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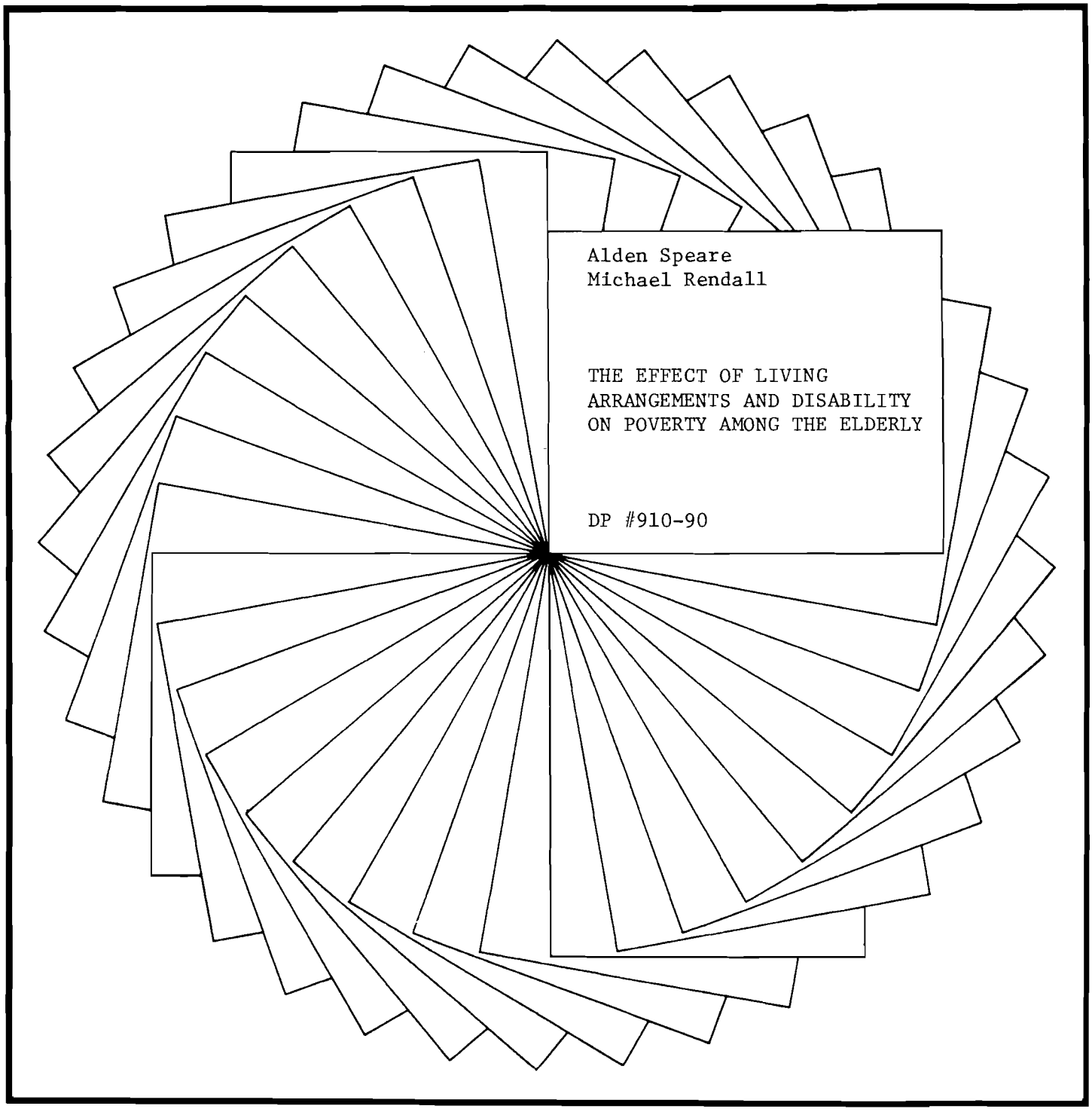

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The Effect of Living Arrangements and Disability on Poverty among the Elderly

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Abstract

This paper is concerned with issues of measurement of poverty rates among the elderly population and with the alleviation of that poverty by means of shared living arrangements. Specifically, we estimate effects of taking account of assets as well as income, of including in income government subsidies on food, rent, and household energy, and of setting higher poverty thresholds. The effects of shared living arrangements on alleviating poverty are estimated by computing for elderly persons who live with others a hypothetical "living-alone" poverty status. The estimates are made for the U.S. elderly population in late 1984, using Wave 4 of the 1984 Panel of the Survey of Income and Program Participation.

We find substantial poverty alleviation through shared living arrangements. An extra 1.3 million, or 5.2 percent of the noninstitutionalized elderly, might be added to the ranks of those living below 125 percent of the official poverty threshold in the absence of shared living arrangements. Older, disabled, and minority elderly are most likely to be so saved from poverty.

The estimated biases due to omission of asset dissaving, due to omission of subsidies, and due to the unreasonably low poverty threshold, are individually large but mutually offsetting. The net effect of correcting for all three sources of bias is slightly to decrease the poverty rate of the elderly population in late 1984, from 11.9 percent to 9.9 percent. The effect of failure to correct for omission of asset dissaving is to downwardly bias the poverty rates of minority elderly, and upwardly bias the poverty rates for the oldest old.

INTRODUCTION

The question of the relationship between living arrangements and poverty is of particular interest because of changes in the norms and expectations for caring for the elderly. Before the widespread availability of social security and private pensions, it was expected that relatives would provide both the financial and physical assistance needed by elderly persons who were no longer able to work. However, with the growth of independent sources of income, there has been a significant decline in the proportion of elderly persons living in extended families and a substantial increase in the proportion living alone or in institutions (Kobrin, 1976; Michael, Fuchs, and Scott, 1980; Rosenwaike and Logue, 1985; and Christensen and Slesinger, 1986).

Most elderly persons prefer to live independently (Tissue and McCoy, 1981; Hanson and Sauer, 1985; McAuley and Blieszner, 1985), although the extent to which they can do so depends upon their health and economic situation (Glick, 1979). Troll (1971), after reviewing several studies, concluded that elderly persons generally did not want to live with children until they experienced illness or disability requiring assistance. And there has been a substantial decline in the proportion of children who believe that they are financially responsible for their parents--from 50 percent in the 1950s to 10 percent in the late 1970s (Crystal, 1982). These preferences correspond to the observations of Mutchler and Burr (1988) that elderly women with disabilities were less likely to be living independently than those without disabilities.

Similarly, poorer elderly, especially those who are unmarried, are more likely to live with others than wealthier elderly persons (Kobrin,

1981; Moon, 1977; Ross, Danziger, and Smolensky, 1987; Holden, 1988). These results suggest that shared living arrangements arise more from necessity than choice. If this is the case, it suggests that measures of poverty ought to be based on the economic situation of an elderly person or couple and not on the situation of the larger household in which they may live.

The usual method of measuring poverty is to compare current household income to the official, Social Security Administration (SSA) poverty threshold for the number of persons in the household. Less income per person is needed in larger households because of economies of scale in housing and other costs. By setting the poverty threshold for the entire household, it is assumed that the household composition is determined by choice and not necessity. While such an assumption is reasonable for a nuclear family comprising parents and dependent children, it is less appropriate for extended families with elderly members, given the preference for independent living. If independence is taken as the norm, then many more elderly persons might be poor were they not able to live with others (usually relatives).

In this paper we will estimate the effect of household extension on reducing the official measure of poverty by developing an alternative measure which treats the elderly person or couple as an independent unit and assumes no sharing of resources with other members of the extended household and no reduction in per person (or per couple) resource requirements from shared housing. These assumptions are essentially those that would hold if all elderly persons or couples lived alone with no interhousehold transfers. By comparing the poverty rates under this

alternative "person/couple" poverty measure with poverty rates under the usual "household" poverty measure, the degree of poverty alleviation through shared living arrangements is estimated.

In addition to looking at the impact of extended families on alleviating poverty, we also consider some other problems with the official poverty measure. The official measure, which is based only on cash income, upwardly biases the extent of poverty in a population, first by omitting the monetary value of noncash welfare subsidies (Ruggles, 1987), and second by not accounting for possibilities for dissaving from stocks of physical and financial assets (Radner and Vaughan, 1987; David and Fitzgerald, 1988; Crystal and Shea, 1989). A lower bound on the degree of upward bias due to omission of subsidy values is estimated here by alternately including and not including the monetary value of food stamps, energy subsidies, and rent subsidies on private and public rental accommodations. The degree of upward bias due to omission of reasonable dissaving from assets is estimated here by alternately including and not including the annuity value of assets as originally proposed by Weisbrod and Hansen (1968). When the asset annuity is not included, the resulting poverty measure is referred to as "income only"; the measure which includes both assets and income is referred to as "income-net worth."

The usual method of measuring poverty probably also contains a major element of downward bias in its definition of the poverty threshold. Girshick and Williamson (1984) argue that the SSA poverty threshold is unreasonably low, having been set and kept low for political reasons. Fendler and Orshansky (1979) argued that the poverty

threshold for the elderly should be raised by 40 percent. We prefer to adopt the 25 percent higher level used by the Bureau of the Census and other agencies as the "near-poverty threshold" (Quinn, 1987).

DATA AND METHODS

The data come from the 1984 panel of the Survey of Income and Program Participation (SIPP). We have selected persons who were born in 1918 or earlier and who were thus aged 65 or over at the beginning of 1984. Because of the importance of the asset data which were obtained in Wave 4, we have selected only those original sample individuals who were also interviewed in that wave.[1] This, unfortunately, has meant a loss of approximately 15 percent of the original sample members who were not interviewed in both Wave 3, from which we took information on health and disability, and Wave 4. We have attempted to compensate for some of the biases due to this attrition by employing weights which are adjusted for differential attrition between Waves 1 and 4 by race, sex and initial marital status.[2]

Using data from Wave 4 of the SIPP, four basic measures of elderly poverty are constructed, corresponding to the distinctions between "income only" and "income-net worth" measurement and between "household" and "person/couple" measurement. In addition, the values of food, energy, and rent subsidies received by a household are considered in two additional household poverty measures. Thus we measure poverty among the elderly in six different ways, the objective of each being to match monthly resources to monthly needs:

1. Household: income only;

2. Household: income and net worth;

3. Person/couple: income only;

4. Person/couple: income and net worth;

5. Household: income only, including subsidies;

6. Household: income and net worth, including subsidies.

Income is taken as an average of the income reported in the four months of Wave 4, to smooth out monthly fluctuations in income. Average monthly household income is defined as the average of the monthly income received by the household in which the elderly person lived in each month of the four-month period. Average monthly person/couple income is defined as the average of the income for the four preceding months received by the elderly person and that person's spouse, if present, in the fourth month. The Bureau of the Census's cross-sectional imputations for missing income data are used.

Calculation of the "income-net worth" measures, while a significant improvement over the "income-only" measure in terms of realistically assessing the material position of the elderly, is considerably more complex. Further, lack of knowledge about the way elderly individuals actually dissave, or how those making social welfare choices implied in a poverty measure would like them to dissave, plus limitations of the data available to us, require some arbitrary assumptions. We attempt to be as explicit as possible about such assumptions and their likely consequences.

The method used here derives originally from the income-net worth measure proposed by Weisbrod and Hansen (1968), discussed further by Taussig (1973), and applied specifically to the elderly by Moon (1977)

and Crystal and Shea (1989). The basic premise is that the elderly could turn their stock of assets into an annuity flow to be received until their death. While the actual annuitization of assets by elderly persons is relatively rare,[3] the existence of a market for annuities provides a way of converting assets into income which could be followed by an elderly person and which we can use to calculate the income equivalent of assets. The principal tasks are to determine what constitutes assets available for annuitization, to determine at what rate they are to be annuitized, and to be sure that income actually derived from these assets is not counted in income.[4]

Definition of Assets Available for Annuitization

We have assumed that 70 percent of the total reported value of net assets, including house equity, financial assets and real estate, and the face value of life insurance,[5] and excluding household durables, vehicles,[6] and future pension entitlements, constitute the elderly person's and his or her spouse's assets available for annuitization. Physical assets, particularly as embodied in house equity, are annuitized on the same basis as financial assets, on the assumption that extra use value (in the form of capital services) from physical assets during the owner's lifetime compensates for a lower annuity that would be given by an annuity vendor for assets not available to the vendor until the death of the owner.

The 70 percent factor (.7 in equation (1) below) serves to reduce net worth to reflect imperfection and incompleteness of annuities markets, the difficulty in liquidating assets at their market value

(Projector and Weiss, 1969; David and Fitzgerald, 1988), and the possibility that one may either live longer than the average expectation of life at one's current age or may wish to make bequests as trade for services from heirs (Bernheim, Schliefer, and Summers, 1986). In choosing 70 percent, we also take into account results from Kotlikoff and Spivak (1981), who show that family arrangements to pool the risk of death can substitute by 70 percent or more for a complete annuity market. This is somewhat different from Moon's (1977) method. She reduces only the value of house equity by the 70 percent factor, and reduces house equity by less for persons/couples with greater life expectancies, assuming greater return on house equity for the remaining period they live in the house than for the annuity value given by the annuity vendor on anticipation of the remaining value of the house upon the owner's death. We do not alter the annuity value of house equity for the length of time the owner will be alive. We also apply the 70 percent factor to all assets, not just house equity. Our assumption is that imperfections and incompleteness of annuities markets apply equally to all types of assets.

No attempt is made here to adjust for misreporting of assets and income. Although the net effect of misreporting is to understate the average net worth of the whole population,[7] the sign of the net effect is unclear for those elderly at the lower end of the distribution. Particularly, we note that the value of house equity tends to be overestimated in SIPP self-reports, while interest-earning assets are underreported. Since house equity constitutes the major proportion of total net assets of many elderly approaching poverty, our failure to

adjust for misreporting may bias elderly poverty downwards. This may be offset somewhat by underreporting of income (see, e.g., U.S. Bureau of the Census, 1989, Appendix C).

Annuitization Formula

The monthly share, S, of asset annuity is calculated as follows:

$$S = .7W\{r/[1-(1+r)^{-N}]\}/12, \quad (1)$$

where W is total reported value of net assets as defined above, r is the real interest rate for the annuity, and N is the life expectancy of the individual, or, for an individual with spouse present, the average life expectancy of the elderly individual and his/her spouse.[8,9] The real interest rate is set at 2 percent, the lowest of rates used in representative work on annuities of the elderly (Crystal and Shea, 1989, follow Moon, 1977, in using 2 percent, while Auerbach and Kotlikoff, 1987, use 4 percent).[10] The (annual) annuity is simply divided by 12 to give the monthly share, S.

In addition, when an elderly individual is not the head of household, imputed annual rent R at 5 percent[11] of the value of house equity is added to the annuity for the calculation of household income net worth. Total monthly resources Y_{HH} available to the elderly person and his/her spouse are thus defined for the household income-net worth measure as:

$$Y_{HH} = S + R + (M_{HH} - P_{PC}), \quad (2)$$

where M_{HH} is average monthly household income as defined in the "income-only" measure, and P_{PC} is average monthly (person/couple) property income. Since the elderly person/couple's income-generating assets are

assumed to be traded immediately in their entirety for an annuity, their current monthly property income P_{PC} must be subtracted from total current income M.

Total monthly resources Y_{PC} available to the elderly person and his/her spouse for the person/couple income-net worth measure are defined as

$$Y_{PC} = S + R + (M_{PC} - P_{PC}), \qquad (3)$$

where M_{PC} is average monthly person/couple income as defined in the "income only" measure, and P_{PC} is again average monthly person/couple property income.

The assets of persons in the household other than the elderly person and his/her spouse, with the exception of house equity embodied in imputed rent for an elderly non-head-of-household, are not counted towards the elderly person's well-being. This is done both to put some reasonable bound on the extent of household income and asset sharing, and because of difficulties in defining the allocation of assets over younger household members' lifetimes.

The annuitization formula (1) implicitly assumes that current income will not change over their remaining lifetimes, and that in the case of a married elderly person, needs of the surviving partner after one has died will be reduced by 50 percent from the total needs of the couple while both are alive.[12] The biases resulting from these assumptions will differ according to the marital and working statuses, and the pension entitlements, of the elderly individual.

For a currently working unmarried elderly person, the formula will over-allocate assets to the present period (Moon, 1977), because the

assumption is made that those earnings will either continue until death or be replaced by a pension equal to the earnings. Projector and Weiss (1969) note that inclusion of differential earnings capacity is necessary for accurate comparisons of welfare among different age groups, and particularly when comparing elderly to nonelderly welfare.

A final note about the formulas used here is that they should not be taken to correspond to economic welfare in the sense usually meant by economists. No account here is taken of the value of leisure (Taussig, 1973, ch. 6), nor of the utility derived from living alone versus with others (Pollak and Wales, 1979; Holden, 1988). We assume optimal allocation to be dictated by social choice rather than by the elderly individual. This is consistent with the concept of poverty as a socially defined measure of ability to maintain a minimum consumption level (Orshansky, 1965), and not a minimum utility level (cf. Hagenaars and van Praag, 1985).

Monthly needs are measured by the household size-based monthly poverty threshold computed by the U.S. Bureau of the Census each interview month and incorporated in the SIPP data set. This threshold is alternately left as it stands (the poverty threshold), or multiplied by 1.25 (the near-poverty threshold). The household and person-couple poverty threshold and near-poverty threshold for each month match the household composition assumed for each month's income. Thus household poverty thresholds in the four months vary according to variation in the composition of the household during the four-month period, and person-couple poverty thresholds depend only on whether the elderly person had a spouse present in the fourth month. If so, the poverty

threshold for a two-person household was used for each of the four months. If not, the poverty threshold for a one-person household was used for each of the four months.

In summary, an elderly person is defined as poor if monthly resources, alternately of the household or of the person or married couple, and alternately including or excluding net worth, are less than the official poverty threshold for the number of persons whose income is measured (alternately the number of persons in the household or the one or two persons constituting the elderly unit). An elderly person is defined as near-poor if monthly resources are between 1.0 and 1.25 times the official poverty threshold, and as not poor if neither poor nor near-poor.

The observed population consists of 5,288 persons who were 65 or over at the beginning of the 1984 Panel of the SIPP, and who were interviewed in Wave 4, eight to twelve months later, in the months of September through December 1984. The total estimated population of 24.9 million elderly will slightly underestimate the Unites States noninstitutionalized population over 65, as no adjustment was made for immigrants, persons leaving institutions, and cases lost due to missing data.[13]

RESULTS

The traditional "income-only" measure of poverty is adjusted in Table 1 to include assets and noncash benefits (subsidies). The largest effect by far is the adjustment for the annuitized value of assets, which results in a 40 percent reduction in the proportion who are poor,

Table 1

Measures of Poverty of the Household in Which the Elderly Person Resided in 1984

Poverty Status and Sex	Poverty Measure: Income Only	Income and Subsidies	Income and Net Worth	Income, Net Worth, and Subsidies
Poor:				
Male	7.3%	6.3%	4.4%	3.5%
Female	15.1	12.0	9.2	6.2
All	11.9	9.7	7.2	5.1
Near-poor:				
Male	6.0	5.5	4.4	3.6
Female	10.1	8.2	7.5	5.5
All	8.4	7.1	6.3	4.8
Poor or near-poor:				
Male	13.3	11.8	8.8	7.1
Female	25.2	20.2	16.7	11.7
All	20.3	16.8	13.5	9.9

(Unweighted N = 5,288)

Notes:

1. Cases are members of the 1984 Panel of the SIPP who were born in 1918 or earlier and who were interviewed in Wave 4. Cases are weighted by Wave 1 weights adjusted for attrition (weighted number = 24,887,000).

2. Total N will slightly underestimate the United States noninstitutionalized population over 65 years old as no adjustment was made for missing data.

3. Subsidy income includes food stamps, home energy and rent subsidies.

from 11.9 percent to 7.2 percent. Adjusting for noncash benefits (food stamps, energy and rent subsidies, and public housing) results in another 18 to 29 percent reduction, depending upon which measure is used for comparison. Similar results are obtained if the comparison is made at the 125 percent threshold, which includes the "near poor" and the poor. The percentage of the elderly below this threshold is reduced from 20.3 percent to 13.5 percent when assets are included, and noncash benefits further reduce the percentage further to 9.9 percent. More than half of the reduction due to inclusion of noncash subsidies is due to public housing. While only 3.4 percent of all elderly persons occupy public housing, 10.8 percent of those who are below the conventional household measure of poverty live in public housing. For these persons, we know the amount of rent they pay, but not the market rental value of the housing. The market rental value of the housing is estimated to be equal to the average for those who receive rental subsidies for units available in the private market and who reported a market rent. The benefit is calculated as this average less the rent the public housing tenants actually paid.

We have not included either Medicaid or Medicare as noncash benefits, although they provide substantial assistance for some elderly persons. We feel that these benefits are designed to provide for health costs which vary widely among individuals. If we were to include these benefits, a person who was otherwise below the poverty level and who had a large medical bill paid by Medicare or Medicaid might appear to be above the poverty level even though that person had received no additional funds to pay for food or housing.

We do not include subsidy income in subsequent tables, since this income cannot be satisfactorily divided among the householder and others in the household, as required by our subsequent "person-couple" poverty analyses. We are also concerned about the crudeness of our measure of the value of public housing. Although we ignore these benefits, they are significant in determining the well-being of some elderly persons, a point that should be remembered when drawing conclusions from our findings.

That poverty measurement is very sensitive to the threshold choice is shown by the substantial proportion (6.3 percent by the income-net worth measure) of elderly in the near-poor category, i.e., with available resources between 100 and 125 percent of the official SSA poverty threshold. Thus a 25 percent increase in the poverty threshold level would almost double the income-net worth poverty rate (from 7.2 to 13.5 percent).

Adjusting for all three sources of bias, measured poverty decreases from 11.9 to 9.9 percent of the U.S. elderly population in late 1984. Adjusting only for asset dissaving and poverty threshold understatement, measured poverty increases from 11.9 to 13.5 percent.

The degree of poverty alleviation through shared living arrangements is substantial, as can be seen by comparing person/couple poverty rates to household poverty rates (see Table 2). Using measures based only on income, the percentage below poverty declines from 16.2 percent (row 1, col. 4) to 11.9 percent (row 4, col. 1) in moving from the person-couple status to the household status, and the percentage who

Table 2

Economic Status of Elderly Persons/Couples and of Their Households, using Income-Net Worth and Income-Only Measures

	In Poor Households	In Nearly Poor Households	In Nonpoor Households	All Elderly Persons/Couples
A. Income-Only Measure				
Persons or Couples Who Are				
Poor	11.1%	0.8%	4.3%	16.2%
Near-poor	0.5	7.1	2.4	10.0
Not poor	0.3	0.5	73.0	73.8
Total	11.9	8.4	79.7	100.0
B. Income-Net Worth Measure				
Persons or Couples Who Are				
Poor	6.5	0.4	3.5	10.4
Near-poor	0.5	5.3	1.8	7.6
Not poor	0.2	0.5	81.3	82.0
Total	7.2	6.6	86.3	100.0

Source: 1984 Panel of SIPP, persons born in 1918 or earlier who were interviewed in Wave 4.

Weighted N = 24,875,000.

are either poor or nearly poor declines from 26.2 percent (col. 4, row 1 plus row 2) to 20.3 percent (row 4, col. 1 plus col. 2).

Including income and assets, the overall person-couple poverty rate is 10.4 percent, compared to only 7.2 percent for the household measure. The corresponding poverty/near-poverty rate is 18.0 percent among persons or couples (last col., row 5 plus row 6) and 13.8 percent using the household measure (last row, col. 1 plus col. 2). That is, 18 percent of elderly persons are estimated not to have sufficient income to meet a minimum consumption level if forced to live alone or, in the case of married elderly, with just their spouse. Summing the first two rows in column 3 of Panel B, an estimated 5.3 percent, or 1.3 million, of the approximately 25 million noninstitutionalized elderly in the United States in 1984 were prevented from falling below the poverty line by living with others. Column 1 indicates that a much smaller proportion, 0.7 percent, became poor or near-poor by virtue of living with others who had insufficient resources.

Table 3 analyzes the living arrangements of the 1.3 million elderly who avoid poverty by living with others. Most live with relatives. The most common arrangement, accounting for 62 percent of these elderly

Table 3

Living Arrangements of Poor or Near-Poor Elderly Persons/Couples in Households Not Poor or Near-Poor under the Income-Net Worth Measure

Arrangement		Percentage of Total
Living with Relatives		89.0
With children: Elderly person is householder	13.6	
With children: Child is householder	48.0	
	61.6	
With other relatives: Elderly person is householder	9.5	
With other relatives: Relative is householder	17.9	
	27.4	
Living with Nonrelatives		9.3
Unknown		1.7
Total		100.0

Total N = 1,308,000 (unweighted N = 277)

Note: Total N will slightly underestimate U.S. population total as no adjustment was made for missing data.

persons, is to live with children, while another 27 percent live with other relatives. In both cases, the elderly person or couple is unlikely to be the householder. Among those living with children, only 22 percent (13.6 ÷ 61.6) are householders, while 35 percent (9.5 ÷ 27.4) of those living with other relatives are householders.

Shared living arrangements may move a poor person or couple out of poverty in two ways--through the extra income provided by others in the household, and through lowering the per person poverty level owing to assumed economies of scale. By comparing the elderly person's or couple's share of household resources to the elderly person/couple near-poverty threshold, we estimate that the extra income from the others in the household is sufficient to take 67 percent of these elderly out of poverty/near-poverty.[14] The remaining 33 percent are prevented from poverty or near poverty by some combination of other household members' income and by the economies of household scale inherent in the threshold adjustment for larger households.[15]

Shared living arrangements generally assist only unmarried elderly. Table 4 shows that, under the income-net worth measure, the percentage of unmarried men who are poor or near-poor declines from 21.1 percent in the "all live alone" scenario to 14.6 percent in actuality. The corresponding reduction for unmarried women is from 34.2 percent to 23.0 percent. The married elderly population is actually worse off in households with other persons than living as couples alone, implying that more of the married elderly support relatives (or nonrelatives) than are supported by them.

Table 4

Poverty Status of Persons or Couples and of Households, by Sex and Marital Status, under Income-Only and Income-Net Worth Measures

	Persons or Couples		Households	
	Income Only	Income-Net Worth	Income Only	Income-Net Worth
Percentage Poor[a]				
Married men	5.8	3.2	6.1	3.7
Unmarried men	16.2	10.2	10.8	6.5
All men	8.4	5.0	7.3	4.4
Married women	4.6	2.4	4.9	2.7
Unmarried women	31.5	21.0	21.0	13.0
All women	21.6	14.2	15.1	9.2
Percentage Poor or Near-Poor[b]				
Married men	10.6	6.3	10.8	7.1
Unmarried men	29.9	21.1	20.6	14.6
All men	15.4	10.1	13.3	8.8
Married women	9.2	5.3	9.9	5.8
Unmarried women	47.9	34.2	34.1	23.0
All women	33.6	23.6	25.1	16.7

[a]Below the poverty threshold.

[b]Below 125 percent of the poverty threshold.

Poverty rates increase with age (or decrease by recency of cohort, if a cohort interpretation is taken), but they increase less with age when net worth is included in the poverty measure, and increase less than they would in the absence of shared living arrangements (see Table 5).[16] Comparing the "income-only" poverty rates of persons or couples of different ages, the total of those poor and near-poor more than doubles, from 17.4 percent of those aged 66-70 years to 43.8 percent of those over 80. Among households that are poor or near-poor by the income-only measure, the increase is less, from 14.7 percent to 30.6 percent, since greater proportions of older elderly take advantage of shared household living arrangements.

Much more dramatic is the effect of measuring poverty by income-net worth versus income only. Under the person/couple "income-net worth" measure, only 26.2 percent of those over 80 are below the near poverty line, as compared to 43.8 percent by the "income only" measure. Under the household income-net worth measure, the proportion of those 80 and over who are below the near-poverty threshold is only 16.0 percent, compared to 30.6 percent for the income-only measure. The net effect of including assets and of using the higher, near-poverty threshold increases household poverty rates of those 66-70 years old from 8.8 percent ("income-only poor") to 11.2 percent ("income-net worth poor or near-poor"), while the comparable rate for those over 80 decreases from 18.9 percent to 16.0 percent. The older elderly benefit more from assets than do the younger elderly, because the former have relatively few expected remaining years of life over which to allocate this remaining net worth. In addition, since very few elderly over 80 have

Table 5

Person-Couple and Household Poverty, by Age, under Income Only and Income-Net Worth Measures

Age Group	Persons or Couples		Households	
	Income Only	Income-Net Worth	Income Only	Income-Net Worth
Aged 66-70				
Poor	10.5%	7.9%	8.8%	6.5%
Near-poor	6.9	5.3	5.9	4.7
	17.4	13.2	14.7	11.2
Aged 71-75				
Poor	14.3	9.6	10.5	6.9
Near-poor	9.7	8.3	8.4	6.9
	24.0	17.9	18.9	13.8
Aged 76-80				
Poor	17.5	10.1	12.9	6.8
Near-poor	11.2	9.1	10.1	8.1
	28.7	19.2	23.0	14.9
Aged 81 +				
Poor	28.7	16.9	18.9	9.8
Near-poor	15.1	9.3	11.7	6.2
	43.8	26.2	30.6	16.0

Source: See Table 1.

Note: Age begins at 66 because the cohort of those 65 or older was followed from Wave 1 to Wave 4, one year later.

earned income, assets will contribute proportionately more to available resources than for some of the younger elderly.

The effects of poverty measurement and of shared living arrangements differ by race and ethnic group (see Table 6). The effect of including net worth in the numerator component of the poverty measure makes less difference for minority elderly poverty-rate calculations than it does for whites, because minority elderly have accumulated less from income, savings and inheritance earlier in life. The household poor or near-poor poverty rate among black elderly, for example, is 44.4 percent on the income only measure and 36.9 percent on the income-net worth measure. The corresponding proportions for whites are 17.7 percent and 10.9 percent, representing a much larger percentage in relative difference by method. Correspondingly, the net effect of allowing for dissaving and of raising the poverty threshold is to increase only slightly the household poverty rate for whites (10.0 to 10.9), but to increase substantially the rate for minority elderly: 30.3 to 36.9 for blacks, 17.4 to 25.4 for Hispanics, and 13.3 to 22.1 for Asians and Pacific Islanders.

Hispanic and Asian/Pacific Island elderly appear more likely to be protected from living below the poverty or near-poverty line by living with others than are either white or black elderly. Comparing the person/couple poverty rates with the household poverty rates using the income-net worth measure, Hispanic elderly poverty/near-poverty is reduced from 39.4 percent to 25.4 percent. For Asians and Pacific Islanders, the rate of poverty or near-poverty declines dramatically,

Table 6

Person-Couple and Household Poverty, by Race and Ethnicity, under Income Only and Income-Net Worth Measures

Racial or Ethnic Group	Persons or Couples		Households	
	Income Only	Income-Net Worth	Income Only	Income-Net Worth
White				
Poor	13.3	7.9	10.0	5.5
Near-poor	9.2	6.6	7.7	5.4
	22.5	14.5	17.7	10.9
Black				
Poor	40.5	30.2	30.3	23.3
Near-poor	14.4	16.3	14.1	13.6
	54.9	46.5	44.4	36.9
Hispanic				
Poor	31.8	26.1	17.4	12.8
Near-poor	17.7	13.3	15.1	12.6
	49.5	39.4	32.5	25.4
Asian or Pacific Island				
Poor	27.8	25.3	13.3	13.3
Near-poor	23.2	17.3	14.6	8.8
	51.0	42.6	27.9	22.1

Source: See Table 1.

from 42.6 percent to 22.1 percent. Among elderly blacks, however, that rate declines only from 46.5 percent to 36.9 percent.

Poverty has a relatively strong relationship to disability, as shown in Table 7. Using information from the topical module on health and disability from Wave 3 of SIPP, we constructed a scale including categories of impairment in Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). ADLs are basic activities such as dressing, eating, and washing; IADLs include such activities as housework and preparing meals. Shared living arrangements are substantially more important in the alleviation of poverty of persons unable to perform some ADLs, and somewhat more important in the alleviation of poverty of persons unable to perform some IADLs, than they are for the nondisabled elderly. While as few as 17.9 percent of elderly with ADL impairment live in poor and near-poor households (using the income-net worth measure), 35.8 percent of these elderly are person-couple poor. This contrasts with the smaller difference--the 12.8 percent in household poverty or near poverty and 16.0 percent person-couple in poverty or near-poverty--of nonimpaired elderly.

DISCUSSION

We proposed to investigate the question of whether the official cash-income-only poverty thresholds as defined by the Social Security Administration contain certain biases. A major objective of this paper has been to determine the effects of these biases on the measurement of poverty among the elderly. The two major results are that allowance for asset dissaving reduces measured poverty considerably, and that a 25

Table 7

Person-Couple and Household Poverty, by Disability Status

Disability Status	Persons or Couples		Households	
	Income Only	Income-Net Worth	Income Only	Income-Net Worth
Unable to perform some ADLs				
Poor	36.9	23.5	17.4	9.3
Near-poor	11.9	12.3	9.6	8.6
	48.8	35.8	27.0	17.9
Unable to perform some IADLs				
Poor	21.9	14.6	15.1	8.9
Near-poor	15.9	12.3	10.9	9.5
	37.8	26.9	26.0	18.4
Able to perform ADLs and IADLs				
Poor	14.5	9.2	11.3	7.0
Near-poor	9.3	6.8	8.2	5.8
	23.8	16.0	19.5	12.8

Source: See Table 1.

percent upward adjustment of the poverty threshold increases measured poverty by as much or more.

The asset dissaving finding is not surprising. Previous studies of economic status calculated with and without asset dissaving (Moon, 1977; Quinn, 1987; David and Fitzgerald, 1988; Crystal and Shea, 1989) similarly find that the measured status of the elderly is considerably improved by incorporating asset dissaving. Further, that improvement has been shown to be greater for older than for younger persons. The results of the present investigation indicate that the usual "income-only" measure tends to artificially diminish the large differences, as measured here, between poverty among minority and white elderly. Our main qualifications to the method of adjusting for asset dissaving are that allowances are not made for differential earnings capacity (i.e., human capital differences), that no allowance is made for the diminishing purchasing power of fixed pensions over time, and that allowances are not made for increased need, especially with declining functional abilities. The failure to take account of increased need for those with functional disabilities deserves particular attention in view of our finding that the disabled have much higher rates of poverty using standard measures.

We have also shown that the definition of the poverty threshold may warrant more attention by those interested in the measurement of poverty. Frequently, poverty measurement focuses considerable attention on the definition of resources, while accepting official poverty thresholds as given. The results here, in which the measured poverty rate almost doubles with a 25 percent increase in the poverty threshold,

suggest that more research be undertaken into the definition of the resources necessary for minimum consumption levels.

Our findings on the poverty-alleviating effects of shared living arrangements indicate that families play a major role in preventing poverty among the elderly in the United States. Our estimate of 1.3 million elderly who were thus prevented from falling below the adjusted poverty threshold is, however, subject to certain assumptions that may not be entirely accurate. Most important, we assumed that if the elderly were not living with relatives, they would be in the noninstitutionalized population, would be receiving no interhousehold transfers, and would not change their income-generating behavior. If these conditions do not hold, then 1.3 million may be an overestimate.

However, meaningful results may still obtain with some violations of these assumptions. We saw that two-thirds of these elderly could have been prevented from falling into poverty by direct interhousehold income transfers, while the other one-third required also the economies of scale inherent in shared living arrangements. If transfers occur within the household, but would not occur if living arrangements were not shared, then our estimates are well founded. Further, if our focus is on the role of the family in preventing elderly poverty, then whether the transfer to the elderly takes place between or within households is unimportant, and by explicitly considering only intrahousehold transfers here, we may have underestimated the role of family in preventing elderly poverty (see, e.g., Moon, 1983).

Regarding elderly persons' alternative income-generating behavior, it is plausible that the elderly living with others are "person or

couple poor" partly because they are able to live with others. The possibilities of different lifetime savings strategies--for example, that many would have worked longer to save adequately for retirement had they not had available to them the family safety net, or that many have given or deeded over certain assets in return for care by their relatives, assets that they would otherwise have retained--cannot be discounted.

Another issue which needs further attention is the way in which home ownership is treated in computing the economic well-being of the aged. While the annuitization of the house value is an equitable way of putting home owners and renters on an equal footing, it is rarely done in practice. Another practice which is rarely used is a reverse equity mortgage that pays elderly persons an income in exchange for their house after they die. A third approach would be to compute the rent saved by owning a home, net of taxes, insurance, and other expenses which renters typically do not pay. Since home ownership is the major asset for many of the poorer elderly, it would be of interest to explore these alternative ways of valuing that asset in an effort to get a better measure of the economic well-being of the elderly.

Notes

[1]Although the SIPP also included persons who moved into existing households at later waves, these people were not followed when they left these households. They were not included in this study because we planned also to study changes in living arrangements.

[2]The Wave 4 weights supplied by the Bureau of the Census were not appropriate, because they apply to the total sample, which includes persons who entered sample households after the initial interview. Since we included only initial sample members in our analysis, we derived our weights from the Wave 1 weights, adjusting for attrition from Wave 1 to Wave 4. Our weighted numbers should approximate those for the total population. There are small differences, however, because immigrants and residents who were abroad at the time of the first interview and who arrived in the United States in the year between Wave 1 and Wave 4 and persons who left institutions and returned to the household population during the year are not included.

[3]The actual annuitization of assets is uncommon among the elderly. Blinder (1988) cites an estimate that only 2 percent of American elderly own annuities of any size, and discusses reasons for their rarity. These include a poor return on investment and an inability to draw higher amounts in the event of an emergency. A further important reason is likely to relate to the desire to leave bequests. Bernheim, Shleifer, and Summers (1986) note that the promise of a bequest can be used by the elderly to secure the services, possibly including shared living arrangements, of their children. Complete annuitization of

assets thus may not be the optimal way for an elderly person or couple to either maximize welfare or to minimize poverty spells.

[4]If all assets produced such income as money market accounts and bank certificates of deposit, annuitization of assets would not be such an important issue. However, for most elderly persons, the largest assets is likely to be their home. While the annuitization of home values is unlikely because it would require selling the home and becoming a renter, it appears to be a fair way of developing a measure which equates the situation of home owners to that of renters, which the official poverty measure does not do.

[5]The current cash value of life insurance is not provided in the SIPP. Some upward bias is introduced by using face value.

[6]Vehicles were excluded partly owing to difficulty in distinguishing their ownership within the household, and partly because of their arguable similarity to that of household durables as necessities recognized in formal welfare program asset tests (Leavitt and Schultz, 1988).

[7]Crystal and Shea (1989), using aggregate data, showed that the underreporting of some assets and income was considerable. However, there is no way to discern whether a particular individual has underreported either income or assets.

[8]Life expectancies are calculated from U.S. life tables for 1979-81 (National Center for Health Statistics, 1985). Since life expectancies used here are for the total 1980 noninstitutional and institutionalized population, they probably underestimate the life expectancies facing the

1984 noninstitutionalized population, resulting in some degree of over-allocation of net worth to a given month.

[9]The spouse's age is constrained to be at least 50 for the purpose of annuity calculation. This assumes both a greater remaining lifetime earnings power of a younger spouse, and a limit on the sharing of net worth of an elderly individual with a considerably younger spouse.

[10]We also experimented with a 4 percent real interest rate, and found that while the annuity is affected substantially by choice of interest rate, resulting poverty rates are relatively insensitive to it. This implies that differences in the nominal value of net worth, known to be large among the elderly (Radner and Vaughan, 1987), dominate interest rate differences in determining the (present) annuity value of net worth.

[11]The choice of 5 percent is arbitrary, but intended to be net of costs associated with ownership. Wolfson (1979) chose 8 percent in his study of Canadian income.

[12]Crystal and Shea (1989) and Moon (1977) also assume that needs will halve, while Weisbrod and Hansen (1968) propose they be reduced to two-thirds.

[13]There were 8 cases out of 5,296 with missing data on income, and 3 others with missing assets, who were omitted from most tables. Another 57 cases with missing disability information were excluded from Table 7. The estimated noninstitutionalized population of the United States aged 66 and over was 24,596,000 July 1, 1984, and 25,083,000 July 1, 1985 (Current Population Reports, Series P-25, No. 1022). It was assumed that 5.3 percent were institutionalized, based on data from the 1980

Census. Averaging these numbers yields 24.8 million for the end of 1984, which is very close to our weighted number.

[14]This calculation involved counting the annuity value of any assets which the elderly person or couple had plus a prorated share of household income (less any income from the assets owned by the elderly) and a prorated share of imputed rent if the housing unit was owned by others in the household.

[15]An alternative measure is the proportion of households in which the elderly person or couple provides less than one-half of the income. In 92 percent of households in which the elderly person or couple is below the 125 percent poverty threshold but the household is above the threshold, the elderly person or couple provides less than one-half of the household income.

[16]In Table 5 the ages are approximate because they are based on year of birth and interviewing occurred from September to December 1984. For example, ages 66 to 70 refer to cohorts born from 1914 to 1918.

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