegal drugs. The possibility that households may have low consumption levels despite adequate income levels is frequently cited as an argument for income-based measures of poverty. As Watts (1977a) suggests:

> Instead of arguing that anyone who consumes less than X units of food or Y units of housing is poor, [a definition of poverty based on constrained choices] would argue that anyone who has sufficient command over goods and services to achieve X and Y simultaneously must be at least as well off if he actually chooses some other combination. (p. 25)[12]

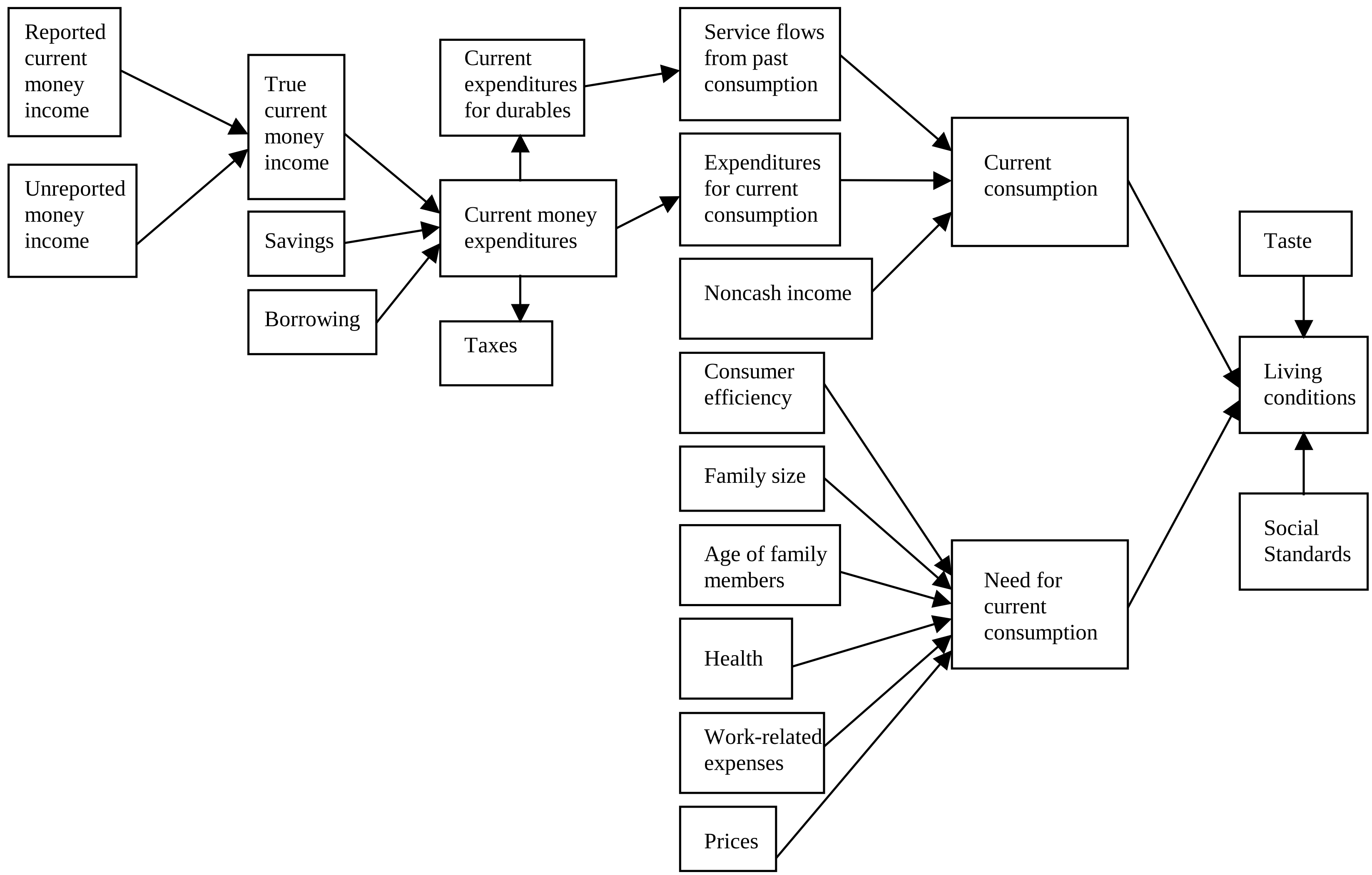
While it is true that measures of deprivation are likely to be more confounded by differences in preferences than measures of income-poverty, the causal relationship between preferences and deprivation may be overstated.[13] Using survey data from approximately 1200 residents of Great Britain, Mack and Lansley (1984, pp. 118-123) compared the ownership of necessities with the ownership of other goods in order to test the hypothesis that deprivation is caused by preferences and/or financial mismanagement. They found that households that lacked necessities generally lacked non-necessities as well. Moreover, the ownership of non-necessities among households lacking necessities could frequently be explained by past circumstances, by the particulars of current household situations, or by the relatively low cost of particular non-necessities.

Scholars have also argued for the importance of deprivation measures *despite* small differences in consumption due to preferences. According to Mack and Lansley (1984), “that people spend a small proportion of their income on goods that are not essential, whether cigarettes or the other 'non-necessities' identified, does not make their lack of necessities any less of a deprivation” (p. 125). Mayer and Jencks (1989) take this argument one step further, suggesting that the American public is more concerned about material hardship than about the adequacy of incomes:

> If a poor family is getting adequate food, shelter, and medical care, few Americans worry about whether it can afford other amenities, such as new clothes, a television set, or an automobile. And if families do not get adequate food, shelter, or medical care, most Americans seem to think the government should try to help in some way, even if the problem is caused by incompetence, profligacy, perversity, mental illness, or alcoholism rather than low income. (p. 89)

A useful summary of the complex relationship between income and living conditions is diagrammed in Mayer (1993, Figure 1) and reproduced here as Figure 1.

Figure 1 Determinants of Living Conditions (Source: Mayer, 1993, Figure 1)



Material Deprivation: Normative and Instrumental Issues

The previous section demonstrates that material deprivation and income-poverty are different phenomena. Still, it is important to show why researchers and policy-makers should be concerned about deprivation. Consider first normative concerns: An individual who lacks subsistence goods and services will almost certainly lack “positive freedom” (Berlin, 1969), that is, the freedom to do or to be. For example, only those with adequate food, shelter, and medical care have freedom from avoidable morbidity and from premature mortality (see, e.g., Sen, 1989). With this issue in mind, many have asserted that human beings have the “right” to basic necessities that ensure an existence worthy of human dignity. This belief has been embodied in several key documents (e.g., Franklin Roosevelt’s “Economic Bill of Rights,” the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights). Sen’s (1985; 1987a; 1987b; 1992) notion of functionings is also relevant. Sen suggests that well-being is the product of a number of functionings and that some (e.g., being well-nourished, being in good health) are intrinsically valuable.

In addition to this normative rationale, there are also utilitarian reasons to eliminate material deprivation. Most fundamentally, when nutritional, health, and shelter needs are met, individuals are more likely to be “productive,” in a broad sense. For example, well-nourished, healthy, and adequately-sheltered children are likely to attend school more regularly, to perform better in school, and to score higher on tests of cognitive ability (see, e.g., Birch & Gussow, 1970; Brown & Pollitt, 1996; Conger, Conger, & Elder, 1997; Katsura, 1984; Meyers, Sampson, Weitzman, Rogers, & Kayne, 1989; Sherman, 1997; World Bank, 1993). These outcomes, in turn, are likely to impact future labor productivity and earnings. Similarly, well-nourished, healthy, and adequately-sheltered adults are likely to have more regular employment, to be more productive employees, to be more effective parents, and to participate more actively in their communities, among many outcomes (see, e.g., Arnaud, 1993; Griffin & McKinley, 1994; Haveman, Wolfe, Kreeder, & Stone, 1994; Katsura, 1984; Lee, 1982; World Bank, 1980; 1993). At the aggregate level, improvements in nutrition, primary health care, and housing are likely to contribute to social stability, a healthy civil society, labor productivity, economic growth, and a more equal distribution of income and wealth (Beverly & Sherraden, 1997; Streeten, 1995).

Practical Uses for Measures of Material Deprivation

In addition to these normative and instrumental concerns, it is argued here that deprivation measures can fulfill a number of practical purposes which measures of income-poverty alone cannot. As noted above, over the past 25 years, the proportion of means-tested benefits received in the form of cash has decreased, while the proportion of in-kind benefits has increased. However, federal and state governments have not engaged in systematic efforts to monitor food, medical, or housing-related hardships (Mayer & Jencks, 1989). In other words, because existing measures of economic and material well-being are not consistent with public policy interventions, it is difficult to accurately assess the impact of these transfers (Blank, 1997).

This situation has become increasingly problematic with the passage of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, which transfers much responsibility for the nation's welfare system (i.e., public assistance for disadvantaged families) from the federal government to state governments. In particular, states now receive federal funding in the form of block grants and have great discretion regarding eligibility requirements and the kinds of services provided. States may choose, for example, to replace cash assistance with services such as job training, child care services, or even abstinence education. There is great interest in assessing the impact of Temporary Assistance to Needy Families (TANF) on disadvantaged households, but, since participants will not necessarily receive cash assistance, measures of income-poverty must be supplemented by other measures of economic and material well-being ("Improving the Measurement," 1998; Gundersen, 1996). Measures of material deprivation could play an important role in evaluations of TANF.

Deprivation measures might be used in conjunction with measures of income-poverty in at least two additional ways. First, it may be possible to use deprivation data to identify income thresholds (with adjustments for household size and perhaps other variables) below which the probability of experiencing deprivation begins to increase rapidly (Donnison, 1988; Townsend, 1979). These "deprivation thresholds," if they exist, would have important implications for the debate regarding appropriate poverty thresholds and perhaps regarding household equivalence scales.[14] Second, one could create a particularly "strict" definition of poverty by combining income and deprivation information. In other words, one might choose to define as poor only households that have low levels of income *and* low levels of consumption (Ringen, 1988). Such a definition would appeal to those who do not wish to target resources toward households who "choose" low levels of consumption or toward those who have low income but do not experience material deprivation because they have alternative sources of consumption goods and services.

SUMMARY AND CONCLUSIONS

In the United States, our conceptions of economic well-being are firmly grounded in the notion of "opulence," and our measures of economic poverty are based almost exclusively on current income. However, economic poverty is clearly multi-dimensional, and many scholars have identified a need for "direct" measures of poverty, that is, measures that reflect actual consumption patterns or living conditions. It is important to supplement measures of income-poverty with measures of material deprivation for several reasons.

First and most fundamentally, the continued existence of material deprivation--particularly in a country as wealthy as the United States--is inconsistent with an ethic of human solidarity, which views poverty as a threat to human welfare and assumes that human suffering is an avoidable product of social, political, and economic conditions (Nickel, 1987). Although this statement is normative, it appears to be one to which many Americans ascribe. As Mayer and Jencks (1989) suggest, the American public appears to be more concerned about material deprivation than about the adequacy of incomes.

Second, if Mayer and Jencks (1989) are correct, then it is critically important to determine whether income-poverty is a valid proxy for material deprivation. The official measure of income-poverty has far-reaching implications: As noted above, estimates of official poverty rates are used to assess the relative economic well-being of various demographic groups, and changes in these poverty rates are used to evaluate economic performance and public policy. Estimated poverty rates are also used to allocate federal funds among states and other localities, and poverty guidelines are used to determine eligibility for public and private assistance programs. If, as hypothesized here, the official measure of income-poverty does not capture experiences of material hardship, then many financial and in-kind resources are misdirected. Only by identifying the populations which are most vulnerable to material deprivation can we target resources to the most needy individuals and communities, and only by monitoring changes in deprivation in these populations can we identify programs and policies that reduce the suffering of disadvantaged families.

Finally, as the proportion of means-tested benefits received in the form of cash has decreased--especially with the passage of the Personal Responsibility and Work Opportunity Act of 1996--measures of income-poverty have become less useful tools for assessing the impact of welfare programs. As Mayer (1993) suggests:

> Economic inequality has many dimensions, of which income is only one. Legislators have always known this and have developed a wide range of policies that seek to reduce material inequality among people whose incomes are very unequal. Scholars and policy analysts who want to assess trends in economic inequality need to become at least as eclectic as the legislators whose behavior they seek to influence. (p. 181)

One source of data for a direct measure of poverty is the Survey of Income and Program Participation (SIPP). The SIPP is a multi-panel, longitudinal survey of the civilian, non-institutionalized U.S. population conducted by the Census Bureau. The SIPP has occasionally included questions regarding the adequacy of food consumption, the adequacy of housing, access to medical care, ownership of durable goods, and so forth. Currently, these data may be used to estimate the extent and distribution of material hardship during the early 1990s and to begin assessing the impact of various programs and policies on hardship. When more recent SIPP data become available, researchers will be able to use data on changes in hardship to assess more rigorously the impact of economic and social policy on hardship. Comparing the results of these studies with the results of studies examining income-poverty will provide important insight regarding the adequacy of existing measures of income-poverty. And, if these comparisons confirm that income-poverty and material hardship are empirically distinct, these studies will have important implications for programs and policies which seek to reduce economic poverty.

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ENDNOTES

[1] For alternative measures of poverty proposed in European countries, see, for example, Townsend (1979), Mack and Lansley (1984), Desai and Shah (1988), and Goedhart, Halberstadt, Kapteyn, & van Praag (1977).

[2] In fiscal year 1994, for example, the federal government transferred more than $30 billion to state and local jurisdictions on the basis of official poverty rates ("Better Tools,"1998).

[3] Poverty guidelines, issued annually by the U.S. Department of Health and Human Services, are developed by smoothing the official poverty thresholds for various family sizes (Citro & Michael, 1995, Appendix D).

[4] The Census Bureau took a similar perspective when it decided to include the minimum income question in a recent panel of the Survey of Income and Program Participation (Kominski & Short, 1996).

[5] These poverty thresholds are based on poverty lines developed in the early 1960s by Mollie Orshansky, an economist at the Social Security Administration. The Department of Agriculture had estimated the amount of money needed to purchase a minimally adequate diet. Orshansky modified this food budget for various family types and, since the typical family of three or more persons spent about one-third of its income on food, Orshansky multiplied these figures by three. With a few minor revisions, our current thresholds are these same thresholds, adjusted for annual changes in the Consumer Price Index (Fisher, 1992).

[6] These basic functionings are often conceptualized in terms of "basic needs" (e.g., Galtung, 1980; Streeten, Burki, Haq, Hicks, & Stewart, 1981).

[7] Note the parallel between this research and international development literature: For several decades, development economists have sought to create direct measures of well-being to supplement measures of Gross National Product or Gross Domestic Product (see, e.g., Drewnoski, 1970; Estes, 1984; 1988; Hicks & Streeten, 1979; McGranahan, Richard-Proust, Sovani, & Subramanian, 1972; Morris, 1979; Ram, 1982; United Nations, 1954; United Nations Development Program, 1990).

[8] For estimates of the incidence of poverty spells when assets are taken into account, see Ruggles and Williams (1989).

[9] It is also important to note that the equivalence scales inherent even in these relatively simple adjustments have been criticized (e.g., Ruggles, 1990, Chapter 4).

[10] In the early 1960s, less than 20 percent of public means-tested benefits was transferred to low-income individuals in the form of in-kind benefits. In the early 1990s, the comparable figure was greater than 70 percent ("Improving the Measurement," 1998).

[11] Of course, revised measures of income-poverty, such as that proposed by the Panel on Poverty and Family Assistance (Citro & Michael, 1995), might better identify families experiencing material hardship than our official measure of poverty. However, even the best measure of income-poverty is unlikely to capture all differences in resources and need.

[12] Although Watts (1977b) is not referring exclusively to an income-based definition of poverty, income is the most common measure of "command over goods and services."

[13] It is also worth noting that measures of income-poverty are confounded by differences in preferences for *leisure* (Haveman & Buron, 1993) and that households may have low levels of

current income without experiencing material deprivation. In other words, measures of income-poverty have similar conceptual weaknesses.

[14] It is important to note that the idea of deprivation thresholds has stirred quite a bit of debate. Piachaud (1981; 1987) and Ringen (1988, note 1) argue that there is no reason to expect deprivation thresholds to exist, particularly if income is a poor proxy for consumption. On the other hand, several researchers (e.g., Desai & Shah, 1988; Mack & Lansley, 1984; Townsend, 1979) in Britain claim to have found thresholds at approximately 150 percent of the supplementary benefit level. In any event, Mack and Lansley (1984) are correct to point out that families at the bottom of the consumption distribution are likely to be poor, even if these thresholds do not exist.