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7 Income Transfers and the Economic Status of the Elderly

Sheldon Danziger, Jacques van der Gaag, Eugene Smolensky, and Michael K. Taussig

7.1 Introduction

The massive growth of income transfers over the last thirty years, particularly those to the elderly, is a central feature of our recent economic history. In 1950, the Social Security Old Age and Survivors Insurance (OASI) trust fund paid 3.48 million retired workers and survivors, 2.3 percent of the population, a total of $1.02 billion in benefits, or just 0.45 percent of U.S. Personal Income. In contrast, in 1979 retirement and survivors' benefits under OASI amounted to $93.13 billion, or 4.79 percent of Personal Income, and the number of recipients numbered 30.35 million, or 13.8 percent of the population.[1] Furthermore, the advent of Medicare and Medicaid in 1965 and of the Supplemental Security Income program (SSI) for the elderly in 1974 (to replace the state-administered old age assistance programs), and the rapid growth of federal and state and local government worker retirement programs, accounted for billions of dollars of additional transfers going totally or disproportionately to the elderly. The elderly are the largest group of

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recipients of government income transfer payments in this country, as well as in other economically developed countries. The expected future growth of these benefits has become a matter of major concern for economists and the general public. These facts justify careful examination of certain key aspects of income transfer programs for the elderly.

The implicit transfer policy question obviously is: Would increments at the margin to elderly rather than nonelderly households be equitable? This paper does not explicitly address this normative question. Rather, it addresses a prior factual question: How well-off are the elderly relative to the nonelderly? To that end it examines in some detail how the measured effect of transfers on the economic status of the elderly depends on the underlying income and recipient unit concepts.

How economically well-off are the elderly? The simplest method of assessing the economic status of a group like the elderly is to compare their average money income to the average of the rest of the population or of other groups. Our point of departure in undertaking this study is the familiar one that the validity of such comparisons often depends critically on the income and recipient unit concepts that are used to generate the underlying size distributions of economic status both before and after transfers.[2] We will present several alternative measures of the relative economic status of the elderly based on a number of different treatments of the income and recipient unit concepts. We begin with comparisons that include transfers and taxes. We then deduct taxes and examine the effects. Finally, we also deduct transfers and evaluate the consequences.

The paper proceeds as follows. Section 7.2 discusses a new data set created by the authors for dealing with some well-known, but unresolved, problems in the measurement of economic status. Section 7.3 then uses these new data to generate estimates of the economic status of consumer units headed by elderly and nonelderly persons, including transfers. In this section, income and consumption measures of economic well-being receive about equal attention. Section 7.4 reports the differential effects of income transfers on the economic status of the elderly and the nonelderly. Because we know of no reasonable way to estimate what consumption would be in the absence of transfers, this section concentrates on income measures of economic well-being. Section 7.5 summarizes the main findings of the paper and offers some implications for public transfer policies.

7.2 The Data

Economists have often expressed dissatisfaction with the quality of the data available for measuring economic well-being. How is it possible to compare the effect of income transfers on the relative economic status of any group in the population when the income concept in existing data sets

is known to be severely deficient in some crucial respects? This circumstance is particularly troublesome, of course, when the deficiencies of the data are known to be nonrandom between two or more groups and therefore cannot be assumed to cancel each other out when making intergroup comparisons. This general problem is especially pertinent when comparing the economic status of the elderly with that of the rest of the population. We have therefore resorted to two corrective procedures. First, we compare measures of economic well-being based on consumption as well as on income. Second, we create a new data set that corrects for one of the more important deficiencies in existing consumption and income data. To be specific, we have combined data from the 1972–73 Consumer Expenditure Survey (CEX) with data from the Inventory of Consumer Durables (CD) of the same survey to make consumption and income measures from the CEX correspond more closely to the concepts used in standard economic theory.

The CEX data have been described in detail in, among other sources, U.S. Department of Labor, Bureau of Labor Statistics (1977) and in King (1978). We therefore discuss here only those aspects of the data directly relevant to this study. First, we have restricted our analysis to consumer units interviewed in 1973, thereby eliminating problems associated with relative price changes between 1972 and 1973. In addition, we eliminated consumer units that were not full-year participants and also those for which income records were incomplete. We were left with a sample of 9494 consumer units.[3] The elderly are defined to be all consumer units headed by a person aged 65 or over; the nonelderly, as all units headed by a person aged 64 or younger. (We note in passing that the 5.5 percent of persons in institutions and group quarters were not covered in the CEX; consequently, elderly persons living in nursing homes were not included in this study.)[4]

The quality of the income data is difficult to assess. Underreporting of income is a serious problem in any household survey. Factor payments reported by consumer units in the CEX are only 91 percent of the amount in the National Income Accounts. The shortfall differs by income source. Ninety-two percent of wages and salaries are reported, but only 78 percent of federal public assistance transfers and 54 percent of state and local transfers (Dalrymple 1980). The biases for comparisons of the income of the elderly and the nonelderly are offsetting to some extent. The elderly are more likely to receive transfers and less likely to receive wage and salary income than the nonelderly. But the elderly receive a much larger share of federal transfers as compared to state and local transfers than do the nonelderly. Furthermore, Radner (1981) has reported that the elderly underreported their money income considerably more than did the nonelderly in the 1973 Current Population Survey. The same bias is likely to hold in the CEX. Finally, the CEX does not include

most types of government-provided in-kind income (the only exception is food stamps), most of which are received by the elderly, or employer-provided fringe benefits, most of which are received by the nonelderly. Thus, neither the direction nor the magnitude of the bias by age is known.

Consumption expenditures as measured in the CEX are defined as out-of-pocket expenditures.[5] This definition differs from that in the National Income Accounts, especially with regard to durable purchases. If, for instance, a household buys a new car and pays in cash, the total expenditure appears in consumption. However, if the household makes a down payment and borrows the rest, only the down payment plus the monthly finance charges are counted as consumption. If the "down payment" consists of an old car, only the finance charges are counted. Since it is likely that elderly households own a more extensive stock of durables than younger households, ignoring the contribution of durables (including owner-occupied houses) to both income and consumption would bias comparisons across age groups.

To deal with this problem, we combined data from the CD with the CEX to obtain consumption and income measures that are more closely related to the consumption and income flow concepts of economic theory. The CD public use tape provides information on the presence of major durables, minor durables, vehicles and furnishings in all households in the 1972–73 CEX. We matched the information on the CD tape with the expenditure data on the CEX tape to obtain a measure of household consumption that excludes expenditures on durables made during the year of the survey, but includes the value of consumption flows (service flows) from all durables present in the household (for a complete description, see van der Gaag et al. 1981 and appendix A). We included service flows from major durables and vehicles only. The value of most minor durables (toaster, mixer, hair dryer, etc.) is small enough to warrant treating them as nondurables. The CD tape does not contain information on the value of house furnishings, which prevents us from calculating service flows from furniture. The services derived from owner-occupied housing are included as a substitute for expenditures on home purchases in the consumption measure and as an addition to the income measure.

The reported measures of income and consumption are quite different from the adjusted, theoretically more appropriate, ones. The results vary both by age of the household head and by income class. One surprising outcome of these adjustments is that "consumer expenditures" from the CEX is a pretty good proxy for total "consumption" by nonelderly households. The corrections for service flows from, and expenditures on, owner-occupied homes, durables, and vehicles tend to cancel so that, on average, the ratio of reported to adjusted consumer expenditures is 1.00 ($9813/$9807 in table 7.1). For elderly households, however, adjusted

Table 7.1 **Quintile Shares, Gini Coefficients, and Means for Consumption and Income after Taxes, 1973: CEX Consumption and Income Measures Reported and Adjusted for Durable Flows**

	Quintile Shares					Gini Coefficient	Mean Economic Status
	1	2	3	4	5		
I. All consumer units							
1. Reported CEX consumption	6.26	11.91	17.11	23.58	41.14	.351	$ 8,855
2. Adjusted consumption	6.90	12.64	17.45	23.56	39.44	.327	9,014
3. Reported CEX income after taxes	4.75	11.16	17.21	24.32	42.56	.382	11,115
4. Adjusted income after taxes	4.96	11.14	17.19	24.50	42.21	.377	12,989
II. Consumer units, head age < 65							
1. Reported CEX consumption	7.39	12.78	17.40	22.90	39.52	.321	9,813
2. Adjusted consumption	7.80	13.25	17.74	23.10	38.10	.303	9,807
3. Reported CEX income after taxes	5.81	12.39	17.69	23.65	40.48	.348	12,260
4. Adjusted income after taxes	5.78	12.17	17.73	23.95	40.37	.348	14,217
III. Consumer units, head age > 64							
1. Reported CEX consumption	6.34	11.43	16.64	22.62	42.96	.361	4,963
2. Adjusted consumption	6.51	12.07	16.99	22.79	41.65	.348	5,794
3. Reported CEX income after taxes	5.14	9.23	14.54	21.87	49.22	.436	6,455
4. Adjusted income after taxes	5.20	9.72	15.14	22.39	47.54	.421	7,997

consumer expenditures exceed reported consumption, on average, by 17 percent ($5794/$4963 in table 7.1).

In contrast to the effects on consumption, income after direct state and federal taxes changes considerably, *both* for elderly and for all other consumer units, after we add to the CEX income measure the estimated rental value of durables, vehicles, and owner-occupied houses. For example, for elderly households in the first quintile of the size distribution of income for the whole sample, the change is as large as 40 percent; for the nonelderly in the same quintile, it is 24 percent. On average, our adjusted income measure is 16 percent higher than the reported measure from the CEX for consumer units under age 65 ($14,217/$12,260) and 24 percent higher ($7997/$6455) for the elderly.

Table 7.1 provides further details on the effects of our adjustments of the CEX measures of consumption and income after taxes, for all consumer units and then separately for units headed by the elderly (age 65 and over) and the nonelderly. The size distributions—before and after our adjustments—are each summarized by their quintile shares, Gini coefficients, and means. Adjusting income and consumption to incorporate flows from durable goods generally results in higher mean economic welfare and lower inequality for all groups than is shown by the reported CEX data. These results cast doubts on the empirical findings of other studies that have used the reported CEX data (or Current Population Survey data or other data sets that do not account for service flows from durable goods), especially those studies that have made comparisons across age groups.

7.3 Measures of Economic Status

We turn now to the relative economic status of the elderly under different treatments of the income and recipient unit concepts. The vast literature on empirical measures of inequality has examined the issues involved in defining these concepts in depth, and we will not repeat here all the familiar points.[6] Instead we present a number of such measures with a brief discussion of why each is included. We then proceed to compare and contrast their empirical implications. All the estimates reported are based on the adjusted consumption and income data discussed in section 7.2.

One measure of economic status we emphasize is income before taxes, but including cash transfers and the bonus value of food stamps (YBT). We do so, even though transfers are properly the subject of the next section, because YBT is the closest approximation in the CEX to the Current Population Survey's (CPS) widely used money income measure. Because the elderly receive favorable tax treatment in the federal personal income tax and in many state and local taxes, any before-tax

measure understates their relative economic status. Hence, a second measure employed is income after direct taxes (YAT). Taxes are considered as negative transfers and are discussed in the next section of this paper. However, because YAT is our best proxy for command over resources, it is our favored income measure in this section.

Our third measure of economic status is consumption (C). If the life-cycle hypothesis about lifetime saving patterns is valid, then a consumption measure would result in less-biased comparisons of the economic status of the elderly and the nonelderly than an income measure. The reasoning underlying this assertion is stated in a recent study of the issues concerning the measurement of poverty:

> Measuring money spent on consumption rather than money income has frequently been offered as an alternative definition of well-being because it eliminates much of the transitory phenomenon of unexpected gains and losses manifest in current income figures. In other words, consumption stands as a proxy for long-run income. Available data indicate that replacing income with consumption as a poverty measure may have significant effects on the poverty count. Since at very low incomes, expenditures for consumption more often than not exceed income, a current income measure produces higher poverty counts than a consumption measure. In particular, a consumption measure would reduce the number of young poor, who are frequently suffering only temporary poverty, and the number of aged poor who can maintain consumption by drawing upon savings.[7]

Although our own recent paper finds strong evidence contradicting the predictions of the life-cycle hypothesis about the consumption behavior of the aged (Danziger et al. 1982), we nevertheless present consumption as an alternative to our income measures.

Having settled on these three "income" concepts, we turn to the recipient unit. The average consumer unit headed by a person between the ages of 35 and 54 includes twice as many persons as the average unit headed by persons over 65. This suggests that some adjustment for unit size is needed, but the appropriate adjustment is not obvious. One extreme approach is to make no adjustments at all, that is, YBT, YAT, and C are defined on a consumer-unit basis. The arguments in support of this conventional approach stress the voluntary nature of household formation and the presumed utility gained by persons who choose to share their incomes with spouses, children, or any other members of the unit (Lebergott 1976; Pollak and Wales 1979). If person A with a substantial income marries person B with no income, whose utility decreases? Indeed, the new consumer unit of two persons presumably has higher utility than the maximum utility level of the previous two single-person units.

The opposite extreme is to adjust for differences in unit size by rede-

fining consumption and income on a per capita basis, (C/N) and (YAT/N), where N is the number of persons in the unit. The per capita transformation of consumer unit consumption or income is easy to understand and mathematically convenient, but has little else to recommend it.[8] A per capita income measure of economic status implies, for example, that when person A with a given income marries person B with no income, her or his utility is halved; and further, that when the couple have two (planned) children, it is halved again. Per capita income or consumption measures ignore all economies of scale and specialization and—relative to alternative equivalence scales—maximize the distortion in any money income measure of economic status that ignores the value of leisure time and nonmarket production. With this caveat, we will proceed to use the C/N and YAT/N measures to highlight the extreme effects of adjusting consumer unit consumption and income for differences in family size and composition.

Finally, we define four additional measures of economic status: the welfare ratios C/N^*, YAT/N^*, C/N^{**}, and YAT/N^{**}, where N^* and N^{**} proxy the number of equivalent adults in a consumer unit derived from two different equivalence scales. The constant-utility equivalence scale denoted by N^* is based on the theoretical framework of the Extended Linear Expenditure System (see van der Gaag and Smolensky 1982). The scale denoted by N^{**} is that implicit in the official U.S. poverty lines (the Orshansky poverty lines). The two equivalence scales are quite different (see appendix B for a more complete discussion), although they lead to quite similar empirical results in this study. The constant-utility equivalence scale is less sensitive to family size because all commodities are considered in the Extended Linear Expenditure System on which it is based, while the Orshansky scale is based solely on varying food requirements with family size, for which economies of scale are less than for total consumption.

We have then three income concepts—income before taxes (YBT), income after taxes (YAT), and consumption (C). We also have four recipient unit concepts—the household, the two equivalence scales, and the per capita adjustment (see table 7.2). Rather than report on all twelve cells, however, we report on only nine: income before taxes (YBT), income after taxes (YAT), and consumption (C) on a per consumer unit basis; per capita income after taxes (YAT/N), and per capita consumption (C/N); the welfare ratios based on our constant-utility equivalence scale for income (YAT/N^*) and for consumption (C/N^*); and the welfare ratios based on the equivalence scale implicit in the Orshansky poverty lines for income (YAT/N^{**}) and consumption (C/N^{**}). Income after taxes is our preferred income concept, since it is our best indicator of a unit's command over resources, and N^* is our preferred equivalence scale because it is derived from demand theory.

Table 7.2 **Alternative Measures of Economic Status: Income and Recipient Unit Concepts**

	Recipient Unit Concepts			
Income Concepts	Per Consumer Unit	Constant-Utility Equivalence Scale	Orshansky Equivalence Scale	Per Capita
YBT	YBT			
YAT	YAT	YAT/N^*	YAT/N^{**}	YAT/N
C	C	C/N^*	C/N^{**}	C/N

Table 7.3 reports our estimates of quintile shares, Gini coefficients, and means for our nine measures of economic status for all consumer units. There are considerable differences in the mean level of economic status and of inequality among these distributions. As expected, the level of income after taxes is lower than that of income before taxes, and the level of consumption is even lower. The size distribution of income, whether measured by the quintile shares or the Gini coefficients, becomes more equal as one moves from YBT to YAT to C. Our welfare ratio adjustments are normalized independently. As a result, their means cannot be compared. However, these adjustments to both income and consumption show lower inequality than do the unadjusted counterparts. According to the Gini coefficients, per capita income and per capita consumption are distributed more unequally than their unadjusted counterparts, but the ranking is ambiguous because the Lorenz curves of the respective distributions intersect: the per capita distributions have larger shares of total income or consumption in the bottom quintiles even though they are more unequal as ranked by comparisons of Gini coefficients. Therefore we cannot give unambiguous social welfare rankings unless we specify a social inequality aversion parameter (Atkinson 1970). Note finally that the use of either welfare ratio as the measure of economic status results in unambiguously less measured inequality than the distribution based on per capita income or per capita consumption.

Table 7.4 gives the age-disaggregated counterparts of the data in table 7.3. The two age groups are the nonelderly (household head is less than 65) and the elderly (head is 65 and over). Consider first the data for YBT. Mean YBT for the elderly is only about half that for the nonelderly, and the distribution for the elderly is considerably more unequal. Deducting taxes from income, or looking at consumption, moves the elderly closer in terms of both means and Ginis, but large gaps remain. This simple relationship does not hold, however, once we turn to the distribution of per capita income after taxes and per capita consumption expenditures. According to both of these results, units headed by the elderly are almost

Table 7.3 **Quintile Shares, Gini Coefficients, and Means by Alternative Measures of Economic Status, All Consumer Units, 1973**

	Quintile Shares					Gini Coefficient	Mean Economic Status
	1	2	3	4	5		
1. Income before taxes (YBT)	4.59	10.68	16.92	24.76	43.04	.391	$14,918
2. Income after taxes (YAT)	4.96	11.14	17.19	24.50	42.21	.377	12,989
3. Consumption (C)	6.90	12.64	17.45	23.56	39.44	.327	9,014
4. Constant utility welfare ratio—income (YAT/N^*)	6.58	12.83	17.63	22.94	40.02	.333	1.86[a]
5. Constant utility welfare ratio—consumption (C/N^*)	8.70	13.84	17.64	22.33	37.49	.286	1.32[a]
6. Poverty line welfare ratio—income (YAT/N^{**})	5.99	12.21	17.11	23.10	41.59	.353	3.60[a]
7. Poverty line welfare ratio—consumption (C/N^{**})	8.08	13.29	17.32	22.25	39.06	.307	2.54[a]
8. Per capita income (YAT/N)	5.78	11.08	15.99	22.65	44.50	.385	5,204
9. Per capita consumption (C/N)	7.13	11.75	15.87	21.79	43.46	.360	3,756

Each consumer unit's income is entered once in the computation of the summary measures of economic status.

[a]These measures have been normalized with a family of four as the reference group.

as well-off on average as are units headed by the nonelderly—$4852 vs. $5291 for YAT/*N* and $3625 vs. $3788 for *C*/*N*. The Gini coefficient of YAT/*N* is also quite similar for the two groups, .382 and .385, while the Gini of *C*/*N* is substantially lower for the elderly, .328 vs. .368. The distributions based on our welfare ratio measures are between those of the unadjusted and the per capita measures. We conclude from these results that comparisons of the relative economic status of the elderly and nonelderly are more sensitive to the treatment of the recipient unit (per consumer unit, per capita, per equivalent adult) than they are to the treatment of the income concept (YBT, YAT, *C*).

Table 7.5 is identical to table 7.4 except for the method of weighting the recipient units. In table 7.4 we follow the standard practice of constructing size distributions by taking each consumer unit's economic status as *one* entry in the size distribution, whatever the number of persons in the unit. As Danziger and Taussig (1979) have argued, this conventional approach is inconsistent with individualistic social welfare functions in which each person's welfare is valued equally. In table 7.5 we use an alternative weighting procedure that counts the income of a unit of *n* persons one time for *each* of the *n* persons in the unit. This equal-person-weighting procedure is more appropriate than the standard equal-unit-weighting procedure if we are to interpret the inequality parameter estimates as measures of inequality among individuals.[9] Because the incomes of consumer units are positively correlated with the number of persons in the unit, we expect to find less inequality in the equal-person-weighting results.

A comparison of the corresponding entries in tables 7.4 and 7.5 shows that this expectation is fulfilled for units headed by the nonelderly. For all nine measures of economic status, inequality is unambiguously smaller when computed with equal-person weighting. For the three income measures that do not adjust for unit size, the means are higher, while for five of the six measures that are adjusted for unit size, they are lower. For units headed by the elderly, except for the per capita measures, inequality is lower and the means are higher. However, the effects of person weighting are less equalizing for the elderly than for the nonelderly. The contrast between the magnitudes of the changes resulting from person weighting for the two groups reflects differences between them in the relation between size of income (or consumption) and the size of the consumer unit, and the fact that the elderly live in smaller units on average with much less variation in size.[10]

Table 7.6 briefly summarizes our findings (all based on the equal person weights, as in table 7.5). The economic status of units headed by the elderly is about 60 percent of that of units headed by the nonelderly where either income after direct taxes or consumption per unit is the measure of economic status. By per capita income or consumption mea-

Table 7.4 **Quintile Shares, Gini Coefficients, and Means by Alternative Measures of Economic Status, 1973, Consumer Unit Weights, by Age**

	Quintile Shares					Gini Coefficient	Mean Economic Status
	1	2	3	4	5		
I. Consumer units, head age < 65							
1. Income before taxes (YBT)	5.50	11.88	17.68	24.21	40.73	.356	$16,471
2. Income after taxes (YAT)	5.78	12.17	17.73	23.95	40.37	.348	14,217
3. Consumption (C)	7.80	13.25	17.74	23.10	38.10	.303	9,807
4. Constant utility welfare ratio—income (YAT/N^*)	6.85	13.23	18.08	22.96	38.87	.318	1.91
5. Constant utility welfare ratio—consumption (C/N^*)	9.02	14.24	17.66	22.06	37.03	.278	1.34
6. Poverty line welfare ratio—income (YAT/N^{**})	6.34	12.67	17.37	23.04	40.57	.340	3.74
7. Poverty line welfare ratio—consumption (C/N^{**})	8.36	13.49	17.25	22.14	38.76	.301	2.62
8. Per capita income after taxes (YAT/N)	5.65	11.22	15.96	22.79	44.37	.385	5,291
9. Per capita consumption(C/N)	7.05	11.57	15.67	21.54	44.17	.368	3,788

II. Consumer units, head age > 64							
1. Income before taxes (YBT)	4.93	9.14	14.40	21.73	49.80	.444	8,604
2. Income after taxes (YAT)	5.20	9.72	15.14	22.39	47.54	.421	7,997
3. Consumption (C)	6.51	12.07	16.99	22.79	41.65	.348	5,794
4. Constant utility welfare ratio—income (YAT/N^*)	6.44	10.96	15.63	22.12	44.84	.380	1.63
5. Constant utility welfare ratio—consumption (C/N^*)	7.79	12.83	17.16	22.64	39.58	.318	1.21
6. Poverty line welfare ratio—income (YAT/N^{**})	5.85	10.44	15.75	22.28	45.68	.395	3.04
7. Poverty line welfare ratio—consumption (C/N^{**})	7.30	12.58	17.37	22.83	39.91	.325	2.22
8. Per capita income after taxes (YAT/N)	6.36	10.96	15.63	22.26	44.8	.382	4,852
9. Per capita consumption (C/N)	7.51	12.50	16.72	22.86	40.41	.328	3,625

Each consumer unit's income is entered once in the computations of the summary measures of economic status.

Table 7.5 **Quintile Shares, Gini Coefficients, and Means by Alternative Measures of Economic Status, 1973, Person Weights, by Age**

	Quintile Shares					Gini Coef-ficient	Mean Economic Status
	1	2	3	4	5		
I. Consumer units, head age < 65							
1. Income before taxes (YBT)	6.30	12.65	18.05	23.55	39.46	.331	$18,064
2. Income after taxes (YAT)	6.63	12.98	18.29	23.66	38.44	.321	15,702
3. Consumption (C)	8.64	13.91	18.13	23.06	36.27	.276	10,667
4. Constant utility welfare ratio—income (YAT/N^*)	7.44	13.62	18.25	22.89	37.79	.302	1.91
5. Constant utility welfare ratio—consumption (C/N^*)	9.55	14.70	18.13	22.45	35.14	.255	1.31
6. Poverty line welfare ratio—income (YAT/N^{**})	6.62	12.86	17.50	23.06	39.96	.331	3.50
7. Poverty line welfare ratio—consumption (C/N^{**})	8.68	13.74	17.73	22.43	37.42	.286	2.39
8. Per capita income after taxes (YAT/N)	5.69	11.52	16.45	22.68	43.67	.376	4,313
9. Per capita consumption expenditures (C/N)	7.15	12.50	16.50	21.82	42.02	.343	2,975

II. Consumer units, head age > 64							
1. Income before taxes (YBT)	4.93	9.74	14.77	21.96	48.60	.431	9,892
2. Income after taxes (YAT)	5.24	10.38	15.54	22.49	46.35	.407	9,155
3. Consumption (C)	6.91	12.54	17.09	22.66	40.79	.335	6,498
4. Constant utility welfare ratio—income (YAT/N^*)	6.40	11.29	15.72	22.13	44.46	.375	1.68
5. Constant utility welfare ratio—consumption (C/N^*)	8.16	12.95	17.33	22.57	38.98	.308	1.21
6. Poverty line welfare ratio—income (YAT/N^{**})	5.72	10.70	15.82	22.45	45.32	.392	3.17
7. Poverty line welfare ratio—consumption (C/N^{**})	7.32	12.67	17.48	22.89	39.64	.321	2.26
8. Per capita income after taxes (YAT/N)	5.78	10.89	15.87	22.50	44.96	.389	4,609
9. Per capita consumption (C/N)	7.16	12.43	17.18	22.79	40.44	.331	3,339

NOTE: Each consumer unit's income is entered as many times as there are persons in the unit in the computations of the summary measures of economic status.

Table 7.6 **The Economic Status of Elderly Units Relative to Nonelderly Units: A Summary**[a]

	Measure of Economic Status								
	(1) YBT	(2) YAT	(3) *C*	(4) YAT/*N**	(5) *C*/*N**	(6) YAT/*N***	(7) *C*/*N***	(8) YAT/*N*	(9) *C*/*N*
1. Mean economic status of elderly									
Mean economic status of nonelderly	.55	.58	.61	.88	.92	.91	.95	1.07	1.12
2. Gini coefficient for elderly									
Gini coefficient for nonelderly	1.30	1.27	1.21	1.24	1.21	1.18	1.12	1.03	.97
3. Percent of elderly in bottom quintile									
Percent of nonelderly in bottom quintile	3.46	3.10	3.36	1.86	1.73	1.69	1.44	.97	.79
4. Percent of bottom quintile who are elderly[b]	30.9	28.7	30.3	19.4	18.3	17.9	15.7	11.2	9.3

[a]All results are based on equal person weights, as in table 7.5.

[b]Persons in consumer units with elderly heads are 11.5 percent of all persons.

sures, however, the elderly are somewhat better-off than younger consumer units. The welfare ratio measures lie in between.[11] They show the elderly to be 88–95 percent as well-off as the nonelderly. Row 2 summarizes the data on relative inequality. The per capita measures show similar degrees of inequality for the two groups. On the other measures, the Gini coefficient is from 12 to 30 percent greater among units headed by the elderly. The data in row 3 show that elderly units are more than three times more likely to be in the lowest quintile of the size distribution of economic status than nonelderly units if we rank consumer units on the basis of income before or after taxes or consumption, but about 3 percent *less* likely on a per capita income, and about 20 percent less likely on a per capita consumption, basis. The welfare ratio measures show the elderly to be 44–86 percent more likely to be in the lowest quintile. Finally, the last row shows that about 30 percent of the units in the bottom quintile are elderly when the measures of economic status are not adjusted by any equivalence scale, about 10 percent based on the per capita measures, and 16–20 percent for the welfare ratio measures.

We can now summarize the numerous numbers in this section:

- Units headed by the elderly are clearly worse-off economically than those headed by the nonelderly on the basis of income before or after taxes or consumption, if no adjustments for family size and composition are made.
- They are about as well-off as the nonelderly on a per capita basis, whether judged by income after taxes or by consumption.
- The results on the basis of the constant utility welfare ratio measures and the welfare ratio measures based on the implicit Orshansky poverty line equivalence scales are intermediate between these two extremes.
- These estimates strongly suggest that the consumer unit issue is more important than the income concept (consumption vs. income) issue in resolving the question of the relative economic status of the elderly.

7.4 The Net Effects of Transfers on Economic Status

We now turn to the role of the net effects of transfers and taxes on the economic status of elderly units relative to nonelderly units, and on the degree of inequality within each age group. Some tax effects are apparent in the comparisons already made between YBT and YAT. However, both of these measures include transfer income, which we now isolate for special attention.

The CEX attempted to obtain a rather full accounting of transfers—private as well as public. Data were collected, and hence included in YAT, on all the public cash transfers (Social Security, railroad retire-

ment, federal retirement, state and local retirement, unemployment insurance, public assistance, workers' compensation, and "all other money receipts"). In addition, the CEX collected data on the bonus value of food stamps, which are also included in YAT. Questions were not asked about other in-kind public transfers.

As with most surveys, underreporting of transfers is a problem. Taking the National Income Accounts as the benchmark, Social Security benefits are underreported by 3 percent. Other transfer payments average 78.3 percent of their benchmark, with different underreporting rates for each program. Dalrymple (1980) attempted several corrections for underreporting and found they do not have a large impact on a variety of inequality measures.

Table 7.7 presents five pretransfer income measures of economic status for both the elderly and the nonelderly. For each consumer unit, the pretransfer measure is defined as the value of income net of all transfers received. After netting out transfers, we order all consumer units by size of pretransfer income and weight each person's economic status equally. Thus the pretransfer distributions in table 7.7 are comparable to the corresponding post-transfer distributions from table 7.5. The assumed counterfactuals in the pretransfer measures of economic status are naive. In the absence of transfers, pretransfer incomes (and the size and composition of consumer units) would undoubtedly be different from the measured values. Because we do not have sufficient estimates of all the behavioral responses to the availability of transfers, however, we adopt the conventional assumption of no behavioral responses. The counterfactual for what consumption would have been in the absence of transfers is more difficult to conceptualize. As a result, we focus only on the effects of transfers on income.

Transfers raise the mean economic status of the nonelderly by almost 5 percent and lower inequality among them by about 7 percent. The effects for the elderly are much larger—the mean economic status of the elderly is raised over 50 percent and inequality among them is reduced by about 30 percent.

Table 7.7 also tells us something about the role of taxes. Comparing YBT and YAT shows that taxes of the nonelderly average 13 percent of before-tax income, while the elderly pay 7.5 percent. Taxes also slightly reduce within-group inequality—2 percent for the nonelderly and 3 percent for the elderly. For each group, transfers have a larger effect than taxes on both average levels of economic status and the degree of within-group inequality.[12]

Table 7.8 summarizes the data from table 7.7 and provides additional information on consumer units in the bottom quintile. A comparison of tables 7.6 and 7.8 shows that, based on the income measures of economic status, transfers greatly increase the relative economic status of the

Table 7.7 **Gini Coefficients and Means, Alternative Measures of Economic Status, Including Transfers and Less Transfers, 1973, Person Weights, by Age**

	Total Income		Total Income Less Transfers		Percentage Change[a]	
	Gini Coefficient	Mean Economic Status	Gini Coefficient	Mean Economic Status	Gini Coefficient	Mean Economic Status
I. Consumer units, head age < 65						
1. Income before taxes (YBT)	.331	$18,064	.356	$17,342	−7.0%	+4.2%
2. Income after taxes (YAT)	.321	15,702	.348	14,981	−7.8	+4.8
3. Constant utility welfare ratio (YAT/N^*)	.302	1.91	.331	1.82	−8.9	+4.9
4. Poverty line welfare ratio (YAT/N^{**})	.331	3.50	.357	3.34	−7.3	+4.8
5. Per capita income after taxes (YAT/N)	.376	4,313	.399	4,111	−5.8	+4.9
II. Consumer units, head age > 64						
1. Income before taxes (YBT)	.431	9,892	.593	6,649	−27.3	+48.8
2. Income after taxes (YAT)	.407	9,155	.575	5,912	−29.2	+54.9
3. Constant utility welfare ratio (YAT/N^*)	.375	1.68	.577	1.06	−32.7	+58.5
4. Poverty line welfare ratio (YAT/N^{**})	.392	3.17	.569	2.02	−31.1	+56.9
5. Per capita income after taxes (YAT/N)	.389	4,609	.567	2,889	−31.4	+59.5

[a]Defined as $100 \cdot [\text{Economic Status} - (\text{Economic Status Less Transfers}_i)]/\text{Economic Status Less Transfers}_i$, where i = Gini coefficient or mean.

Table 7.8 **The Pretransfer Economic Status of Elderly Consumer Units Relative to Nonelderly Units: A Summary**[a]

	(1) $\widetilde{YBT}$	(2) $\widetilde{YAT}$	(3) $\widetilde{YAT}/N^*$	(4) $\widetilde{YAT}/N^{**}$	(5) $\widetilde{YAT}/N$
1. Mean economic status of elderly / Mean economic status of nonelderly	.38	.40	.58	.61	.70
2. Gini coefficient for elderly / Gini coefficient for nonelderly	1.67	1.65	1.68	1.59	1.42
3. Percent of elderly in bottom quintile / Percent of nonelderly in bottom quintile	4.78	4.65	3.72	3.40	2.67
4. Percent of bottom quintile who are elderly[b]	38.22	37.60	32.54	30.59	25.70

$\widetilde{YBT}$ = YBT less transfers (which is roughly equal to factor income).
$\widetilde{YAT}$ = YBT less transfers and less taxes (which is roughly equal to after-tax factor income).
[a]All results are based on equal person weights, as in tables 7.5, 7.6, and 7.7.
[b]Persons in consumer units headed by the elderly are 11.5 percent of all persons.

elderly. Their relative mean economic status increases by about 50 percent after transfers. The other row comparisons confirm this finding. We conclude that the effect of transfers on the relative economic status of the elderly is large and does *not* depend on the choice of any particular measure of economic status. The pretransfer measures of economic status are as sensitive to the treatment of the recipient unit as are the post-transfer measures.

We gain further insights into the effects of transfers by disaggregating our CEX sample according to various demographic characteristics. Table 7.9 presents data, for eight mutually exclusive age-race-sex groups, on income before taxes and transfers (roughly, factor income, $\widetilde{YBT}$); transfers, R; taxes, T; the net transfer ratio, $(R - T)/\widetilde{YBT}$; and income after taxes and transfers, YAT. All of the elderly groups have higher net transfer ratios than their nonelderly counterparts. Simple, two-way comparisons of elderly and nonelderly groups, with roughly similar incomes before taxes and transfers, also show substantial differences in the net transfer ratios. For example, on average, white female-headed consumer units under age 65 and white male-headed units age 65 and over have roughly comparable factor incomes, but the latter group enjoys a much higher transfer income. Elderly males also pay less in taxes than the women and thus have higher income after taxes and transfers (YAT). The net transfer ratio for the men is positive; for the women it is negative.

Table 7.9 **Taxes, Transfers, and Net Transfer Ratios by Demographic Group, 1973**

Age-Race-Sex of Consumer Unit Head	$\widetilde{YBT}$ [a]	Taxes T	Transfers R	Net Transfer Ratio $(R - T)/\widetilde{YBT}$	YAT[b]
White male					
< 65	$18,187	$2,649	$ 457	−.118	$16,040
> 64	7,240	794	3,463	+.369	9,910
Nonwhite male					
< 65	12,960	1,531	824	−.055	12,253
> 64	2,728	140	2,606	+.904	5,195
White female					
< 65	8,518	1,126	1,054	−.008	8,445
> 64	3,867	412	2,423	+.379	5,878
Nonwhite female					
< 65	4,231	437	1,943	+.356	5,737
> 64	2,127	271	1,835	+.736	3,691
All consumer units	13,964	1,930	1,123	−.058	12,997

[a] $\widetilde{YBT}$ = YBT − Transfers = income before taxes and before transfers.
[b] YAT = $\widetilde{YBT}$ − Taxes + Transfers = income after taxes and after transfers.

A similar comparison can be made between the consumer units headed by a nonwhite female under age 65 and those headed by a white female over age 65. In both cases, the elderly group receives higher net transfers, and experiences a higher net transfer ratio. Again, although we do not show the data, these findings are insensitive to the measure of economic status.

A similar analysis for consumer units classified by more detailed categories of the head's age (data not shown), shows that the net transfer ratios for heads less than 62, 62–64, 65–71 and over 72 are −.105, −.003, +.282, and +.621, respectively. Thus the net transfer ratio rises monotonically with the age of the head.

Table 7.10 gives further estimates of net transfer ratios for the same eight age-race-sex groups. To hold income approximately constant, net transfer ratios are calculated within each quintile of $\widetilde{YBT}$ for the whole sample. The results strongly confirm the positive relationship between age and net transfers. Within any quintile, the elderly enjoy a higher net transfer ratio than their race-sex counterparts and their quintile as a whole. For example, in the third quintile, the net transfer ratio for consumer units headed by white males under age 65 is −.089, while that for units headed by white males age 65 and over is .188.

We add further detail to our findings with a descriptive regression of

Table 7.10 **Net Transfer Ratios by Demographic Group, by Income Quintile**

Age-Race-Sex of Consumer Unit Head	Quintile of Income Before Taxes and Transfers (YBT)					
	1	2	3	4	5	Total
White male						
< 65	1.00	.009	−.089	−.118	−.149	−.118
> 64	2.06	.593	.188	.021	−.109	.369
Nonwhite male						
< 65	2.28	.003	−.078	−.121	−.096	−.055
> 64	2.41	.443	*	*	*	.904
White female						
< 65	1.40	−.015	−.079	−.089	−.131	−.008
> 64	1.88	.408	.016	*	*	.520
Nonwhite female						
< 65	2.55	.125	−.055	*	*	.356
> 64	2.28	*	*	*	*	.736
All consumer units	1.77	.127	−.067	−.110	−.145	−.058

A negative number means that the group's taxes exceed its transfers; a positive number, that transfers exceed taxes. A number that exceeds 1.00 means that net transfers are more than half of total income. The upper limits of the first four income quintiles are: $3,694; $9,043; $14,480; and $21,140.

*Cell has less than twenty consumer units.

the determinants of the amount of net transfer per consumer unit (table 7.11). The results in the first column are for the whole sample; those in column 2 are for units headed by nonelderly, and those in column 3 are for units headed by the elderly. The largest difference in the columns is the mean net transfer, which is negative ($-\$1627$) for the nonelderly and positive ($2372) for the elderly.

Net transfers, holding income before taxes and transfers constant, increase monotonically with age. For the elderly, net transfers are lower for nonwhites and females, reflecting the fact that Social Security payments, which are the largest component of net transfers, are positively related to past earnings. For the same reason, net transfers are substantially higher for those with liquid assets in excess of $1500. For the elderly, net transfers are, surprisingly, more income-tested than for the nonelderly—a one dollar increase in $\widetilde{YBT}$ reduces net transfers by 28 cents for the elderly and by 17 cents for the nonelderly.

More detailed regressions that decompose the net transfer into nonwelfare transfers, welfare transfers, and taxes (not shown) indicate that, holding $\widetilde{YBT}$ constant, the probability of transfer receipt rises and the probability of tax payment falls with the age of the consumer unit head. Given receipt, and holding $\widetilde{YBT}$ constant, nonwelfare transfers rise with age and welfare transfers fall with age; given that taxes are paid and holding $\widetilde{YBT}$ constant, taxes paid fall with age.

We made one further attempt to refine our measure of the proelderly bias in the tax-transfer system. Burkhauser and Warlick (1981) show that current-period analysis overstates the "true" redistributive impact of Social Security because a portion of current Social Security transfers are best viewed as a return to prior contributions. They estimate the annuity value of each individual's total (employer plus employee shares) Social Security tax contributions and denote the difference between current benefits and the estimated annuity value as the "transfer component." They estimate that the transfer component was, on average, 73 percent of the current transfer in 1972.

Burkhauser and Warlick (1981) generously gave us access to their data. We constructed a matrix of the ratios of the transfer component to the total benefit. All Social Security recipients were classified by five age categories, their race, sex, and by marital status, and by seven Social Security benefit classes. The current Social Security benefit of each recipient in the CEX was multiplied by the appropriate ratio and the transfer component was derived. The earned annuity component was treated in the same manner as private pension income, that is, as a part of $\widetilde{YBT}$, income before taxes and transfers.

Table 7.12 presents the same data as table 7.9, except that the net transfer ratios are now computed with the annuity component excluded from the numerator and included in the denominator. The pattern is the

Table 7.11 Regression Results: The Determinants of Net Transfers[a]

	All Households	Head < 65	Head > 64
Constant	81.32	159.92	1836.27
Family size	254.03	220.96	585.02
	(18.84)	(18.73)	(83.55)
Age of head:			
< 35	−156.17	−249.92	—
	(79.35)	(77.43)	—
55–61	291.10	201.73	—
	(102.32)	(98.78)	—
62–64	671.27	569.18	—
	(148.87)	(144.29)	—
65–71	2219.80	—	—
	(117.93)	—	—
72+	2513.97	—	127.71
	(111.83)	—	(138.69)
Nonwhite	311.36	491.78	−878.59
	(100.37)	(106.81)	(260.74)
Female	233.37	792.73	−927.95
	(75.93)	(87.32)	(54.32)
Before tax, before transfer income (YBT)	−0.19	−0.17	−0.28
	(0.003)	(0.003)	(0.008)
Northeast	−57.40	−100.69	25.92
	(83.58)	(90.92)	(191.22)
Northcentral	−177.36	−234.60	−161.80
	(77.12)	(83.31)	(181.70)
West	7.64	−63.34	123.40
	(84.6)	(90.69)	(206.38)
Urban	202.36	72.47	605.51
	(65.61)	(71.77)	(148.30)
Home owner	258.59	224.30	742.69
	(69.47)	(71.77)	(151.98)
Assets > $1500	121.08	−132.73	1094.69
	(65.72)	(71.95)	(146.50)
R^2	.504	.437	.427
Number of observations	9,494	7,661	1,833
Mean of dependent variable	−855.20	−1627.3	2371.9

Standard errors appear below regression coefficients. The constants for the regressions in columns 1 and 2 are estimates of the net transfer of a unit headed by a white male between the ages of 35 and 54 who lives outside an urban area in the southern region and has assets worth less than $1,500.

[a]Net transfers are defined as cash transfers less direct taxes.

Table 7.12 **Taxes, Transfers, and Net Transfer Ratios with the Annuity Component of Social Security Treated as Pretransfer Income by Demographic Group, 1973**

Age-Race-Sex of Consumer Unit Head	$\widehat{YBT}$ [a]	Taxes T	Transfers R	Net Transfer Ratio $(R-T)/\widehat{YBT}$	YAT[b]
White male					
< 65	$18,232	$2,649	$ 457	−.120	$16,040
> 64	8,027	794	2,677	+.235	9,910
Nonwhite male					
< 65	13,022	1,531	762	−.059	12,253
> 64	3,247	140	2,087	+.600	5,195
White female					
< 65	8,579	1,126	993	−.016	8,445
> 64	4,264	412	2,026	+.379	5,878
Nonwhite female					
< 65	4,281	437	1,893	+.340	5,737
> 64	2,384	271	1,581	+.549	3,691
All consumer units	13,964	1,930	963	−.069	12,997

[a] $\widehat{YBT}$ = YBT − Transfers = income before taxes and before transfers.
[b] YAT = $\widehat{YBT}$ − Taxes + Transfers = income after taxes and after transfers.

same as table 7.9, although the differences between the elderly and nonelderly are less pronounced. The adjusted net transfer ratios for the elderly in table 7.12 are about 60–70 percent of the corresponding entries in table 7.9. The tax-transfer system clearly treats the elderly more favorably than their nonelderly counterparts, even after the annuity component of Social Security has been removed from measured transfers.

7.5 Summary and Conclusions

In the United States the concern with the economic status of the elderly has expressed itself politically in the last three and a half decades in the massive growth of Social Security retirement and other transfers. The ongoing policy issue is whether current benefit levels in these transfer programs are now sufficient to accomplish their purpose of maintaining the consumption standards of elderly retirees relative to those of the predominantly nonelderly workers who are taxed to finance these programs. The logical first step in resolving this issue is to measure accurately the economic status of the elderly relative to the nonelderly, and the

second is to evaluate the quantitative role of net transfers in determining the total resources available to the elderly.

This paper has addressed these two tasks. We began by creating a new microdata set matching the 1972–73 Consumer Expenditure Survey with the Inventory of Consumer Durables. The match enabled us to estimate consumption flow and income flow measures of economic status for consumer units. This procedure increased the measured consumption and income of the elderly considerably and the income of the nonelderly, but barely affected the measured consumption of the nonelderly. We then used the adjusted consumption and income measures together with various adjustments for differences in family size and composition to produce estimates of economic status.

We concluded that the relative economic status of units headed by the elderly is very sensitive to how, if at all, the unit's income is adjusted for differences in size and composition, but is much less sensitive to the choice of consumption or income as the measure of economic status. We then presented evidence on the effects of transfers on the economic status of the elderly. The effect is large, as expected, and the results are not sensitive to our choice of a measure of economic status, nor to our adjustments for differences in the size and composition of consumer units.

Although many elderly individuals are poor, when we take into account taxes, transfers, and household size, the elderly enjoy higher economic status than some other groups (e.g., households headed by women). Current policy, however, is to take from the nonelderly poor (through cuts in Aid to Families with Dependent Children and Food Stamps) while holding the elderly harmless. There is talk of deindexing OASI and SSI benefits, which would reduce benefits for the elderly poor as well as all other elderly. Ruled out is the possibility of making Social Security benefits subject to the income tax, which would not adversely affect the elderly poor. We do not know whether these policy proposals flow from normative judgments, political swaps, or incorrect perceptions of the economic status of the elderly. If perceptions of the relative economic status of the nonelderly underlie these policy decisions, our paper suggests reconsideration to be in order. Whether measured by current income or by consumption, where adjusted for consumer unit size and composition, the economic status of the elderly was on average quite similar to that of the nonelderly in 1973. If this study could be replicated using current data, we would expect to find that the elderly are even better-off now relative to the nonelderly.[13]

Appendix A *Description of Methodology and Results of Estimating Service Flows from Durables and Owner-Occupied Houses*

For the present study[14] we treat consumer units whose members own certain types of durables and units living in their own homes as if they rent these assets to themselves. Rental values are added to income and consumption, while expenditures on durables are subtracted from consumption. Thus we correct for the distortions that occur when expenditures on a new durable good are included in the reported CEX consumption measure, but the value of services from durables already owned is excluded. This, of course, is especially relevant when comparing home owners and renters. For renters, rent payments are included in consumption, but a similar category of consumption expenditures is not included for home owners.

The CEX tape contains an estimated rental value of owner-occupied houses. This value is added to both the consumption and income measures for home owners. Mortgage interest payments, property taxes, and property insurance payments were subtracted from consumption expenditures. About 10 percent of the home owners failed to report a rental value. This missing data problem was dealt with in a straightforward way, with the aid of a hedonic rental value equation.

To obtain rental values for durable goods other than housing, we matched data from the CEX tape with data from the Inventory of Consumer Durables. The latter data set reports information on the presence, purchase price, and date of acquisition of major and minor durables, furnishings, and vehicles for each unit on the CEX tape. This information is used to compute yearly service flows from durables and vehicles in the way described below.[15]

Major durables on the CD tape include cooking stoves, refrigerators, dishwashers, washing machines, television sets, and so forth.[16] If a durable is present in a unit, and we have the additional information that the durable was purchased, received as a gift, or acquired with the purchase of a house, the unit is referred to as an *owner*. All other units are referred to as *nonowners*.

Thus nonowners include units that rent their durables. The rent paid will show up as an expenditure on the CEX tape, which is appropriate. Nonowners also include units for which the use of a durable is included in the shelter rent of a house or apartment. This will result in an underestimate of the amount of services consumed from that durable. While shelter is slightly overestimated, total consumption will be measured correctly.

The service flow in year t from a durable good is defined as

$$S_t = r_t p_t + (p_t - p_{t+1}),$$

where r_t is the interest rate in year t, and pt is the price of the durable at the beginning of year t.

Thus, S_t equals the sum of the market rate of return on the amount invested in the durable as valued at the beginning of the year, plus the change in the price of the durable during the year. Since, for each durable that has been acquired s years ago,

$$p_t = (1 - \sigma)^s p_0,$$

with p_0 the value of the durable at the time of acquisition, and σ the economic depreciation rate, we have:

$$\begin{aligned} S_t &= r_t p_t + (1 - \delta)^s p_0 \\ &= (r_t + \delta)(1 - \delta)^s p_0. \end{aligned}$$

We arbitrarily set the interest rate, r_t, equal to .07.[17] The depreciation rate for δ was constructed using information on the life expectancy of durables and durable specific prices indices.

To be able to calculate S_t for each durable in the unit, we had to deal with a serious missing data problem. The value of the durable at the time of acquisition, p_0, was reported only when the durable was acquired in 1972 or later.

We employed the following model to impute the value of a durable for owners who do not report p_0:

$$y \text{ is unknown} \qquad \text{if } d = 0,$$

$$\text{(A1)} \qquad y = \alpha' X_1 + \epsilon_1 \qquad \text{if } d = 1,$$

$$\text{(A2)} \qquad d = \beta' X_2 + \epsilon_2,$$

where y is the logarithm of the value of the durable; d is a dummy variable: if $d = 1$, the value is reported; if $d = 0$, the value is not reported; X_1 and X_2 are vectors of exogenous variables, to be discussed below; α and β are coefficients to be estimated; and ϵ_1 and ϵ_2 are disturbance terms. We further assume

$$\begin{bmatrix} \epsilon_1 \\ \epsilon_2 \end{bmatrix} \sim N\left[\begin{bmatrix} 0 \\ 0 \end{bmatrix}; \begin{bmatrix} \sigma_1^2 & \sigma_{12}^2 \\ \sigma_{21}^2 & \sigma_2^2 \end{bmatrix}\right] \text{ and } \sigma_2^2 = 1.0.$$

The vector X_1 includes after-tax income and family size to represent the unit's economic means and needs. The age and marital status of the head are also included in the equation, as are variables representing

region, city size information (living within an SMSA or not), and an urban-rural dummy variable.[18]

The vector X_2 contains those variables that are assumed to influence the probability and frequency of buying a certain durable. They include after-tax income, family size, home ownership, and the age and marital status of the unit's head.

The estimation procedure is as follows:

First the β's of equation (A2) are estimated using a Probit specification. The sample consists of all owners.

Second we obtain consistent estimates of the α's in equation (A1) by means of an ordinary least-squares (OLS) regression of the following equation:

$$(A3) \qquad y = \alpha' X_1 + \alpha_1 \lambda_1 + \nu,$$

where λ_1 is the inverse of the Mills's ratio obtained from the Probit equation, and ν is a disturbance term. The sample consists of all owners reporting the value of the durable at the time of acquisition. Table 7.A.1 is an example of the results.

The first column can be interpreted as the probability that the owner of an electric stove acquired this stove within the past two years. This

Table 7.A.1 **Estimation Results of the Model Predicting the Value of an Electric Stove (*t*-values in parentheses)**

Independent Variables	Probit Equation Yes/No Reported Value (equation A2)	Equation A3 (with λ_1)	Equation A3 (without λ_1)
Constant	−.290 (2.80)	−1.475 (3.39)	2.141 (5.12)
Income	.005 (1.99)	— —	— —
Log income	— —	.305 (6.86)	.317 (7.06)
Family size	.003 (.21)	−.012 (.67)	−.007 (.41)
Home owner	−.744 (12.31)	— —	— —
Age < 25	1.346 (8.56)	.370 (2.30)	−.191 (1.68)
25–35	.500 (7.95)	.103 (1.16)	−.154 (2.12)
> 50	−.221 (1.35)	−.025 (.29)	.131 (1.59)
Male	.177 (2.33)	— —	— —
Married		.252 (2.87)	.227 (2.56)
Northcentral		−.190 (2.18)	−.202 (2.29)
South		−.112 (1.36)	−.138 (1.66)
West		−.042 (.46)	−.064 (.71)
SMSA		.014 (.18)	.001 (.01)
Rural		.053 (.58)	.050 (.54)
λ_1		.618 (4.88)	— —
R^2		.108 —	.087 —

Number of observations: 3730.
Number of reporters: 1040.

probability decreases significantly with the age of the head (age 36–50 is the omitted class). It is also significantly lower for home owners than for non–home owners. After-tax income has a slight positive effect on this probability. These results are in accordance with what common sense would predict.

The second column records the results of estimating equation (A3). The value of an electric stove at the time of acquisition increases with income, as expected. Very young units buy more expensive stoves than do older ones. Units with a married head buy more expensive items than do those with unmarried heads.[19] Furthermore, there are some regional differences. Owners in the Northcentral region spend less on an electric stove than owners in the rest of the nation. Finally, note that λ_1 has a very significant effect, .618, with a t-value of 4.88; the null hypothesis of no systematic selection in the sample is therefore rejected.

Comparing columns 2 and 3 shows that the estimates for the coefficients of the age of the head are seriously biased, unless we correct for the systematic selection of reporters and nonreporters. The predicted value of equation (A1) was deflated to correct for price changes during the year of acquisition and 1972–73. This deflated value was used to create a service flow for each durable in each unit. Since part of our study addresses distributional aspects of income and consumption, a random term was added, drawn from a normal distribution with variance $\hat{\sigma}_{NR}$, the estimated variance of the subsample of owners who were nonreporters.

Vehicles were treated in the same way as other major durables. Table 7.A.2 displays income and consumption data before and after adding service flows from owner-occupied houses and durables. A sensitivity analysis revealed that our results are stable for a large range of plausible values for the depreciation rate, δ, and the interest rate, r. This result should not come as a surprise, since a large part of our adjustments consists of the rental value of owner-occupied houses. This rental value is not affected by our assumptions concerning δ and r.

The first comparison of table 7.A.2 presents the mean values of observed after-tax income. The familiar result is that average income for the elderly is far below the average income of nonelderly. The same holds for total consumption expenditures, as reported by BLS. Not surprisingly, older units are more likely to own their homes than younger ones, but the average rental value of owner-occupied housing is slightly higher for the nonelderly: \$1414 vs. \$1261. The sum of interest payments on mortgages and home insurance payments is almost twice as high for nonelderly as for elderly units.[20] If we measure the consumption of durable goods and vehicles by their service flows, younger units consume, on average, \$543 a year, while older ones consume only \$278. Measured by expenditures on durables, however, the numbers read \$1280 and \$395.

Table 7.A.2 **Consumption and Income before and after Adjusting for the Rental Value of Owner-Occupied Housing, and Service Flows from Durables and Vehicles (CEX-1973, after-tax income quintiles)**

	Quintiles					
	1	2	3	4	5	Mean
Reported after-tax income						
< 65 years	2,706	6,281	9,565	13,454	23,645	$12,282
65+	2,616	5,949	9,396	13,272	25,611	6,471
Reported consumption expenditures						
< 65	4,607	6,708	8,673	10,514	15,536	9,824
65+	3,064	5,138	6,623	8,484	11,803	4,963
Percentage home owners						
< 65	.276	.346	.534	.709	.799	.569
65+	.572	.726	.790	.802	.879	.675
Rental value home						
< 65	437	591	1,077	1,714	2,615	1,414
65+	904	1,213	1,666	1,985	2,671	1,261
Housing cost (mortgage, interest payments, etc.)						
< 65	131	229	493	858	1,351	684
65+	160	330	388	616	936	313
Rental value durables & vehicles						
< 65	201	341	484	673	814	543
65+	139	274	389	479	940	278
Expenditures on durables & vehicles						
< 65	424	791	1,137	1,377	2,173	1,280
65+	186	398	667	800	1,037	395
Consumption (adjusted)						
< 65	4,690	6,619	8,604	10,668	15,441	9,817
65+	3,760	5,896	7,624	9,532	13,441	5,794
After-tax income (adjusted)						
< 65	3,344	7,213	11,126	15,842	27,074	14,239
65+	3,659	7,436	11,451	15,737	29,222	8,011
Ratio adjusted consumption to reported consumption						
< 65	1.02	.99	.99	1.02	.99	1.00
65+	1.23	1.15	1.15	1.12	1.14	1.17
Ratio adjusted income to reported income						
< 65	1.24	1.15	1.16	1.18	1.15	1.16
65+	1.40	1.25	1.22	1.19	1.14	1.24

Thus, consumption of durables is seriously overestimated by expenditures on durables, especially for the nonelderly.

It turns out that "consumer expenditures" is a pretty good proxy for the "consumption" of the nonelderly. The corrections for owner-occupied housing, durables, and vehicles tend to cancel. On average the ratio of corrected consumption to consumer expenditures is 1.00. For elderly households, however, the results are quite different. "Consumer expenditures" seriously underestimate total consumption. On average, the corrections increase consumption by the elderly by 17 percent.

Income changes considerably both for the elderly and the nonelderly. For elderly units in the first quintile, the change is as large as 40 percent. For the nonelderly it is 24 percent. On average, income increases 16 percent for the nonelderly and 24 percent for the elderly.

Consumption and income measures usually do not include service flows from durables and owner-occupied housing. As our results show, this deficiency seriously compromises these measures as welfare indicators. This problem seems particularly important when welfare comparisons are made among consumer units at various stages in the life cycle.

Appendix B *Derivation and Estimation of Constant Utility Equivalence Scale*

As Muellbauer (1979), building on the work of Barten (1964), has shown, true—that is, constant utility—equivalence scales can be constructed for consumer units of various sizes and composition, once a system of demand equations derived from a utility framework has been estimated. However, because of a well-known identification problem inherent in this approach, additional information is generally needed to calculate a complete equivalence scale. Van der Gaag and Smolensky (1982) and Kakwani (1980) demonstrate that this identification problem—central in the literature on household equivalence scales—can be circumvented if Barten's approach of incorporating household characteristics in a demand system is applied to Lluch's (1973) Extended Linear Expenditure System.

The estimation of true household equivalence scales then proceeds as follows:

First, a set of linear Engel curves, household characteristics included, is estimated.

From these estimates the parameters of the underlying utility function (Stone-Geary) are calculated.

Finally, using the expenditure function dual to the Stone-Geary utility function, the following ratio is calculated:

$$E = \frac{e(u_0 \mid h_1)}{e(u_0 \mid h_0)},$$

where $E(\cdot)$ is the expenditure function, giving the minimum amount of money needed for a household with characteristics h to reach utility level u.

Though the resulting equivalence scale is generally a function of the chosen utility level u_0 (and, hence, of income), the estimated scale turned out to be very stable over a large range of incomes. We therefore applied a constant scale here, one that does not vary with incomes. This scale is presented in table 7.A.3. The equivalence scale obtained is generally reasonable, though it differs quite a bit from scales commonly employed.[21] The age and sex of the household head are important vari-

Table 7.A.3 Constant Utility Equivalence Scale[a]

	Age of Head of Consumer Unit			
Consumer Unit Composition	35	35–54	55–64	65+
One person				
Male	60	63	56	47
Female	50	53	46	37
Two persons				
Husband and wife	77	80	73	64
Female head, child 6–11	56	60	53	—
Three persons				
Couple, child < 6	76	80	73	64
6–11	88	91	84	75
12–17	90	93	86	77
18+	94	98	90	82
Four persons				
Couple, 2 children < 6	83	87	80	71
6–11, < 6	85	89	82	73
6–11	95	98	91	82
12–17, 6–11	97	100	93	84
12–17	97	100	93	84
18+, 6–17	110	113	106	98
18+	101	105	97	89
Five persons[b]				
Couple, 3 children 6–11	91	94	87	—
12–17, 6–11	102	105	98	—
18+, 6–17	115	119	112	—

[a]A consumer unit consisting of a husband and wife with two children, age 12–17 and 6–11, is 100.

[b]Adding more children to the household adds 4 or 5 percentage points to the scale up to a family size of eight persons. After that only 2 to 3 percentage points should be added.

ables. From their consumption behavior at given income levels, it can be concluded that elderly and female-headed households seem to "need" fewer consumption goods to reach a given utility level than do younger households, especially those headed by men.[22] The scale is also very sensitive to the age of children, much more so than with respect to family size. This is in sharp contrast with, for instance, the equivalence scale implicit in the official U.S. poverty lines, in which the age of children plays no role, but family size is very important.

Table 7.A.4 displays the ratio of the poverty line to the constant utility scales for selected households. For elderly male singles and couples, respectively, the Orshansky scale is 17 and 6 percent higher than our scale. The Orshansky scale is also higher for units with more than five persons. The poverty (Orshansky) line equivalence scale is obtained by specifying food "needs" for households of different composition. One would expect an equivalence scale that is based solely on food requirements to be more sensitive to family size than one that is based on expenditures on all commodities. Economies of scale in, for instance, housing and transportation, are much larger than for food.

Our scale in table 7.A.3 does have two oddities. First, the difference between single men and single women seems quite large. Second, it is unlikely that the addition of one young child to a childless couple would leave their economic "needs" unaffected. However, these results are direct "translations" of the regression results, as are the results with respect to the age of the consumer unit head. We therefore use it as our

Table 7.A.4 **Ratio of Poverty Line Equivalence Scale to Constant Utility Scale of Table 7.A.3**

	Age of Head of Consumer Unit	
Consumer Unit Composition	35–54	65+
1: male	.92	1.17
2: husband, wife	.91	1.06
3: husband, wife 1 child[a]	1.00	n.a.
4: husband, wife 2 children[b]	1.00	n.a.
5: husband, wife 3 children[c]	1.00	n.a.
6: husband, wife 4 children	1.12	n.a.

n.a = not applicable, because few consumer units with an elderly head have more than two persons.

[a]Child is 6–11 years old for the constant utility equivalence scale.

[b]One child is 6–11 years, the other is 12–17 years for the constant utility equivalence scale.

[c]Two children are 6–17, the other is over 18 for the constant utility equivalence scale.

preferred method for adjusting incomes for differences in the size and composition of consumer units.

Notes

1. The OASI benefit and beneficiary data are from Robertson (1981), tables 4.1 and 4.2, pp. 42–43. The U.S. Personal Income and population data are from U.S. President (1982), table B-20, p. 255 and table B-28, p. 265.

2. See Moon (1977) and Moon and Smolensky (1977) for discussions of the issues.

3. We did not, however, adjust the weights used to expand the sample to represent the entire U.S. population

4. About 10 percent of all elderly persons (2.0 million) live in consumer units where the head is under 65, while about 3 percent of all nonelderly persons (5.4 million) live in units where the head is over 65. As will be discussed in note 11, our results are not sensitive to our choice to classify all persons by the age of the head of the unit rather than by their own age.

5. See U.S. Department of Labor, Bureau of Labor Statistics (1977) for a complete description of the excluded items. Consumption data are from the interview survey only. Expenditure items collected only in the diary were excluded and, as a result, we underestimate total consumer expenditures by about 12–15 percent. Our measures of income and consumption do not include the value of leisure and thus understate the "full income" of the elderly relative to the nonelderly.

6. Danziger and Taussig (1977) provide a comprehensive review.

7. U.S. Department of Health, Education, and Welfare (1976), p. 30. Many of the same points were repeated more recently in U.S. Department of Health, Education, and Welfare (1979). See, for example, pp. 30–31.

8. Nonetheless, per capita income is widely used to make comparisons of economic welfare across countries or over time in one country.

9. Watts and Peck (1975), Atkinson and Harrison (1978), and Kuznets (1976) also advocate the use of equal-person weights in estimating summary measures of inequality.

10. The mean consumer unit size in our sample is 3.00 persons per unit. Unit size generally declines with age of head, and is less than 2.00 for units where the head is over 64 years. Our choice of person weighting is designed to account for these differences.

11. As mentioned above, all persons in a consumer unit are classified as elderly if the head is over 65 years of age, and as nonelderly if the head is less than 65. Classifying as elderly those nonelderly persons who live in units headed by the elderly and as nonelderly those elderly in nonelderly units could bias our conclusions concerning the relative economic status of the two groups. We attempted to gauge the extent of the bias by reclassifying all persons according to their own age. Thus persons under 65 living with the elderly were counted as nonelderly, and those over 65 living with the nonelderly were classified as elderly. As a result, 3.7 percent of persons shifted categories. This, or any alternative classification, requires an assumption about how much of a unit's income accrues to each person. In this paper, to be consistent, we follow the standard procedure and assume that all persons in a unit share equally, whatever the age of the head. This assumption leads to relatively small changes in our results. For example, the ratio of the per capita income of the elderly to that of the nonelderly rises to 1.12 from 1.07. The results would undoubtedly differ if we assumed (as did Moon 1977) that elderly persons in nonelderly units with incomes above the poverty line received less than an equal share of the nonelderly unit's income. Of course, once the assumption of unequal sharing is introduced, it has implications for men versus women, and adults versus children in all units. Because we have no reliable evidence about the actual degree of income sharing, we are unable to pursue this issue.

12. Of course, not all taxes are included in our tax variable. On the other hand, not all transfers in our sample are reported in full.

13. According to published Current Population Survey data (U.S. Bureau of the Census 1981), the ratio of the mean income of elderly families to the mean income of all families increased from .66 to .71 between 1973 and 1980. While these data are not directly comparable to ours, an upward trend in the relative economic status of the elderly would probably be found if we had a Consumer Expenditure Survey for a recent year.

14. This appendix draws heavily on van der Gaag et al. (1981), which contains more detailed information on the estimation and imputation discussed below.

15. In what follows we restrict ourselves to all households interviewed for the CEX in 1973. Furthermore, we restrict ourselves to service flows from major durables and vehicles. The value of most minor durables (toaster, mixer, hair dryer, etc.) is small enough to warrant treatment as nondurables. Unfortunately, the CD tape does not contain information on the value of house furnishings.

16. For a complete listing, see section D of the code book for the BLS Inventory of Consumer Durables public-use tape.

17. In June 1973 interest rates ranged from 6.3 percent on taxable U.S. bonds, to 7.2 percent on three-month treasury bills, to 8 percent on prime commercial paper. In general these were considerably higher rates than had prevailed in the preceding few years. See U.S. President (1982).

18. This list of independent variables is not derived from any theory of the acquisition of durables. Our only goal is to get an unbiased estimate of y. Alternative specifications were tried but none improved the coefficient of determination of the equation.

19. We emphasize here that all these results should be interpreted for owners only, that is, very young units buy more expensive stoves than older ones, *if* they buy. We are not interested in the unconditional expected value of y, since we impute y only for those units that are reported to be owners.

20. Edward Budd has called our attention to the fact that our imputation for the rental value of owner-occupied homes is about 18 percent larger than the amount reported in the National Income and Product Accounts. This might lead to an overestimate on the relative economic status of the elderly because they are more likely to be home owners. However, our general conclusions on relative economic status are confirmed even when we do not make our adjustments for home ownership.

21. Our equivalence scale is a direct transformation of the estimation results of the demand system. Hence it depends directly on the way we incorporated characteristics of the unit in the demand equation. For instance, no attempt was made to interact the sex of the unit's head with the age of the head. In fact, both variables were simply included as additive dummy variables. Consequently, the "difference" between male- and female-headed consumer units is the same for all age groups. In subsequent work, it might be worthwhile to experiment with various alternatives for incorporating characteristics of the unit in the system of demand equations.

22. The same results were obtained from estimating the Extended Linear Expenditure System (ELES) using regional price variation to identify all parameters (see van der Gaag, Smolensky, and Lee 1984). Thus the conclusion that elderly consumer units "more efficiently" produce utility is not attributable to the savings assumptions implicit in ELES, nor to the fact in these data that the elderly are substantial savers. For more on the savings behavior of the elderly, see Danziger et al. (1982).

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Comment Barbara Boyle Torrey

Introduction

This paper addresses two basic questions that are raised by the enormous growth of transfer programs since 1940: (1) How well-off are the aged today relative to the nonaged? (2) How much of the present eco-

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nomic status of the aged is provided by transfers? The comparison of economic status between the aged and nonaged is complicated because the groups have different sources of income, forms of consumption, and life-styles. The biological relationship between these two groups is linear, but the economic relationships are more complex. In recognition of these complexities the authors used the 1972 Consumer Expenditure Survey (CEX) and the related Inventory of Consumer Durables to develop a data base that is more appropriate to the economic comparisons between age groups than the data bases generally used.

Although some of the methods in this analysis are not commonly used, the most important and controversial part of this study is likely to be its conclusions, because they contradict strongly held public opinion. Therefore these comments will focus on the conclusions and suggest how the results could be modified by the biases in the study and potential future trends. Then some of the public policy implications will be discussed.

How the Measurement of Economic Status Affected the Conclusions

The first and most prominent conclusion, of course, is that the economic status of the aged is approximately 90 percent of the economic status of the nonaged when equivalence scales are used. If a value can be ascribed to leisure, then the aged would almost certainly be as well-off as the nonaged if not considerably better-off.

However, as noted by the authors, this conclusion is very sensitive to the measurement of the economic unit. The sensitivity of the unit concept suggests that this is where we should be concentrating future research. Some would argue that no adjustment is necessary to make different size households equivalent because people have voluntarily chosen their family size to maximize their utility. While this may be true to some extent for the nonaged, it is hard to argue that it is as true for the aged who no longer have the option of having more children or, in many cases, of marrying. Therefore, when comparing the aged and nonaged, an equivalence adjustment for different kinds of households is useful.

The constant utility equivalence scale used in this paper is based on consumption patterns of different kinds of households for food, housing, clothing, transportation, etc. The authors' estimates suggest that contrary to life-cycle theory, the aged continue to save rather than dissave. This result was also found in the Survey of Changes in Consumer Finance and in the 1960–61 CEX. In fact, the aged continue to save at least the same percentage of their income even though their income after taxes decreases as they get older. One explanation of this behavior may be that saving becomes more important to people as they get older and have fewer opportunities to increase their income. And, in fact, saving may become so important that the aged are willing to forego some

consumption to achieve a target level. If this were true, it would not be surprising to see different consumption patterns in men and women. Aged women should have more need to save since they will live longer and therefore are more threatened by declining income than men. But it also suggests that utility measures that look only at consumption may assume too quickly that utility remains constant as the consumption of the aged drops.

An evaluation of the general economic status of the aged and nonaged requires not only a measurement of the mean economic status but also the distribution around the mean. Therefore the second conclusion—that the Gini coefficient for the aged using equal person weights and equivalence scales was 18–24 percent higher than for the nonaged—is important.

However, when the Gini coefficient is measured using equal unit weights, which is more common, the difference in inequality is reduced to 16 percent and 19 percent for the two measures that used equivalence scales; and on a per capita basis, income inequality actually becomes less for the aged than for the nonaged. Using either unit weights or person weights creates some problems of interpretation. It is easier to interpret the results if unit weights are used for economic measures unadjusted for unit size and if person weights are used for the economic measures adjusted for unit size. This would also tend to reduce the variance in the ratios of the Gini coefficients for the different measurement concepts.

The aged income distribution would be relatively more unequal if it were not for transfer payments. And this leads to the third conclusion that public transfers raise the mean economic status of the aged about 56 percent and reduce inequality among them by about 30 percent. But the admitted naive assumption that there are no behavioral effects from the enormous public tax and transfer system means that the estimated effects of transfers on economic status of the aged are upper bounds. One of the authors, in fact, has recently surveyed the literature on how income transfer programs have affected work and concluded that up to one-half of the decline in the older male labor force (and therefore the decline in their wage income) since 1950 is because of the Social Security program's work disincentives.

The final conclusion that the authors leave for the reader to make is that an adequate retirement income for the aged population had, in general, been achieved by 1973 in the United States. Other studies, such as the one recently done by Michael Hurd and John Shoven, support this conclusion, but none of the studies is as comprehensive in providing alternative ways to verify the results. Although some aged do not have adequate means, the majority appear now to have achieved economic independence, largely because of the public transfer programs. This accomplishment is not only unheralded, but is also denied by public

opinion, as a recent Harris poll suggests. Part of the reason for the misperception may be that the relative economic status of the aged has fluctuated quite significantly in the past. Although we do not have comparable historical data for the better measurement concepts used in this paper, there is historical information for the ratio of the median total money income of aged families with all families. Between 1950 and 1967 this ratio decreased 16 percent, but between 1967 and 1980 it increased 24 percent. (The ratio of median total money income for unrelated individuals 65 and over to all unrelated individuals did not change from 1950 to 1980.) Apparently public perception has lagged behind the major improvements that took place in the relative economic status of the aged in the 1970s.

The Potential Effect of Research Biases and Future Trends on Relative Economic Status

How well the conclusions of this paper can be applied to the future depends in part on the biases in the research and how future trends may affect the populations described. The CEX data base, while better than most data bases, is still imperfect. Three specific qualities of the CEX suggest that the relative economic status of the aged could be underestimated in this study and therefore improve relative to the nonaged in the future.

The major omission in the CEX for the purposes of this study is the information on Medicare services for the aged and the employer health insurance for the nonaged. Of course, a number of conceptual problems are introduced when including medical costs in a measurement of economic status. But because the medical utilization rate significantly differs between the aged and nonaged and because consumption of medical services is to some extent voluntary, it should not be completely ignored. Because Medicare and employer health insurance are not of equal value, their omission produces a bias in the results. The total compensation comparability study by the Office of Personnel Management estimated that in 1979 the value of the employer health insurance benefits to employees in industry was $1045. This compensation did not go to all employees, but of those it did go to it usually provided family health benefits. The insurance value of Medicare net of institutional care expenditures was $1011 *per enrollee* in 1979. Therefore, if both of these values were added to the income of the aged and nonaged, the economic status measured by income of the aged would be increased relative to the nonaged. In addition, if these insurance values of health benefits are actuarial estimates of consumption, then consumption measures of economic status for the aged would likewise increase relative to the nonaged. And a utility scale developed on consumption data omitting these measures of health consumption would undervalue the aged's equivalence

scale and therefore reduce to some extent the difference between the aged and nonaged.

There are two other reasons why the CEX data base may underestimate the economic status for the aged: Over 50 percent of the CEX respondents in 1973 who were 65 and over had a ninth grade education or less. Also, only 65 percent of the people 65 and over owned their own home. We already know that the future aged will be significantly better educated than the present aged both absolutely and relative to the nonaged. And the 1975 Retirement History Study suggested that subsequent aged cohorts will have higher rates of home ownership. This means that both earnings histories, which are directly related to education, and assets, which are directly related to home ownership for the aged, are likely to increase in the future and improve the economic status of the aged.

However, at least two future demographic trends could reduce the economic status of the aged relative to the nonaged. In another paper, the authors estimated that the mean income after taxes of couples over 71 was 81 percent of the income of couples 65–71 years old (84 percent for single females and 101 percent for single men). This difference in income will tend to reduce the economic status of the aged as more of the aged become 71 and older (35 percent in 1970; 39 percent in 1990; and 44 percent by 2000).

In addition, both the Census and the Social Security actuaries project that the difference in life expectancies for men and women will continue to increase over time. Since women's retirement income is lower than men's the trend of increasing the ratio of aged women to men in the future would tend to lower the future economic status of the aged as a whole. However, this also could be offset to some extent by the improving work histories of the future cohorts of retired women.

The net effect of all these factors cannot be predicted, but they will tend to offset each other to some extent. Public policy, of course, will not wait to be made until we know what the net effects will be.

Public Policy Implications

The authors discuss one major public policy implication of their conclusions, which is that the aged should not be disproportionately favored relative to specific needy groups in the society, such as poor, female-headed families. Therefore such options as taxing Social Security benefits should be considered as a deficit reduction measure before further cuts in transfers to less-privileged groups are taken. Although taxing Social Security benefits would reduce the rate of return on Social Security contributions to upper-income recipients, this should not be a binding constraint on the allocation of resources.

The aged today look almost as heterogeneous in terms of income distribution as the nonaged. And therefore, like the nonaged, their poverty problems can no longer be solved by broad, general programs without enormous costs. Although much of the credit for the past reduction in both poverty and the Gini coefficient for the aged can be attributed to Social Security, it will be a particularly inefficient vehicle to solve the remaining income problems of the poor, when most of the aged are no longer poor.

The authors' recommendations to tax Social Security benefits could be generalized to a reevaluation of all the tax expenditures for the aged. Total tax expenditures for the aged are worth an estimated $16.4 billion in 1983, which make them together the third largest federal "program" for the aged, not counting the retirement programs for federal employees. Federal revenues would be increased 2.5 percent if these exemptions were eliminated. Of course, elimination would lower the mean economic status of the aged slightly, but it would also lower their Gini coefficient.

The other major non-needs-tested federal program for the general aged is the provision of free and complete medical care to all veterans 65 and over. This costs over $1 billion today and will double by 1990 as the size of this population doubles.

But other questions should also be addressed. The present aged have inherited a substantial windfall from Social Security and Medicare. That windfall is partly responsible for their present economic status and their ability to accumulate and protect private assets. The next generation will inherit the private assets of their parents, which are considerable, given the saving and consumption pattern of this cohort of aged. And they will inherit it without an estate tax. Providing a windfall to the poor or to the aged has generally been acceptable public policy. But to have the side effects of the windfall to the aged passed on to the nonpoor, nonaged children tax-free should raise questions about the future distribution of income.

Of course, longer-term issues are raised by the conclusions in this paper. Should the economic parity of the aged with the nonaged that is demonstrated in this paper be maintained, and if so how and by whom? If the present economic parity of the aged is to be maintained, then that amount of total personal income that is required to finance the federal transfers to the aged will have to increase from approximately 7 percent in 1980 to 8 percent by 1990 and 15 percent at the peak of the baby-boom retirement. Alternatively, other public goals would have to be sharply curtailed. If the nonaged increased their taxes to maintain the relative economic status of the aged through 2010, but then did not raise their tax rates further, the economic status of the aged who retire later would

deteriorate 25 percent relative to the nonaged. Under those conditions, if the aged wanted to maintain their present relative economic status, they would have to increase their own assets or retirement age.

And this raises the question of whose responsibility it is to maintain some economic parity between the aged and nonaged. In 1975 the federal government was paying 78 percent of all retirement payments to the aged and 54 percent of their health care. The private sector was paying 15 percent and 37 percent, respectively, with the state and local governments paying the rest. Is this present division of responsibility what we want to assume for the future? Or should we suggest that both the private sector and individuals take more responsibility in the future for maintaining the approximate economic parity that this paper has described in 1973.

The issues of whether economic parity should be maintained between the aged and nonaged, and if so how and by whom, are the obvious long-term policy shadows cast by the results of this paper.