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IN-KIND INCOME: EFFECT ON POVERTY

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Under the official definition, poverty status is determined by comparing the annual money income of a family with a predetermined poverty threshold level. In 1983, for example, the poverty threshold for a family of four was $10,178. During the past few years, we have heard arguments that poverty status should depend not only on the amount of money income received but on the receipt of noncash benefits such as food stamps and medical assistance.

In September 1980, Congress directed the Secretary of Commerce to include, in survey reports, estimates of the effect of in-kind benefits on the number of families and individuals below the poverty level. The Census Bureau responded to this directive by asking Dr. Timothy Smeeding to develop techniques for assigning dollar values to in-kind benefits. The project was made possible by the fact that the March supplement to the Current Population Survey had been modified in 1980 to include questions about the receipt of food stamps, school lunches, medicare, medicaid, and public and subsidized housing.

The results of Smeeding's work were published in March 1982 in Technical Paper 50. That report showed what the poverty rate would be for various groups within the population if income were redefined to include the value of benefits from the government programs mentioned above. The results were labeled "experimental" and a careful reading of the description of the methods used to value the benefits should convince users of the appropriateness of that term. Technical Paper 50 presented estimates for 1979; Technical Papers 51 and 52 presented figures for 1980 through 1983.

Today, I want to review the circumstances that led to the preparation of these estimates and describe the methods used to obtain them. The release of these reports has raised concerns about reestimating the number of persons in poverty by changing the definition of income and I would like, also, to speak about some of these concerns.

A good starting point for this discussion is a brief and simplified description of the official definition of poverty.

The definition of poverty that was developed by Mollie Orshansky and became our official definition was based on two key elements. The first key element was a Department of Agriculture food plan that was used to define the minimum income needed to meet food requirements. There were no similar plans available for nonfood items, however, so a procedure had to be developed to define the minimum income needed to meet nonfood requirements. The procedure chosen was to multiply the food plan by a

factor so that the resulting dollar value represented the amount needed to meet both food and nonfood requirements. The use of a multiplier became the second key element. The value of the multiplier was set equal to 3, the reciprocal of the proportion of income spent by all families on food in the 1955 Food Consumption Survey. The multiplier approach, and the use of all families as the reference group had this implication: the proportion of income spent on food should be the same for low-income families as it was for all families.

This definition of poverty together with the income data collected in the annual March supplement to the Current Population Survey allowed the Census Bureau to begin publishing in 1969 official estimates of the number and characteristics of persons in poverty. The Bureau continues to publish regular reports and estimates are available for the years 1959 through 1983.

I want to note here that the official poverty definition is relative in the sense that it based on a necessarily subjective food plan and on certain expenditure patterns. It is absolute in the sense that the levels do not change over time except for price adjustments. Because the poverty threshold is fixed in terms of real dollars, the relative income of families at the poverty level declines as real average family income increases. In 1959, the poverty threshold for a family of four was about one-half of median family income; in 1983 it was equal to about one-third.

During the 1960's and 1970's, we witnessed the development of large new noncash benefit programs that led to concerns about the adequacy of the poverty definition and ultimately to the Congressional directive referred to earlier. Among the programs initiated during this period were food stamps in 1964, medicare and medicaid in 1965 and a major new housing assistance program in 1974 (Section 8 rental assistance). By 1983, these programs accounted for a large proportion of the assistance going to lower-income families. In 1983, the amount of means-tested cash assistance was approximately 28 billion compared to outlays of 11 billion under the food stamp program, 32 billion under the medicaid program and 9 billion under housing assistance programs. It should be noted however, that noncash benefits to the nonpoor have also increased over the past two decades. For example, in 1983, employer contributions for health and pension plans amounted to 171 billion and employers contributed another 153 billion for Federal and state social insurance programs.

We turn now to the details of the methods used to value noncash benefits. The task of preparing estimates is fairly straightforward in the case of food stamps, but very difficult for other types of benefits. The problem is made worse by the limited amount of information on noncash benefits that is collected in the Current Population Survey. For example, except for food stamps, no information is collected on duration of recipiency. The valuation approaches make the assumption that the benefit was received during the entire year.

Smeeding used three approaches to the valuation of noncash benefits; the market value approach, the cash equivalence approach, and the poverty budget share approach.

The market value approach attempts to value the good or service at the price the good or service would command on the open market. In the case of food stamps, the approach is straightforward. They are counted at their face value. The valuation of other benefits is less straightforward. Benefits from school lunches are valued according to Department of Agriculture data on subsidies per meal for regular price, reduced price, and free school lunches. The Current Population Survey questionnaire does not distinguish between free and reduced price lunches so the assumption is made that children below the 125 percent of poverty level receive free lunches.

The market value of medicare and medicaid coverage is estimated by calculating program expenditures per enrollee or beneficiary. In the case of medicare, data are obtained for each state on persons covered because of age, persons covered because of disability, benefits paid on behalf of the aged, and benefits paid on behalf of the disabled. The estimated money value of being covered by medicare, then, depends on the state of residence and the person's risk class-whether they are covered because of age or because of disability. In 1983, the estimated money value of being covered by medicare ranged from $1,016 for a person 65 or over living in Utah to $4,051 for a disabled person living in the District of Columbia. In the case of medicaid, the money value of coverage depends on the state of residence and which one of four risk classes the person falls into: 65 or over; disabled; 21 to 64, not disabled; and under 21, not disabled. The valuation of medicaid also depends on whether expenditures for persons in institutions are included when the expenditure per beneficiary figures are calculated. The inclusion of expenditures for persons in institutions increases the estimated dollar value of medicaid coverage substantially for the aged and disabled. In 1983, the estimated dollar value of being covered by medicaid ranged from $166 for a nondisabled person under 21 in South Carolina (institutional expenditures excluded) to $7,884 for an aged person in New York (institutional expenditures included) to $10,243 for a disabled person in Minnesota (institutional expenditures included).

Obviously, the values assigned under the market value approach to disabled persons and to persons 65 and over who are covered by medicare and/or medicaid are very substantial. Because the 1983 poverty threshold was only $4,775 for a single person 65 or over and only $6,023 for a 2-person family with a householder 65 or over, the use of the market value approach reduces the poverty rate among persons 65 and over from 14.1 percent to 3.3 percent. In fact in some states, it would be nearly impossible for a 65 year old to be classified as in poverty under the market value approach that includes institutional expenditures.

The method used to estimate the dollar value of housing assistance is especially complex. Ideally, one would like to know, for each public or subsidized housing unit, the actual rent paid and the rent that could be

obtained for the unit on the open market. The difference would then be the dollar value of the housing subsidy. Unfortunately, no data on amount of rent paid are collected in the Current Population Survey. Such data are collected in the Annual Housing Survey, but of course that survey does not collect data on the amount of rent that subsidized units could command on the open market. The methodology used to assign a dollar value to housing assistance involves the following steps (1) for each public or subsidized unit in the Annual Housing Survey, find a nonsubsidized unit that is similar in terms of certain characteristics of the unit and the household, (2) compare the subsidized rent with the nonsubsidized rent and consider the difference to be the dollar value of the housing assistance, (3) use this information to assign the appropriate subsidy to each Current Population Survey household residing in a public or subsidized housing unit according to the type, size, and income of the Current Population Survey household.

The next valuation approach to be described in the cash equivalent approach. The cash equivalent of a benefit is the amount at which the recipient would be indifferent as to whether he or she received cash or the benefit. The basic approach is to try to measure the normal expenditure an unsubsidized family of a given type would make on the good or service in question. The normal expenditure level is then compared to the market value of the benefit. If the normal expenditure level exceeds the market value, the cash equivalent value is set equal to the market value. If the normal expenditure level is less than the market value, then the cash equivalent value is set equal to the normal expenditure level.

In practice, it is often difficult to apply the cash equivalent technique. Estimates of normal expenditure levels on food were made using recent data from the Consumer Expenditure Survey and were used in determining the cash equivalent value of food stamps. In the case of school lunches, however, the cash equivalent value was simply set equal to the market value.

The implementation of the cash equivalent approach in the case of housing assistance is difficult and complex. Recall that a statistical matching technique was required to transfer estimates of actual housing costs and the amount of housing subsidy from the source file, the Annual Housing Survey, to the file from the Current Population Survey. A similar procedure is used to transfer estimates of normal housing expenditures from households in the Annual Housing Survey to households in the Current Population Survey. To summarize, we need to know, for each CPS household living in public or subsidized housing, three items of information; actual housing costs, the value of their housing subsidy, and normal housing costs of families with similar characteristics. None of these data items are available from the CPS and only two are available from the Annual Housing Survey. The estimation procedure, then, involves the creation of an estimate of the value of housing subsidies and the statistical transfer of three critical data items from one survey to another. Once these transfers are made, the valuation of the housing subsidy for a given household under the cash equivalent approach depends on a comparison of normal housing expenditures for households of this type

with the sum of actual costs plus market subsidy. If normal expenditures are less than this sum, then the cash equivalent approach values the subsidy at an amount lower than the estimated market value of the subsidy.

The determination of the cash equivalent value of medicaid and medicare is made difficult by the fact that most U.S. households have health plans that are subsidized by either government or an employer. As a result, it is difficult to measure the normal expenditures of unsubsidized households. The procedure used was to base estimates of normal expenditure levels on data from the 1972-73 Consumer Expenditure Survey and ignore the fact that, because of an inability to measure government and employer subsidies, the normal expenditure estimates were biased downward.

The final valuation approach, the poverty budget share approach is similar to the cash equivalent approach except that the "normal expenditure level" is replaced by "average amount spent by households at the poverty level." If the average amount spent by households at the poverty level is more than the market value of the benefit, then the benefit will be assigned its market value. If the average amount spent by poverty households is less than the market value, then the benefit will be assigned a value equal to the average expenditure of poverty households.

There are two general types of issues that should be discussed concerning the Census Bureau's effort to value noncash benefits for the purpose of reestimating the number of persons in poverty. The first general issue concerns methodology and the second concerns the appropriateness of changing the income measure while leaving the poverty threshold unchanged.

Under the general issue of methodology, we can note the following concerns. First, it seems unreasonable to value the benefits of medicare and/or medicaid at such a level as to practically eliminate poverty for persons 65 and over. Most users would reject this as out of touch with reality. The poverty level is intended to measure the resources needed to meet basic food and nonfood requirements. Assigning a person $6,000 in income because he or she is covered by medicare and medicaid does not help that person meet his or her requirements for food, shelter, clothing, transportation, and personal care. Second, there would appear to be a problem with valuing school lunches at the full amount of the subsidy. If it could be measured, the normal expenditure level on lunches for many families is probably well below the cost of government subsidized school lunches. In fact, if school meals are designed to be an integral part of the educational process, there is as much reason to try to value education as to value school meals. Third, the method used to value benefits from public or subsidized housing is complex and tenuous. The assignment of a value involves a good many statistical steps, but rests basically on the assumption that it is possible in the Annual Housing Survey to find pairs of housing units that are essentially identical except one is subsidized and the other is not. The problem with making this assumption is underlined by the fact that the Census Bureau has essentially given up on the problem of measuring housing quality.

The second general issue has to do with the relationship between the poverty thresholds and the income definition used to determine poverty status. The position taken on this issue would seem to be a reflection of how one interprets the meaning of today's poverty thresholds. One possible interpretation is that the thresholds came from the mountain top and defined the resources needed to meet minimum food and nonfood requirements if not for all time then at least for our time. A second interpretation is that the size of the multiplier was based on money relationships, and the counting of noncash benefits is inappropriate unless we reestimate the multiplier using data on both cash and noncash income. At this point it is not clear for which reference period the multiplier should be reestimated. An effort could be made to go back to the original time period, or the multiplier could be reestimated using the most recent data available.

If nothing else, I hope that this paper will convince users that "experimental" is a proper term to describe the methods that we have used to value noncash benefits. Our future path is not yet clear. The Census Bureau will continue to address the technical problems of valuing in-kind benefits and it seems likely that the Bureau will make full use of outside experts in this area. The Office of Management and Budget is responsible for statistical standards and therefore has overall responsibility for the definition of poverty. It remains to be seen whether the poverty definition itself will be the subject of a broad-ranging review. There are, I believe, good reasons for recommending that an intensive and objective review be conducted.

MEDIAN FAMILY INCOME and Poverty Thresholds for Four-Person Families: 1959 to 1985 (In current dollars)

Year	Median family income	Poverty threshold	Poverty threshold as a percent of median family income
1959	$6,070	$2,973	49.0%
1960	6,295	3,022	48.0
1961	6,437	3,054	47.4
1962	6,756	3,089	45.7
1963	7,138	3,128	43.8
1964	7,488	3,169	42.3
1965	7,800	3,223	41.3
1966	8,341	3,317	39.8
1967	8,994	3,410	37.9
1968	9,834	3,553	36.1
1969	10,623	3,743	35.2
1970	11,167	3,968	35.5
1971	11,626	4,137	35.6
1972	12,808	4,275	33.4
1973	13,710	4,540	33.1
1974	14,969	5,038	33.7
1975	15,848	5,500	34.7
1976	17,315	5,815	33.6
1977	18,723	6,191	33.1
1978	20,428	6,662	32.6
1979	22,579	7,412	32.8
1980	24,332	8,414	34.6
1981	26,274	9,287	35.3
1982	27,619	9,862	35.7
1983	29,184	10,178	34.9

Source: United States Bureau of the Census

11/7/84

Selected Sources of Noncash Income

(In billions of 1983 dollars.)

Government programs	1959	1983
1. Needy families program (food)	0.4	-
2. School lunch program	0.7	3.2
3. Food stamps	*	11.2
4. WIC	*	0.9
5. Medicare	*	55.6
6. Medicaid	*	32.2[1]
7. VA medical care	2.9	7.8
8. Hospital care provided by public assistance or charity	8.0	-
9. Housing assistance for low-income persons	3.3[2]	9.3[2]
10. Energy assistance for low-income persons	*	1.8
Other		
1. Employer contribution for private health and pension plans	35.2	170.6
2. Employer contributions for Federal and state social insurance programs	34.2	153.1
3. Return on equity in own home	13.5[3]	48.8[3]
4. Tax deductions for business meals and entertainment	4/	4/

1/ Includes $5.7 billion for persons in institutions.

2/ Includes capital expenditures.

3/ Obtained by calculating total equity in owner-occupied residence in 1962 and 1979 and applying a 3 percent rate of return.

4/ Data could not be furnished by Internal Revenue Service.