POVERTY USING OFFICIAL AND EXPERIMENTAL MEASURES

Introduction

The current official poverty measure, which the federal government uses both in publishing statistics on income and in setting eligibility standards for certain public programs, was developed in the early 1960s.[1] Only a few minor changes have been implemented since it was first adopted in 1965. Concerns about the adequacy of the current poverty measure have increased among academic researchers and policy makers during the last decade. In response to a request by a congressional committee for an independent scientific study of poverty including the concept, measurement methods, and information needs for poverty measurement, the National Academy of Science (NAS) established the Panel on Poverty and Family Assistance. The panel released its report titled *Measuring Poverty: A New Approach* in 1995. After briefly reviewing the current official poverty measure and the NAS panel's new approach to poverty measurement, this paper presents experimental measures of poverty as of 1999,[2] particularly focusing on the population age 65 and older.

Official Poverty Measure and Its Changes

The official poverty measure compares the current money income of families with a set of predefined poverty "thresholds." These thresholds were originally developed in 1963-1964 by Mollie Orshansky in the Social Security Administration. Orshansky based her poverty thresholds on the economy food plan -- the cheapest of four food plans[3] developed by the U.S. Department of Agriculture (USDA). The USDA dietitians, using complex procedures, developed nutritionally adequate diets

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[1] The Census Bureau poverty "cutoffs" are used for statistical purposes only. That is, they do not affect the allocation of federal dollars. The Department of Health and Human Services (HHS) publishes poverty guidelines that are different from the Census thresholds. The HHS guidelines are used for administrative purposes to determine financial eligibility for assistance or service under federal programs. Because the Census thresholds are not issued until the summer or fall of the calendar year following the income year to which they pertain, the HHS poverty guidelines, which are released within the first two months of the year, are based on income data from two years earlier (e.g., 2001 guidelines are based upon 1999 Census thresholds). The HHS guidelines are calculated by multiplying the most recent weighted average poverty thresholds for a family of four by a price inflator derived from the Consumer Price Index for Urban Consumers (CPI-U). Scale factors are applied to adjust the guidelines for different size families, and for Alaska and Hawaii.

[2] The Census Bureau implemented the NAS panel's proposed recommendations based on the March Current Population Survey 2000 and generated experimental measures of poverty rate for year 1999. Since 1999, the Census Bureau has published reports *Experimental Poverty Measures: 1990 to 1997, Experimental Poverty Measures: 1998,* and *Experimental Poverty Measures: 1999.* Along with these reports, the micro data for the reports "Experimental Poverty Measures" are available to the public. Some estimates of experimental poverty rates presented in this paper are from *Experimental Poverty Measures: 1999,* and some from the author's analysis of the micro data.

[3] At the time, there were four food plans, at the following cost levels: liberal, moderate, low-cost, and economy. The first three plans had been introduced in 1933; the economy food plan was developed and introduced in 1961. Data underlying the economy plan came from the U.S. Department of Agriculture (USDA)'s 1955 Household Consumption Survey and include no additional allowance for meals eaten out or other food eaten away from home. The economy food plan cost is only 75 percent to 80 percent as much as the low-cost plan.

designed for temporary or emergency use when funds are low. Orshansky calculated poverty thresholds for families of three or more persons by taking the dollar costs of the economy food plan for families of those sizes and *multiplying* the costs by a factor of three -- the "multiplier."[4] She differentiated the threshold not only by family size, but also by farm or non-farm household type, gender of the head of family, and persons aged 65 and older and those under age 65. While the poverty thresholds had been calculated on the basis of after-tax money income, they were applied to income data -- the Census Bureau's Current Population Survey -- that used a before-tax definition of money income. This was done because when the thresholds were being developed, the Current Population Survey was the only good source of nationally representative income data. Orshansky was aware of the inconsistency, but saw no alternative. She reasoned that the result would yield a conservative "underestimate" of poverty (Fisher, 1997).

In April-May 1965, it was decided to set farm poverty thresholds at 70 percent of the corresponding non-farm thresholds and to update the thresholds for annual price changes by the yearly change in the per capita cost of the economy food plan. In May 1965, the Office of Economic Opportunity adapted Orshansky's poverty thresholds as a working or quasi-official definition of poverty.

In 1969, the Poverty Level Review Committee[5] decided that the thresholds would be indexed by the Consumer Price Index instead of by the per capita cost of the economy food plan and that farm poverty thresholds would be set at 85 percent rather than 70 percent of corresponding non-farm thresholds.

In 1981, several minor changes were made in the poverty thresholds in accordance with recommendations from the Poverty Level Review Committee. The farm and non-farm differential was eliminated by applying non-farm poverty thresholds. The distinction between thresholds for female-headed and male-headed families was eliminated by averaging the two. However, the difference between the threshold for persons age 65 and over and the one for persons under age 65 remained.

The Weakness of the Current Official Poverty Measure

Broad agreement exists that the current official poverty measure is less than ideal and should be revised (Citro et al., 1995: Ruggles, 1990). The NAS panel identified several major weaknesses in the current official poverty measure that have become more apparent and problematic during the past four decades. These weaknesses include:

∗ The current official poverty measure does not reflect changes in

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[4] Orshansky knew from the USDA's 1955 Household Food Consumption Survey (the latest available such survey at the time) that families of three or more persons spent about one third of their after-tax income on food in 1955.

[5] In 1968, the Social Security Administration tried to take a very modest step to raise the poverty thresholds to reflect the increase in the general standard of living. The Bureau of the Budget (the predecessor of the Office of Management and Budget) prohibited the modest increase but initiated an interagency "Poverty Level Review Committee" to reevaluate the poverty thresholds.

consumption patterns. It does not adjust for rising income levels and standards of living that have occurred since 1965.

* The current measure does not reflect changes in the labor force participation of American families since the 1960s. It does not take into account the variation in expenses that are necessary to hold a job and to earn income. Work-related expenses reduce disposable income.

* The current measure does not reflect changes in household composition since the 1960s. It uses family size adjustments that are anomalous and do not take into account important changes in family structure.

* The family income definition in the current measure does not reflect the effects of key government policies that alter the disposable income available to a family and, hence, its poverty status. For example, taxation reduces disposable income, while in-kind public benefits programs, such as food stamps, free up resources to spend on non-food items.

* The current measure does not account for the impact of health insurance coverage and health status on the well-being of individuals and families. It does not take into account variation in the expense of medical costs across population groups.

* The current poverty thresholds do not adjust for geographic differences in the cost of living across the nation.

NAS Panel Recommendations

To revise the current official poverty measure, the NAS panel proposed a series of specific recommendations for both thresholds and family income based on the best available scientific evidence. The major recommendations are as follows:[6]

(1) Threshold Recommendation: The thresholds should represent a dollar amount for food, clothing, and shelter (including utilities). One threshold should be developed for a reference family type using Consumer Expenditure Survey (CEX) data, and the reference family threshold should be adjusted to reflect the needs of different family types and geographic differences in the cost of living.

(2) Family Resource Recommendation: Family income resources should be defined as the value of money income from all sources, including capital gains and the value of in-kind (non-medical) benefits that are available to buy goods and services covered by the new thresholds. The family income also should subtract the amount of expenses that include tax, work-related expenditures, and household contributions toward the cost of medical care and health insurance premiums.

(3) Data Resource Recommendation: The Survey of Income and Program Participation (SIPP) should become the basis of official income and poverty statistics, replacing the March income supplement to the Current Population Survey. The panel also encouraged a review of the Consumer Expenditure Survey to improve the quality and usefulness of the data for poverty measurement.

Recently, the Census Bureau published a report *Experimental Poverty Measures: 1999* (Short, 2001), which

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[6] For detailed recommendations, see: Appendix Table A.

presents estimates of the experimental poverty rate measure based on implementation of the combined recommendations of the NAS panel[7] and new survey data that were developed recently. In the following section, we first present the estimates of the experimental poverty rates for the entire population in 1999, then compare those estimates with the current official poverty rates for the older population, and finally, present estimates of the experimental poverty rates by implementing each of the NAS panel's recommendation separately for different age groups.

Experimental Measures of Poverty for the Entire Population in 1999

Table 1 presents official poverty rates and poverty rates using the NAS

Table 1 Estimates of the Experimental Poverty Rate for the Entire Population, 1990-1999					
Year	Official	NAS 1	NAS 2	Percentage Point Change between Official and NAS 1	Percentage Point Change between Official and NAS 2
	%	%	%		
1990	13.5	16.9	16.1	3.4	2.6
1991	14.2	17.7	16.9	3.5	2.7
1992	14.8	18.2	17.6	3.4	2.8
1993	15.1	19.1	18.3	4.0	3.2
1994	14.6	17.8	17.0	3.2	2.4
1995	13.8	16.9	16.3	3.1	2.5
1996	13.7	16.1	16.0	2.4	2.3
1997	13.3	15.3	15.4	2.0	2.1
1998	12.7	14.8	14.4	2.1	1.7
1999	11.8	14.4	13.7	2.6	1.9
Average	13.8	16.7	16.2	3.0	2.4

Note:
NAS 1: The National Academy of Science panel's proposed measure with the experimental thresholds calculated using more recent Consumer Expenditure Survey (CEX) data for 1999.
NAS 2: The National Academy of Science panel's proposed measure with the experimental thresholds calculated for 1997 using the CEX and updated from 1997 with the CPI-U.
Source: Short, Kathleen *xperimental Poverty Measures: 1999.?* U.S. Bureau of the Census: Current Population Report P60-216, Tables 5-1,5-8, and 5-20.

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[7] The experimental poverty measures are defined as the NAS panel's proposed measures. The thresholds were calculated with Consumer Expenditure (CE) Survey data and adjusted by geographic differences in the cost of living and two parameter equivalence scales. The family income measure is all family money income plus family capital gains, the "Earned Income Tax Credit" (EITC), the value of "family energy assistance," the value of "family housing subsidy," "Food Stamps," and the value of "school lunch income," minus the amount of disposable income that includes family capital loss, federal and state income tax, Social Security payroll tax, medical out-of-pocket expenditures (MOOP), and work-related and child-care costs. For detailed information about methods of thresholds calculation and the calculation of each item in family income, see: Short 2001, Appendix A. pp. A1-A13.

panel's proposed experimental measures (NAS 1 and NAS 2[8]) for the entire to population in the United States from 1990 to 1999. The figures indicate that the annual estimates of the experimental poverty rate were consistently higher than

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[8] Both NAS 1 and NAS 2 implemented all of the NAS panel's recommendations simultaneously. The thresholds of NAS 1 were calculated with more recent Consumer Expenditure Survey (CEX) data for 1999. For each year following 1997, these thresholds have been calculated using CEX data referring to each of these time periods. The thresholds of NAS 2 were computed for 1997 using the CEX and are updated from 1997 with the Consumer Price Index for Urban Consumers (CPI-U) (Short, 2001).

the official poverty rates during the 10 years. For example, in 1999, the NAS 1 experimental poverty rate was 14.4 percent, 2.6 percentage points higher than the official poverty rate (11.8 percent). The average of the annual NAS 1 rate was about 3.0 percentage points higher than the average annual official poverty rate during the 10-year period. Table 1 also shows that the estimates of poverty rates using the NAS 1 were slightly higher than those using NAS 2 for all 10 years (see Table 1).

Like the official poverty rate, the experimental poverty rate varied by age groups. According to official measures in recent years, children (under age 18) have the highest poverty rate, and older persons (age 65 and older) have the lowest. Table 2 presents the 1999 estimates of the experimental poverty rate by age group.

For children, the estimate of the poverty rate using the NAS 1 measure was 18.3 percent, 1.4 percentage points higher than the official poverty rate (16.9 percent); for older persons, the NAS 1 poverty rate was 16.6 percent, 6.9 percentage points higher than the official poverty rate (9.7 percent). For persons aged 75 and older, the poverty rate based

on NAS 1 was 19 percent, 8.3 percentage points higher than the official poverty rate. The increase in the NAS 1 poverty rate over the official poverty rate was larger for the age 65 and older population than for other age groups (see Table 2).

The large increase in the poverty rates for older persons based on the experimental measure also changes the distribution of the poor population among the age groups. The new group of poor would consist of a larger proportion of older persons than is identified by the official poverty measure (Short, 1999). Table 3 presents distributions of the entire population and the poor population by age group using the experimental measure.

The age 65 and older population was about 11.9 percent of the total population in 1999. Based on the official poverty measure, the older poor were only 9.8 percent of the total poor population. Children under 18 were 26.2 percent of the total population but children in poverty were 37.5 percent of the total poor population. Based on NAS 1, the older poor were 13.8 percent of the total poor population, 4.0 percentage points higher

Table 2
Poverty Rates Under Official and Experiment Poverty Measures by Age Group, 1999

	Official	NAS 1	NAS 2
	%	%	%
All Persons	11.8	14.4	13.7
Under Age 18	16.9	18.3	17.5
Age 18 to 64	10.0	12.3	11.8
Age 65 and Over	9.7	16.6	15.7
Age 65 to 74	8.9	14.6	13.8
Age 75 years and Over	10.7	19.0	18.1

Note:
NAS 1: The National Academy of Science panel's proposed measure with the experimental thresholds calculated using more recent Consumer Expenditure Survey (CEX) data for 1999.
NAS 2: The National Academy of Science panel's proposed measure with the experimental thresholds calculated for 1997 using the CEX and updated from 1997 with the CPI-U.
Source: Short, Kathleen *"Experimental Poverty Measures: 1999."* U.S. Bureau of the Census: Current Population Report P60-216, Tables 2-1, 2-3, 4-1, and 4-3.

Table 3
Distribution of Population and the Poor Population by Age Group, 1999

	Total Population	Poverty Population with Official Measure	Poverty Population Using NAS 1 Measure	Poverty Population Using NAS 2 Measure
	%	%	%	%
Total Population	100.0	100.0	100.0	100.0
Age Under 18	26.2	37.5	33.5	33.4
Age 18 to 64	61.8	52.6	52.8	53.0
Age 65 and Over	11.9	9.8	13.8	13.7

Note:
NAS 1: The National Academy of Science panel's proposed measure with the experimental thresholds
calculated using more recent Consumer Expenditure Survey (CEX) data for 1999.
NAS 2: The National Academy of Science panel's proposed measure with the experimental thresholds
calculated for 1997 using the CEX and updated from 1997 with the CPI-U.
Source: Short, Kathleen *"Experimental Poverty Measures: 1999."* U.S. Bureau of the Census: Current Population Report
P60-216, Tables 2-2 and 4-2.

than that using the official measure. Children were 33.5 percent of the total poor population, 4.0 percentage points lower than under the official poverty measure. Thus, relative to their share of the total population, older persons were underrepresented among the poor under the official poverty measure, but overrepresented using the NAS 1 and NAS 2 measures. Children were overrepresented among the poor using all measures (see Table 3)*.*

In 1999, persons ages 18 to 64 were 61.2 percent of the total population, but persons ages 18 to 64 living in poverty were only 52.6 percent of the total poor population based on the official poverty measure. Using the experimental poverty measure, this group made up 52.8 percent of the total experimental poor population, a slight increase (see Table 3).

Experimental Measures of Poverty for Older Persons in 1999[9]

According to the official poverty measure, the annual poverty rate for older

persons in 2000 (10.2 percent) was lower than that for the entire population (11.3 percent) (U.S. Bureau of the Census, 2001). However, for the same year, using NAS 1, poverty rate, and the poverty rate for the older population was higher (16.6 percent) than for the entire population (12.2 percent) (Short and Garner, 2002).

Figure 1 compares the annual official poverty rate for older persons from 1990 to 1999 with the NAS 1 and NAS 2. The annual experimental poverty rates for persons age 65 and older were consistently higher than the official rates during the 10-year period. For example, in 1999, NAS 1 for persons 65 and older was 16.6 percent, nearly 7.0 percentage points higher than the official poverty rate (9.7 percent) for the same year. During this 10-year period, the average annual poverty rate for this group using NAS 1 was about 7.1 percentage points higher than the average of the annual official poverty rate (see Figure 1).

Among the older population, the experimental poverty rate varied by demographic characteristics. Table 4 presents estimates of poverty rates by

[9] The Census Bureau's "Experimental Poverty Measure" micro data for year 1999 is the most recent data that is available to public.

Figure 1
Poverty Rates Using Official and Experimental Measures
For Persons 65 and Over, 1990-1999
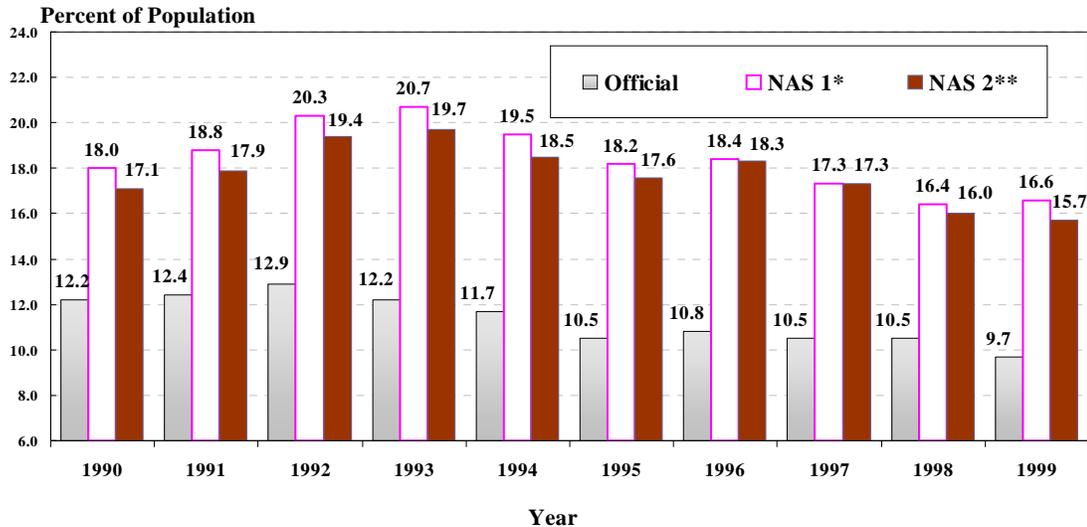
Percent of Population

Note: * NAS 1: The National Academy of Science panel's proposed measure with the experimental
thresholds calculated using more recent Consumer Expenditure Survey (CEX) data for 1999.

**NAS 2: The National Academy of Science panel's proposed measure with the experimental thresholds
calculated for 1997 using the CEX and updated from 1997 with the CPI-U.
Source: Short, Kathleen *"Experimental Poverty Measures: 1999."* U.S. Bureau of the Census:
Current Population Report Tables 5-1, 5-8, and 5-20.

dmographic characteristics in 1999 using the NAS 2[10] measure. Persons age 85 and older have the highest official poverty rate (14.3 percent) among the elderly, but their NAS 2 rate was even higher, at 20.5 percent (an increase of 6.2 percentage points). The experimental poverty rate for persons age 75 to 79 was 18.0 percent, 8.7 percentage points higher than the official poverty rate (9.3 percent) (see Table 4).

Women age 65 and older have a higher poverty rate than men of the same age under both measures. The NAS 2 poverty rate for older men (13.2 percent) was 6.3 percentage points higher than the

official poverty rate (6.9 percent), while the NAS 2 poverty rate for older women (17.6 percent) was 5.8 percentage points higher than the official poverty rate (11.8 percent) (see Table 4).

In 1999, based on the NAS 2, Hispanics and non-Hispanic blacks had the highest poverty rate among the older population (30.1 percent for Hispanics and 30 percent for non-Hispanic blacks), 9.7 percentage points and 7.1 percentage points (respectively) higher than the official poverty rates (20.4 percent and 22.9 percent) (see Table 4).

Never-married persons age 65 and older were more likely than married persons to be poor. The NAS 2 poverty rate was 12.2 percent for older married couples in 1999, 7.6 percentage points

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[10] The Census Bureau used NAS 1 thresholds in its publication (see Short, 2001) but these thresholds are not available in the Bureau's public use micro data. Table 4 presents estimates of the experimental poverty rate using NAS 2.

Table 4 Poverty Rates Under Official and Experimental Poverty Measures for Older Persons by Demographic Characteristics, 1999			
Demographic Characteristics	Official	NAS 2	Percentage Point Change
	%	%	%
Persons Age 65 and Over	9.7	15.7	6.0
Age			
Age 65 to 69	8.1	14.9	6.8
Age 70 to 74	9.8	15.2	5.4
Age 75 to 79	9.3	18.0	8.7
Age 80 to 84	10.6	16.8	6.2
Age 85 and Over	14.3	20.5	6.2
Sex			
Men	6.9	13.2	6.3
Women	11.8	17.6	5.8
Race			
Non-Hispanic White	7.6	13.3	5.7
Non-Hispanic Black	22.9	30.0	7.1
Hispanic	20.4	30.1	9.7
Other	12.9	18.1	5.2
Marital Status			
Married	4.6	12.2	7.6
Widowed	15.0	19.7	4.6
Divorced or Separated	19.9	20.2	0.3
Never Married	19.3	25.2	5.9
Living Arrangement			
Living Alone	19.7	22.4	2.7
Living with Others	4.9	12.5	7.6
Health Condition			
Excellent	5.5	9.5	4.0
Good	6.0	10.8	4.8
Fair	10.1	16.7	6.6
Poor	17.4	24.0	6.6

Note:

NAS 2: The National Academy of Science panel's proposed measure with the experimental thresholds calculated for 1997 using the Consumer Expenditure Survey (CEX) and updated from 1997 with the CPI-U. Data Source: the Census Bureau Experimental Poverty Measure micro data file.

higher than the official poverty rate (4.6 percent); about a quarter of never-married older persons were below the NAS 2 poverty line, 5.9 percentage points higher than the official poverty rate. Living arrangements also influence the poverty status of older persons. The NAS 2 poverty rate was 22.4 percent for older persons living alone, 2.7 percentage points higher than the official poverty rate (19.7 percent), and the NAS 2 rate was 12.5 percent for older persons living with others, 7.6 percentage points higher than the official poverty rate (see Table 4).

Table 4 also shows that persons age 65 and older with poor health[11] were more likely to live in poverty than those with better health. Almost one out of four older persons with poor health were below the poverty line using the experimental poverty measure, 6.6 percentage points higher than the official poverty rate (17.4 percent). Among older persons with excellent health, the experimental poverty rate was 9.5 percent, 4.0 percentage points

[11] The March Current Population Survey (CPS) includes a question about the general health of each person in the family.

higher than the official poverty rate (see Table 4).

In the current official poverty measure, the income threshold used to establish poverty status for older persons is about 10 percent lower than for other age groups.[12] The official poverty rate for older persons would be higher if the same thresholds were applied to both elderly and non-elderly persons. For example, the official poverty rate for older persons was 10.2 percent in 2000 (U.S. Bureau of the Census, 2001). If the poverty thresholds used for persons under age 65 were applied to persons age 65 and older, the poverty rate for older persons would be 11.4 percent[13] in 2000.

The use of different poverty thresholds for the older population is based on some hypothetical assumptions. The basic assumption is that the needs of the elderly are less than those of the non-elderly; for example, that older persons need to eat less than younger ones.[14]

Another assumption is that because the elderly are less likely to work, their work-related expenses (such as cost of transportation and clothing) are lower. However, older persons have some needs not typically faced by younger people. Most notably, health care expenditures not covered by insurance have risen rapidly over the past decades. According to AARP estimates in 2000, the average medical out-of-pocket expenditures for older persons covered by Medicare was $2,580, 19 percent of their income (Brangan, 2001). In addition, although the elderly may need fewer calories than young people, many of them face health limitations that limit diets and food preparation abilities, leading to relatively high food expenditures (Ruggles, 1990).

Experimental Measures of Poverty in 1999 Based on Implementation of Each NAS Recommendation.

The previous sections presented estimates of experimental poverty rate measures in 1999 based on implementation of the *combined recommendations* of the NAS panel. To determine which of the NAS panel's recommendations have the largest effect on the changes in the poverty estimates for different age groups. The author compared the experimental poverty estimates in 1999 for three age groups based on implementation of *each of the NAS recommendations*. The results are presented in Table 5.

The experimental poverty rate was lower than the official poverty rate for the entire population in 1999 when the experimental measure was applied to NAS 2's threshold (experimental measure A and experimental measure B). For example, the poverty rate using experimental

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[12] The poverty thresholds differentiate between persons aged 65 or older and under age 65 only for families of one or two persons, not for large families. According to the March CPS 2001, over 85 percent of persons aged 65 or older live in families of one or two persons in 2000. The poverty threshold in 2000 was $8,259 for a single person aged 65 and over and $8,959 for single persons under age 65. For couples, the threshold was $10,409 for those aged 65 and over and $11,531 for those under age 65 (U. S. Bureau of the Census, 2001).

[13] This figure is calculated by author based on the March CPS 2001 micro data.

[14] This lower poverty standard for the elderly is an artifact of the original food budget used by Orshansky because the elderly were thought to need fewer calories than younger people to maintain their weight. The USDA food budget on which Orshansky based her thresholds allowed a lower spending level for those age 65 and older; Orshansky translated these into lower budgets overall (Ruggles, 1990).

Table 5

Estimates of Poverty Rates by Age Using Each the NAS Panel Recommendation Separately, 1999

	Official Measure	NAS 2	Measure A	Measure B	Measure C	Measure D	Measure E	Measure F
	%	%	%	%	%	%	%	%
All Population	11.8	13.7	11.0	10.7	11.7	8.9	13.0	14.7
Age under 18	16.9	17.5	15.9	15.7	16.7	11.5	18.8	19.6
Age 18 to 64	10.0	11.8	9.3	9.1	10.0	8.0	11.2	12.0
Age 65 and Over	9.7	15.7	8.9	8.3	9.6	8.3	9.9	17.6

Note:

NAS 2: The National Academy of Science panel's proposed measure with the experimental threshold.
        calculated for 1997 using the Consumer Expenditure Survey (CEX) and updated from 1997 with the CPI-U.
Measure A: Using NAS new threshold without geographic adjustment and the official defined family income.
Measure B: Using NAS new threshold with geographic adjustment and the official defined family income.
Measure C: Using the official threshold and defining family income as the official defined family income plus capital gain
        minus capital loss.
Measure D: Using the official threshold and defining family income as the official defined family income plus dollar
        amount of adding the value of non-medical in-kind benefits.
Measure E: Using the official threshold and defining family income as the official defined family income minus federal,
        state income tax and Social Security payroll tax.
Measure F: Using the official defined threshold and defining family income as the official family income minus
        medical out-of-pocket expenditures.
Source: The Census Bureau Experimental Poverty Measure micro data file.

measure A (using NAS 2's thresholds and the official definition of family income) was 11.0 percent for the entire population, 0.8 percentage points lower than the official poverty rate (11.8 percent) in 1999 (see Table 5).

Table 5 shows that the poverty rate using experimental measure C (using the current official poverty threshold and defining family income as the current measure of family income plus capital gains minus capital losses) was 11.7 percent for the entire population, only 0.1 percentage points lower than the official poverty rate (11.8 percent). The experimental measure C differed little from the current measure for each of the three age groups, indicating that most low-income families have no capital gains income (see Table 5).

The poverty rate using experimental measure D (using the current official poverty threshold and defining

family income as the current measure of family income plus the dollar amount of non-medical in-kind benefits*)* was lower than the official poverty rate for all age groups. The poverty rate based on experimental measure D for persons under age 18 was 11.5 percent, 5.4 percentage points lower than the official poverty level (16.9 percent). For older persons, the poverty rate using experimental measure D was 1.4 percentage points lower than the official poverty rate (9.7 percent). These figures indicate that key public programs have been of great help to poor families, especially families with children (see Table 5).

Table 5 also shows that the poverty rate using experimental measure E (using the current official poverty threshold and defining family income as the current measure of family income minus federal and state income tax and Social Security payroll tax) was higher than the official poverty rate for all age groups. The

poverty rate based on experimental measure E for persons age 18 to 64 was 11.2 percent, 1.2 percentage points higher than the official poverty rate (10.0 percent). For older persons, the poverty rate was 9.9 percent based on experimental measure E, 0.2 percentage points higher than the official poverty rate (9.7 percent). This occurs because most older persons with low family income pay neither income nor Social Security taxes.

The poverty rate based on experimental measure F (using the current official poverty threshold and defining family income as the current measure of family income minus medical out-of-pocket expenditures)[15] was higher than the official poverty rate for all age groups, especially for older persons. The poverty rate of older persons using experimental measure F was 17.6 percent, 7.9 percentage points higher than the official poverty rate (9.7 percent) in 1999. For persons age 18 to 64 the poverty rate based on experimental measure F was 12.0 percent, 2.0 percentage points higher than the official poverty rate (10.0 percent). This measure demonstrates the financial burden from medical out-of-pocket expenditures that the older population experiences, particularly those with low family income and poor health (see Table 5).

Conclusion

The poverty measure is not used for analytical purposes only. It is also used for setting guidelines for eligibility for public programs, directly affecting the quality of daily life for persons and families with low income. Recently, about 40 academic researchers signed an open letter to the directors of the Office of the Management and Budget and the U.S. Census Bureau urging them to revise the official measure of poverty.[16] The researchers favored implementation of a new poverty measure based on the NAS panel's proposed recommendations with some minor changes and encouraged continued research on the poverty measure. Ongoing discussion about revising the official measure of poverty will attract more attention from government officials, public policy makers, and academic researchers.

The results from the Census Bureau reports and our analysis show that the experimental poverty rates are higher than the current official poverty rates, particularly for older persons. They also suggest that reducing the burden on older persons of medical out-of-pocket expenditures, through such measures as prescription drug coverage under Medicare, would greatly reduce the poverty level in this population.

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[15] The experimental poverty measure uses two different treatments of medical out-of-pocket expenses. In one, medical out-of-pocket expenses are subtracted from income; in the other, medical out-of-pocket expenses are added to the threshold. The two treatments produce different experimental poverty rates for different age groups. For detailed discussion, see Short and Garner, 2002.

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[16] Located at http://www.ssc.wisc.edu/irp/povmeas/povlet-htm

Appendix Table A
Official Poverty Measure and NAS Recommended Poverty Measures

	Current Poverty Measure	NAS Recommended Poverty Measures
Thresholds		
Threshold Setting	The poverty thresholds were originally developed by Social Security Administration staff member Mollie Orshansky as the cost of a minimum diet times a "multiplier" of three to allow for other expenses such as housing and clothing.[1]	The poverty thresholds represent a budget for food, clothing, shelter, utilities (FCSU), and an additional amount to allow for other common needs (such as household supplies, personal care, and non-work-related transportation.)[2]
Updating Method	The current poverty measure uses the overall Consumer Price Index (CPI) to update the threshold each year.	A threshold for a family type should be developed using actual consumer expenditure data and updated annually to reflect changes in spending on food, clothing, and shelter over the previous three years.
Threshold adjustments	The reference family threshold is adjusted by family size, number of children under age 18, and age (65 and older). [3]	The reference family[4] threshold should be adjusted by use of an equivalence scale, which assumes children need less than adults and assumes economies of scale for larger families.
Threshold adjustments	No adjustments	The poverty threshold should be adjusted for differences in the cost of housing across geographic areas of the county.
Family Income Resources		
Family Income	All family money income, excluding capital gains, and before taxes.	All family money income, including capital gains
		All family income, excluding income tax and Social Security payroll tax
		Adding the value of nonmedical in-kind benefits, such as food stamps, subsidized housing, school lunches, and home energy assistance
		Deducting medical out-of-pocket expenses, including health insurance premiums.
		Deducting child care costs and work-related transportation and miscellaneous expenses.
		Adjusting by home ownership.
Survey Data	March Current Population Survey	Survey of Income Program Participation and Consumer Expenditure Survey.

Note:
[1]The diet -- a nutritionally balanced "Economy Food Plan" -- was constructed by the U.S. Department of Agriculture by examining data on the food-buying pattern of lower-income households based on the 1955 Household Food Consumer Survey.
[2] FSCU data are from the Consumer Expenditure Survey (CEX).
[3] The poverty thresholds were varied to account for the differing food needs of children and adults under and over age 65. For example, the threshold for persons age 65 and older is about 10 percent lower than that for other age groups.
[4] A reference family is a couple with two children.
Source: Citro, Constance F., and Robert T. Michael (eds.), 1995.

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