

Consumption and Income Poverty for those 65 and Over

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1. Introduction

The most noticeable changes in official poverty over the past half century are evident for individuals 65 and over. In 1959 the official poverty rate for this group was 35.2 percent, well above the overall rate of 22.4 percent. By 2005 the official poverty rate for the elderly had fallen to 10.1 percent, below the overall rate of 12.6 percent. Some recent studies of alternative poverty measures indicate that changes in poverty for those 65 and over differ noticeably depending on how poverty is measured. For example, a study of poverty based on after-tax income of the household (JEC 2004) concludes that poverty fell by 12.5 percentage points between 1979 and 2000 among those 65 and over (the official measure fell by only 5.3 percentage points for this group during this period). Earlier work looking at consumption based measures of poverty that uses alternative equivalence scales suggests that poverty among those 65 and over changed very little between 1973 and 1985 (Slesnick 2001), while the official measure fell by nearly 4 percentage points.

This paper examines income and consumption based measures of poverty for those 65 and over between 1972 and 2004. This study contributes to the existing literature on poverty in several ways. First, we construct consumption based measures of poverty that improve upon measures used in previous studies. In particular, we develop better measures of consumption of durables including vehicles and housing and we incorporate the value of health insurance into our measure of consumption. Second, we provide estimates of consumption based poverty for those 65 and over using the most recent data through 2004. Third, we examine the effect on poverty trends of alternative price indices, equivalence scales, and resource sharing units (the family or household). Fourth, in addition to poverty rates, which focus on the cumulative distribution function at a single point, we also study extreme poverty, near poverty and poverty gaps in order to examine more fully the trends in well-being of older individuals.

Throughout this paper we emphasize important differences between income and consumption-based measures of well-being. In previous work we present fairly strong evidence that consumption provides a more appropriate measure of well-being than income for families with few resources (Meyer and Sullivan 2003). Consumption better captures long-run resources (Cutler and Katz 1991; Slesnick 1993; and Poterba 1991).

Income appears to be substantially under-reported, especially for categories of income important for those with few resources, and the extent of under-reporting appears to have changed over time (Meyer and Sullivan 2006, Meyer, Mok and Sullivan 2007). Meyer and Sullivan (2003) also shows that for single mothers consumption is a better predictor of well-being than income.

Examining the patterns for consumption based poverty among the elderly and how these patterns differ from those for income is particularly interesting for a number of reasons. First, patterns for income and consumption might be particularly distinct among older households, because they are more likely to have accumulated assets that can be used to maintain consumption even when income is low. Second, recent changes in pensions, financial instruments, and insurance suggest that income based measures of poverty may not accord well with what we hope to capture with a well-being measure. These changes include the diffusion of defined contribution pensions plans, IRAs, long-term care insurance, and reverse mortgages. Finally, ownership rates of durable goods such as housing and cars are particularly high for those 65 and over. It is important to account for these resources, as the flow of services from these durables is often large relative to current incomes.

An accurate measure of the well-being of the most disadvantaged among the elderly is important to those who are evaluating the need for and consequences of government programs such as social security, which is an important buffer against poverty for the elderly. Furman (2005) calculates that Social Security lifts 13 million elderly Americans above the poverty line. Engelhardt and Gruber (2006) estimate that a \$1,000 increase in the average annual household Social Security benefit is associated with a 3 to 7 percentage point reduction in poverty rates for this group.

Our results show that consumption based measures of poverty indicate greater improvements in well-being than are evident in alternative income based measures for individuals 65 and over. Between 1980 and 2004, consumption poverty for this group fell by 11.6 percentage points, while poverty based on a comprehensive measure of income fell by 6.4 percentage points. During this period we also find substantial declines in consumption based deep poverty, but increases in income based deep poverty. In addition, income based poverty gaps grew significantly, while consumption based

poverty gaps declined, particularly since 1990. We also show that sensible changes from the official price index lead to substantial declines in poverty during this period. However, other adjustments, such as alternative equivalence scales or broader resource sharing units, have little impact on changes in poverty in recent years.

Results for subgroups indicate that declines in poverty are most noticeable among those 75 and over, among women, and among those not married. Moreover, much of the difference between declines in consumption and income poverty are accounted for by differences across these measures for elderly women or those not married.

In the following section we consider the merits of income and consumption as measures of well-being for older individuals. Section 3 discusses alternative measures of poverty. We then discuss past work on this topic in Section 4, and describe our data and methods in Section 5. Sections 6 and 7 reports results, while Section 8 offers conclusions.

2. Income and Consumption as Measures of Well-being for those 65 and Over

Previous research argues that consumption generally provides a more appropriate measure of well-being than income for families with few resources (Meyer and Sullivan 2003; Cutler and Katz 1991; Slesnick 1993; and Poterba 1991). Income based measures are likely to have particular weaknesses and consumption particular advantages in the case of the elderly. First, patterns for income and consumption might be particularly distinct among older households, because they are more likely to have accumulated assets that can be used to maintain consumption even when income is low. Second, due to a number of conceptual problems, income of the aged may not accord well with what we hope to capture with a well-being measure. Consider withdrawals from retirement accounts such as 401(k)s or IRAs. The Current Population Survey (CPS), the data source used to measure official poverty, considers payments from such accounts to be income, even though the principle in such accounts has already been counted as income by the CPS. Furthermore, the CPS does not determine the tax status of such payments, so one cannot accurately calculate a disposable income measure.¹ This problem suggests that

¹ If the deposits were made with pre-tax income the principal is taxable, but post-tax deposits are not taxed upon withdrawal.

income may not provide a consistent measure of well-being during a period of significant growth in defined contribution pension plans. On the other hand, the rise in the prevalence of 401(k)s and other savings plans does not present a problem for a consumption measure.

Next, consider long-term care insurance. By insuring against the risk of a long and costly nursing home stay, such insurance allows a retiree to draw down her assets for the purposes of consumption, rather than keeping them for that costly nursing home stay. Similarly, changes in the cost of long-term care or its coverage through Medicaid have important implications for well-being because these changes could free up assets for consumption (or tie up assets and reduce consumption, depending on the nature of the change). Such changes would be reflected in consumption based measures of poverty, but not in income based measures.

Reverse mortgages provide another example. Payments from a reverse mortgage are a form of dissaving and may reflect the proceeds from an unrealized capital gain. The introduction or increased availability of this product should increase consumption and well-being, but will not be reflected in income measures. Furthermore, because many of these changes involve a change in risk, how that risk is perceived needs to be elicited. A measure of consumption should approximate the bottom line effect of these alternative arrangements. Since the prevalence of these alternative pension, insurance, and mortgage products has increased sharply over time, reported income measures are probably less able to capture material well-being over time. On the other hand, the reliability of consumption measures should not be affected by these changes in alternative financial products.

Medical care is a particularly difficult source of in-kind benefits and expenditures to take into account. Ideally, measures of well-being would reflect changes in employer sponsored health insurance, Medicaid, and Medicare over time including the increasing cost (and to at least to some extent) value of medical care (Cutler 2004). Differences across individuals in their spending are not a good measure of well-being if they reflect differences in health or differences in coverage. These types of differences are likely to generate cases where more spending means worse well-being. A better approach is to omit out of pocket spending (as recommended in Citro and Michael 1995 and followed in

Canada and many Western European countries) and account for a value of health insurance provided through an employer or by the government. Alternatively, one can exclude spending on health care altogether and examine the resources left over for other types of spending. While these adjustments for health are straightforward using expenditure data, they cannot be made directly using the CPS, because it does not include information on out of pocket medical expenditures.

Finally, the flow of resources from durables is particularly important for the elderly given their relatively high home and car ownership rates. In 2000-2004, 83 percent of households 65 and over owned a home and 85 percent owned a car (Appendix Table 1). The flow of services from these durables is likely to be much higher than their out of pocket spending on these major items. For this reason, we devote significant effort to measuring the flow of services from housing and vehicles.

3. Alternative Measures of Poverty

Official poverty in the U.S. is determined by comparing pre-tax money income of the family or unrelated individuals to a predetermined poverty threshold. The thresholds vary by family size and composition and are updated over time using the CPI-U. A number of studies have highlighted the shortcomings of the official poverty measure (for a more detailed summary see Citro and Michael 1995). The problems include the omission of in-kind government benefits (which have expanded sharply in recent years), a lack of accounting for taxes or tax credits, an equivalence scale with odd properties, and a price adjustment that overcompensates for inflation.

A large number of studies criticize the official poverty measure, because it fails to reflect appropriately the resources at the individuals's disposal. Pre-tax money income does not include taxes or noncash benefits such as the EITC, food stamps, housing or school lunch subsidies, or public health insurance. Many studies have suggested that these benefits should be included as part of family income because they have an important effect on the resources available for consumption.

Several studies have constructed alternative measures of poverty using imputed values of taxes and noncash benefits that the Census has computed for the CPS Annual Social and Economic (ASEC) Supplement (formerly called the Annual Demographic File

(ADF)) since 1980. However, some of these valuations have important limitations. For example, the Census imputes a fungible value of Medicare and Medicaid that attributes a positive value to these benefits only when income exceeds an amount they assume families will spend on food and housing. Thus, these fungible values imply that public health insurance has no value for families whose income is below this level, which surely understates the value of public health insurance for this group. Also, the CPS' imputed value of the net return on home equity is calculated in a peculiar way, assuming the value of home ownership is proportional to a certain bond rate (see Meyer and Sullivan (2006) for more details).

The official measure of poverty only includes the resources of individuals within a housing unit who are related by blood or marriage. This unit of analysis excludes from families the resources of unrelated individuals, such as a cohabiting partner. Citro and Michael (1995) and others argue that cohabitators should be included in the family unit. Analytically, the unit should be based on those who share resources.

The equivalence scale implicit in the official measure is based on how food needs vary with family size, which may not appropriately reflect differences in the cost of living across family types if, for example, economies of scale in non-food consumption are different from economies of scale in food consumption. In addition, the implicit scale does not exhibit diminishing marginal cost over the whole range of family sizes (Ruggles, 1990). A number of alternative scales have been proposed. The NAS panel recommended an equivalence scale that allows for differences in costs between adults and children and exhibits diminishing marginal cost with each additional adult equivalent: $(A + 0.7K)^F$, where A is the number of adults in the family and K is the number of children. The panel recommended that the economies of scale factor, F, fall in the range 0.65 to 0.75. Scales such as these have been shown to lower the level of poverty slightly (Short et. al., 1999; Citro and Michael, 1995), particularly for unrelated individuals. Others have used expenditure data to construct equivalence scales that are determined by household specific spending on all goods and services, not just food (Slesnick 1993, 2001).

Because the official poverty thresholds are adjusted over time using the CPI-U, bias in this price index will lead to bias in poverty trends. Although this bias can be very

substantial for changes over long time periods, this criticism has received less attention in the poverty literature. The BLS has implemented several methodological improvements in calculating the CPI-U over the past 25 years. Although the BLS does not update the CPI-U retroactively, it does provide a consistent research series (CPI-U-RS) that incorporates many of these changes. As we will show, these two price indices yield very different patterns for poverty changes over longer periods (also see Jencks et al. 2004). However, a consensus view among economists is that the CPI-U-RS does not make sufficient adjustment for the biases in the CPI-U. Between 1972 and 2004 the CPI-U grew on average between 0.4 and 0.5 percentage points per year faster than the CPI-U-RS, with essentially all of this difference occurring before 1998. The estimates of the bias in the CPI-U over this period are much larger—about 1.3 percentage points per year between 1978 and 1995. Gordon (2006) argues that even with recent changes that make the CPI-U and CPI-U-RS essentially the same, a bias of 0.8 percentage points per year remains. For a more detailed discussion of biases in the CPI-U see Boskin et al. (1996), Gordon (2006), and Hausman (2003).

4. The Literature on Poverty of the Aged

The official poverty rate for those 65 and over fell from 35.2 percent in 1959 to 15.7 percent in 1980 (U.S. Census, 2006). Since 1980, the official poverty rate for this group has fallen substantially, but more slowly, from 15.7 percent to 10.1 percent. In our discussion of past work, we focus on measures that make some attempts to remedy the flaws of the official measures such as those that account for taxes and some in-kind transfers. The Census Bureau has published a series of experimental measures of poverty from time to time with these features. Many of these publications do not examine changes in these alternative poverty measures over time, or do so only for short periods. U.S. Census (2001), which is one of the more comprehensive studies, reports changes in poverty rates for those 65 and older for 1990 through 1999. While official poverty falls by 2.5 percentage points over this period, a number of alternative income poverty measures fall by between 1 and 2 percentage points. JEC (2004) examines alternative income poverty between 1979 and 2000. This report finds that after accounting for taxes

and key government noncash transfers and making other sensible adjustments the poverty rate for those 65 and over fell more sharply than the official measure during this period.

A few earlier studies have looked at consumption based measures of poverty for those 65 and over. Cutler and Katz (1991) found that consumption poverty fell less quickly than income poverty through 1980 and then fell more sharply than income based measures through 1988. Johnson and Smeeding (1998) find that a consumption based measure of relative poverty (less than half of the median) falls more sharply than a relative income measure from 1972-73 to 1994-5. Slesnick (1993, 2001) finds that consumption based poverty falls at a slightly slower proportionate rate between 1961 and 1989, but it starts at a much lower level. There has been little research done on changes in elderly poverty in recent years, particularly work that goes beyond pre-tax, pre-transfer income head count measures.

5. Data and Methods

Our analyses of trends in poverty will draw on income and consumption data from the Current Population Survey (CPS) and the Consumer Expenditure (CE) Interview Survey. Our primary source for income based measures of poverty is the Annual Social and Economic (ASEC) Supplement (formerly called the Annual Demographic File (ADF)), an annual supplement to the CPS, which is the source of official U.S. poverty statistics. We examine ASEC data from 1972 through 2004. In addition to information about money income, the ASEC includes a reported value of food stamps received and imputed values for other noncash benefits such as housing and school lunch subsidies, as well as imputed values for the fungible value of Medicaid and Medicare.

The CE Survey provides information on expenditures for 1972, 1973, and annually beginning in 1980. From data on expenditures we construct measures of consumption. Following previous studies (Cutler and Katz 1991; Slesnick 1993; Meyer and Sullivan 2003, 2004, 2006) we convert housing spending for homeowners to service flow equivalents using the reported rental equivalent of the home, and we exclude spending that is better interpreted as an investment such as spending on education and health care and saving for retirement.

Our consumption measure also incorporates several methodological improvements. First, we impute a measure of the value of public and private health insurance.² The worker and firm cost of employer provided insurance is obtained from a combination of sources including the National Medical Care Expenditure Survey and the Mercer/Foster Higgins National Survey of Employer Sponsored Health Plans. From these surveys we calculate a value of employer provided health insurance that varies by year and nine geographic regions. The value of Medicaid and Medicare is based on expenditures per person in a given state and year. For Medicaid we calculate these expenditures separately for children, adults under 65, and adults 65 and over. It is important to recognize that while the value of expenditures on medical care does not vary nearly as much across families as does income, there is a relationship between total resources available to consume and desired medical consumption. Assuming that for those with low expenditures desired health insurance spending can be characterized by Cobb-Douglas preferences with a coefficient of 0.33 on health insurance and 0.67 on other goods, we cap the share of total expenditures accounted for by the value of health insurance at one-third of total expenditures. This approach includes a value for health coverage that is a lower bound on the true value of health consumption since actual health expenditures may exceed this level.

Our second methodological improvement is a service flow for vehicle consumption based on the market value of the vehicle. Instead of including the full purchase price of a vehicle, we will calculate a flow that reflects the value that a consumer receives from owning a car during the period. This procedure will improve upon estimates of vehicle flows in previous studies (Cutler and Katz 1991; Slesnick 1993; Meyer and Sullivan 2003, 2004), which have imputed flows based on the age of the vehicle. Our improved approach requires extensive data analysis using detailed characteristics and purchase price data from the CE Survey for more than 325, 000 vehicles. We impute a current market value for all vehicles without purchase prices based on the observed price paid for vehicles of the same make, model, year, and age, and with comparable features such as air conditioning, power steering, or a sunroof.

² Because measuring the value of public and private health insurance requires a number of strong assumptions, we explore the sensitivity of our analyses to the inclusion of these imputations.

Such a procedure accounts for amenities and quality improvements through what purchasers are willing to pay. We use the same data to determine how the value of different vehicles depreciates over time.

Third, we impute a value for the service flow of housing consumption for those living in government or subsidized housing using detailed information on the characteristics of the living unit. The subsidized housing imputation uses information on the number of bedrooms and bathrooms and geographic location. The method also accounts for the lower rental equivalent that individuals tend to report for public and subsidized housing compared to private housing as indicated by data from the Panel Survey of Income Dynamics (PSID).

For individuals age 65 and over, we examine the degree to which changes in poverty over time differ depending on the measurement approach used. We consider a number of poverty measures that differ from the official measure by using alternative equivalence scales, price indices, resource sharing units, and resource measures. For much of the analyses we use an equivalence scale that follows the NAS panel recommendations discussed in Section 3.³

Resources and poverty thresholds for each individual are determined at the resource sharing unit level. In the CPS, this is typically either the family or the household. For example, at the family level we include the resources of all family members—those related by blood or marriage—and the poverty threshold is based on the number of adults and children in the family. An important limitation with this unit of analysis is that unrelated individuals living in the same household as a family are not considered to be part of the family even if resources are shared. For the CE Survey, the only unit of analysis that we observe is the consumer unit. The consumer unit is more appropriate for studying poverty because it includes all those related by blood and marriage as well as cohabitators that share responsibility for housing, food, or other living expenses, but excludes cohabitators who do not contribute to these expenses.

We analyze changes in poverty using different measures of resources. We will consider measures of both the resources available for consumption (i.e. income) as well

³ In most cases we use the midpoint of the NAS recommended range for an economies of scale factor, 0.7, although we also examine how poverty patterns vary as the economies of scale factor changes.

as measures of the resources consumed. We focus on four different income measures of resources using data from the CPS: 1) money income, 2) after-tax money income, 3) after-tax money income plus noncash benefits such as food stamps, housing and school lunch subsidies, an imputed value of Medicaid and Medicare, and an imputed value of employer provided health insurance, and 4) after-tax money income plus noncash benefits plus annuitized home equity. These disposable income measures follow the suggestions from Citro and Michael (1995), and are used in Census calculations of alternative poverty measurement (U.S. Census 2005, 2006), as well as other recent studies of poverty. See Meyer and Sullivan (2006) for a detailed definition of each of these measures. We also examine several consumption based measures of resources including consumption as defined above, a measure of consumption excluding health insurance, and expenditures.

To facilitate comparisons we anchor each measure by using the threshold that equates poverty in the baseline year (1980). Specifically, for each alternative poverty measure we find the threshold such that the poverty rate for that scale-adjusted measure is equal to that of the official poverty rate for those 65 and over in 1980 (15.7 percent). Anchoring our alternative measures to the official measure in 1980 allows us to examine the same point of the distribution initially so that different measures do not diverge simply because of differential changes at different points in the distribution. To obtain thresholds for other years, the thresholds are adjusted for inflation using different price indices including the CPI-U, the CPI-U-RS, and the PCE.

In order to examine more fully the trends in well-being of older, disadvantaged households we will also examine poverty gaps (the difference between the poverty threshold and resources summed over all families in poverty) for the measures of poverty discussed above. In addition, we will consider other thresholds including 50 percent (deep poverty) and 150 percent (near poverty) of the thresholds described above.

6. Results

Figure 1 shows changes in poverty for individuals 65 and over between 1972 and 2004. All five of the data series plotted in Figure 1 are for the same measure of resources—money income. This figure shows that changing from the equivalence scale

implicit in the official thresholds to one that is more generally accepted, does not greatly alter the change in the poverty rate for those 65 and over. Using the same measure of resources (money income) and the same price index (CPI-U), there is little difference in the patterns for official income poverty and poverty calculated using the NAS equivalence scale for the years 1972 through 2004.

Figure 1 also shows that alternative price indices have a noticeable effect on changes in poverty. Using the same measure of income and the same NAS recommended equivalence scale, poverty declines by 9.5 percentage points between 1972 and 2004 when thresholds are adjusted using the CPI-U, while the decline is 15.4 percentage points using the CPI-U-RS. The differences across these measures are sharpest for the period prior to 1983, although the measure using the CPI-U-RS declines faster than the measure using the CPI-U throughout much of the sample period.⁴ As mentioned in Section 3, the CPI-U-RS does not correct for all biases in the CPI-U. If the additional biases were addressed, the declines in poverty would be even greater during this period. Changes in poverty calculated using the PCE are very similar to those calculated using the CPI-U-RS, except between 1995 and 2000. The pattern for a measure of poverty that includes the money income of all members of the household does not differ noticeably from a family level measure.

The patterns for income based measures of poverty that include taxes and noncash benefits differ somewhat from the patterns for pre-tax money income measures. As shown in Figure 2, changes in after-tax money income poverty mirror those for pre-tax money income. However, including noncash benefits, particularly the CPS' imputed values of health insurance, results in more modest declines in poverty than are evident for a money income based measure. Between 1980 and 2004, after-tax money income based poverty falls one percentage point more than the poverty measure that includes noncash benefits. Differences between these two measures are most evident between 1989 and 1995.

Some of the most noticeable differences are evident when comparing income based poverty to consumption based poverty. Figure 3 reports changes in official

⁴ In 1983 the methodology for determining prices for owner-occupied housing in the CPI-U shifted from using the purchase price of residential homes to a rental equivalent value of the home.

poverty, comprehensive income based poverty, and several consumption based poverty measures.⁵ Between 1980 and 2004 consumption poverty fell by 5.2 percentage points more than comprehensive income poverty. The differences in the patterns across these measures are most noticeable in the late 1980s and early 1990s. Figure 3 also shows that our trends for consumption poverty are not driven by our approach used to calculate vehicles service flows, housing consumption for those in public or subsidized housing, or the value of health insurance. For much of this period changes in expenditure based poverty mirror the changes for consumption based poverty. Similarly, the pattern for a consumption based measure that excludes the value of health insurance does not differ noticeably from the pattern for our main consumption based measure. We also verify that differences between income and consumption based poverty are not entirely due to increases in the value of housing for the elderly. A poverty measure based on non-housing consumption also fell more sharply than disposable income based poverty during the sample period.

To determine how changes in poverty differ at different points in the cumulative distribution of resources for those 65 and over, we also examine other thresholds ranging from 0.25 to 1.5 times the thresholds used in Figures 1 through 3. A subset of these results are reported in Table 1 for several income and consumption based measures of poverty. For near poverty (150 percent of our original thresholds) we again see that consumption poverty falls by more than income poverty, however, these differences are not large in percentage terms. Between 1980 and 2004 near income poverty fell by 48.1 percent (Column 2) while near consumption poverty fell by 52.5 percent (Column 3). For deep poverty (50 percent of our original thresholds), income and consumption based poverty diverge, and the percentage differences are substantial. Between 1980 and 2004, deep income poverty rose 8.2 percent (Column 10) while deep consumption poverty fell by 89.9 percent (Column 11).

The analyses of poverty discussed above do not address the level or changes in the depth of poverty among those 65 and over. In order to examine more fully the trends in well-being of older individuals we also examine income and consumption based

⁵ We do not report results from the CE Survey for 1982 and 1983 because the survey only includes urban consumer units in these years. Also, data on health insurance status are not available in the CE Survey from 1982 through 1987.

poverty gaps. We define the gap for a given poverty measure as the sum of the difference between the poverty threshold and family resources across all families in poverty that have at least one individual that is 65 or older. We express the gaps on a per family basis by dividing by the number of these poor families for that particular poverty definition. As shown in Table 2, comparisons of income and consumption poverty gaps also reveal sharp differences. Between 1980 and 2004, the income poverty gap grew by 30.5 percent while the consumption poverty gap increased only slightly, by 2.29 percent. If health insurance is excluded from consumption, the gap declines by 10.8 percent. During the 1990s the income poverty gap increased by 8.1 percent, while the consumption poverty gap fell by 12.7 percent.

Recent improvements in elderly poverty also have an important impact on the age composition of those in poverty. As shown in Table 3, in the 1980s about 12 percent of all poor individuals were 65 or older based on a consumption measure of poverty. In recent years, older individuals account for less than 8 percent.

7. Poverty by Age, Gender, and Marital Status

Analysis of poverty within subgroups of the elderly population, reveal some sharp differences in the patterns across these groups. Using a comprehensive income based poverty measure, the declines in poverty are more noticeable for those age 75 and over than for those 65 to 74 (Figure 4).⁶ In 1980, the income based poverty rate for those 75 and over was 6.3 percentage points higher than the rate for the younger group. By 2004, however, this difference had dropped to 1.4 percentage points. This figure also shows that consumption poverty declines more noticeably than income poverty for both the 65-74 and 75 and over age groups. The most significant declines in consumption poverty are evident for the older group.

Results in Figures 5 through 7 indicate that the greater decline in consumption poverty relative to income poverty is particularly evident for women. Between 1980 and 2004, consumption poverty among women 65 and over fell by 6.4 percentage points more than income poverty (Figure 5). For men, consumption poverty fell by 3.7

⁶ We verify that the patterns for a measure of consumption poverty that excludes health insurance are very similar to those presented for consumption poverty in this section.

percentage points more than income poverty. The drop in consumption poverty relative to income poverty for women is particularly noticeable among those 75 and over. For this group, consumption poverty drops by 20.6 percentage points between 1980 and 2004, while income poverty declines by 10.7 percentage points (Figure 6). Differences are less evident across age groups for men (Figure 7). Figure 8 shows that differences between the patterns for consumption and income poverty are much more striking for unmarried individuals than for those that are married.

8. Conclusions

Previous research has argued that consumption is a better measure of well-being than income. Many of the arguments favoring consumption are particularly salient for analysis of the well-being of older individuals. The elderly are much more likely to finance consumption by dissaving. Durables such as housing and vehicles are often a large share of total consumption, and the flow of services from these durables is often large relative to current incomes. Consumption based measures of well-being will more accurately account for these differences in wealth and consumption from durables. In addition, recent changes in pensions, financial instruments, and insurance suggest that income based measures of poverty may not accord well with what we hope to capture with a well-being measure.

Our analyses of changes in income and consumption based poverty reveal important differences. For those 65 and over consumption based measures of poverty indicate greater improvements in well-being than are evident in alternative income based measures. Between 1980 and 2004, consumption poverty for this group fell by 11.6 percentage points, while a measure based on disposable income fell by 6.4 percentage points. During this period we also find substantial declines in consumption based deep poverty, but increases in income based deep poverty. In addition, income based poverty gaps increased significantly, while consumption based poverty gaps declined, particularly since 1990. We also show that sensible changes from the official price index lead to substantial declines in measured poverty. However, other adjustments, such as alternative equivalence scales or resource sharing units, have little impact on changes in poverty among those 65 and over in recent years. Overall, the well-being of those 65 and

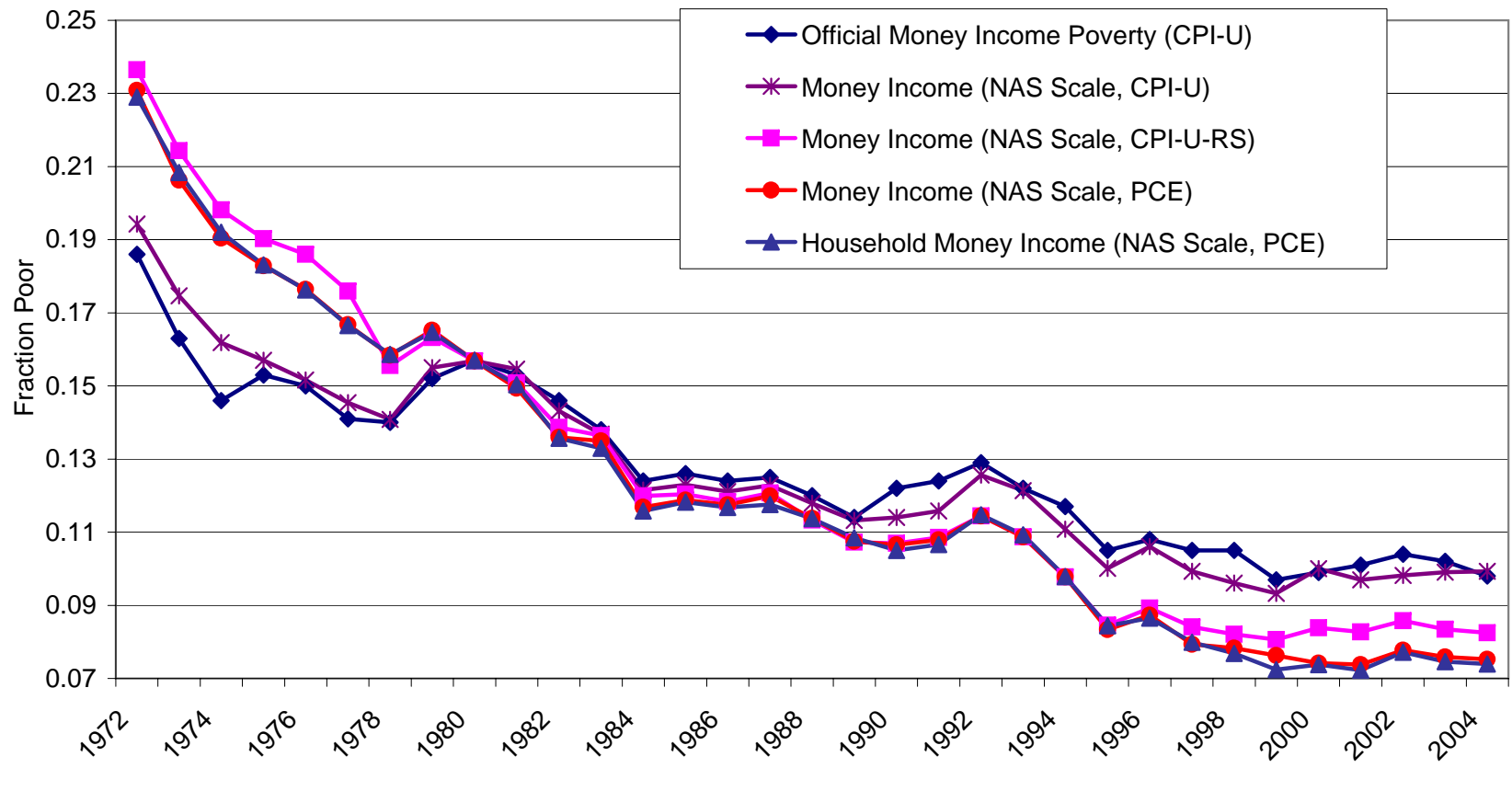
over has improved more than either official income or alternative income poverty measures indicate. Results for subgroups indicate that declines in poverty are most noticeable among those 75 and over, among women, and among those not married. Moreover, much of the difference between declines in consumption and income poverty are accounted for by differences across these measures for elderly women or those not married.

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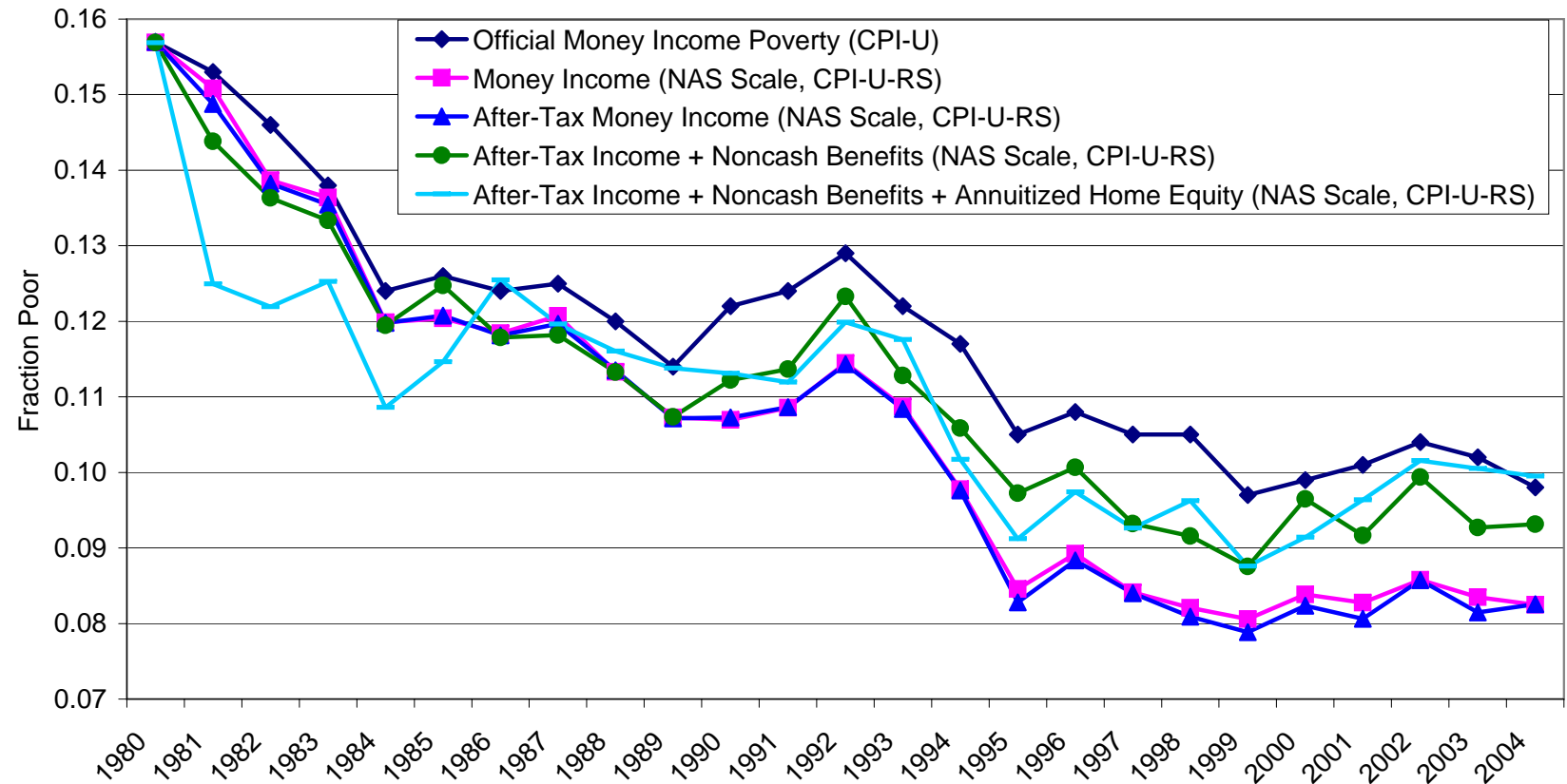
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Figure 1: Income Poverty for Persons 65 and Over Using Different Equivalence Scales, Price Indices, and Resource Sharing Units, 1972-2004, CPS-ASEC/ADF, Rates Anchored at 1980



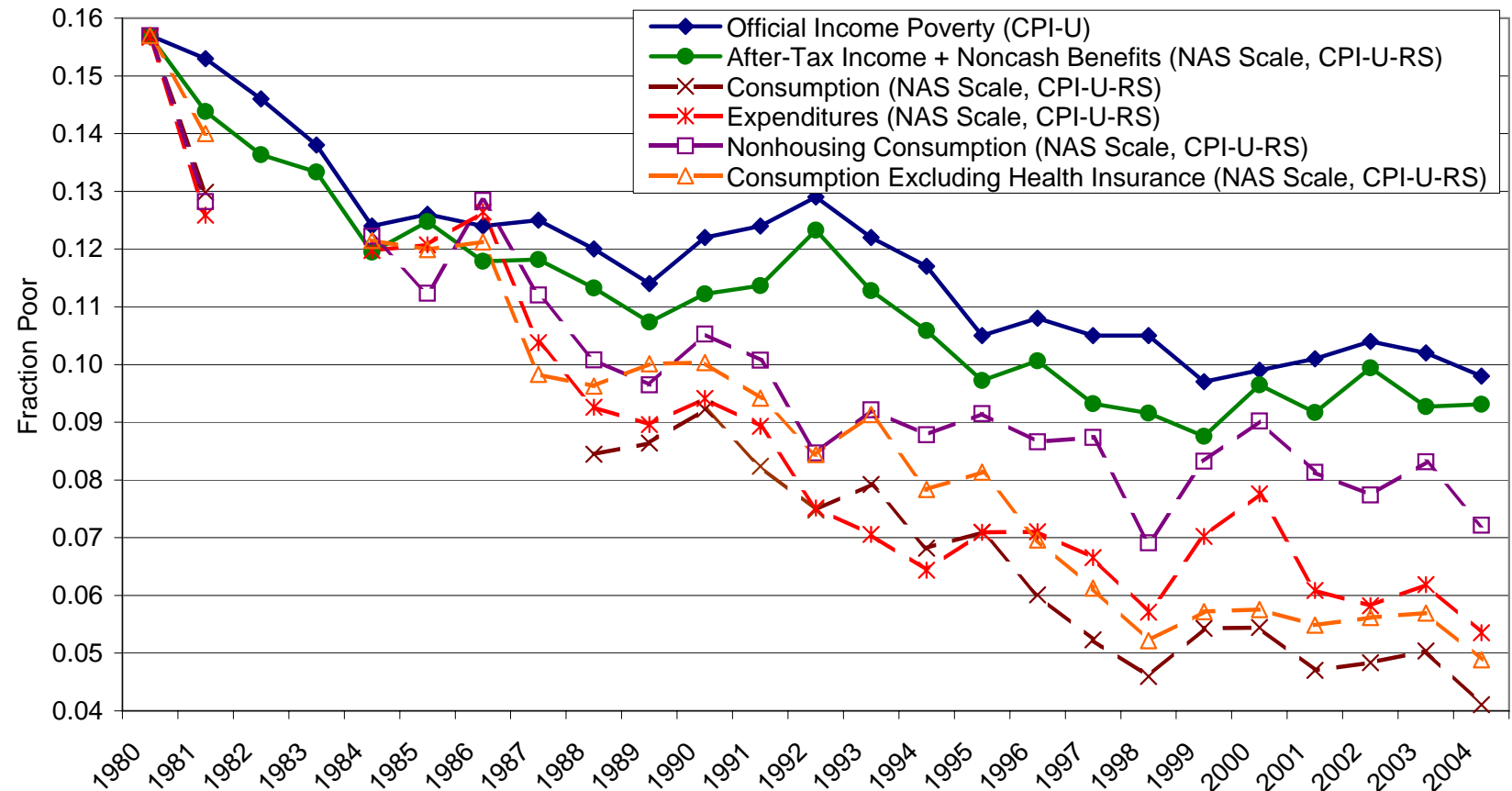
Notes: Prior to 2002 the Annual Social and Economic Supplement (ASEC) to the CPS was called the Annual Demographic File (ADF). All poverty rates are at the person level. Official Income Poverty follows the U.S. Census definition of income poverty using official thresholds. For measures other than the official one, the threshold in 1980 is equal to the value that yields a poverty rate equal to the official poverty rate in 1980 for those 65 and over (15.7 percent). The threshold in 1980 is then adjusted overtime using various price indices.

Figure 2: Income Poverty for Persons 65 and Over for Different Measures of Income Using NAS Scale and CPI-U-RS, 1980-2004, CPS-ASEC/ADF, Rates Anchored at 1980



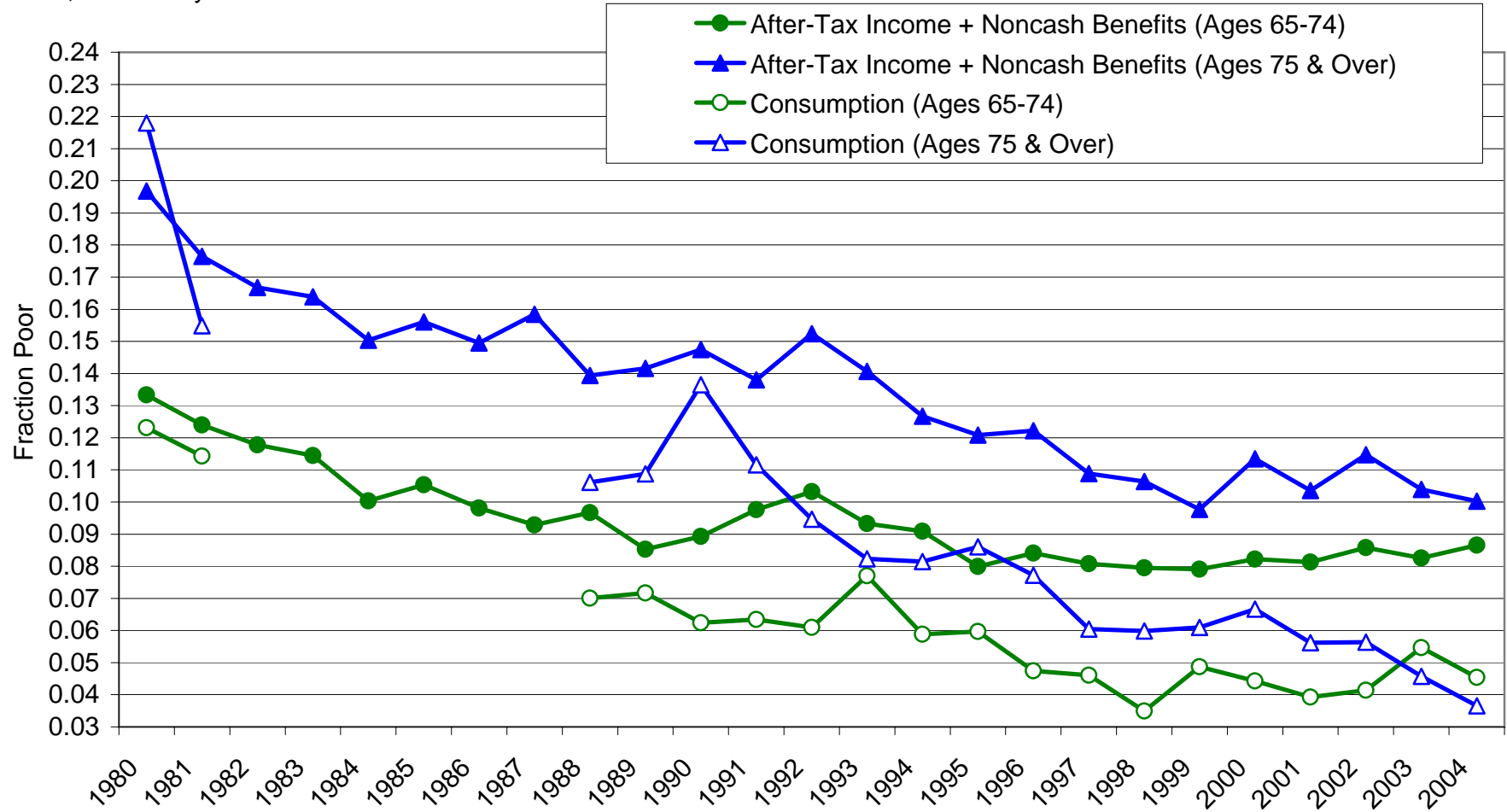
Notes: All poverty rates are at the person level. Official Income Poverty and Money Income are as in Figure 1. For measures other than the official one, the threshold in 1980 is equal to the value that yields a poverty rate equal to the official poverty rate in 1980 for those 65 and over (15.7 percent). The threshold in 1980 is then adjusted overtime by the CPI-U-RS. After-tax Money Income includes taxes and credits as well as capital gains and losses. After-tax Income Plus Noncash Benefits also includes Food Stamps, housing and school lunch subsidies, the fungible value of Medicaid and Medicare, and the value of employer health benefits.

Figure 3: Consumption and Income Poverty for Persons 65 and Over Using NAS Scale and CPI-U-RS, 1980-2004, CE Survey and CPS-ASEC/ADF, Rates Anchored at 1980



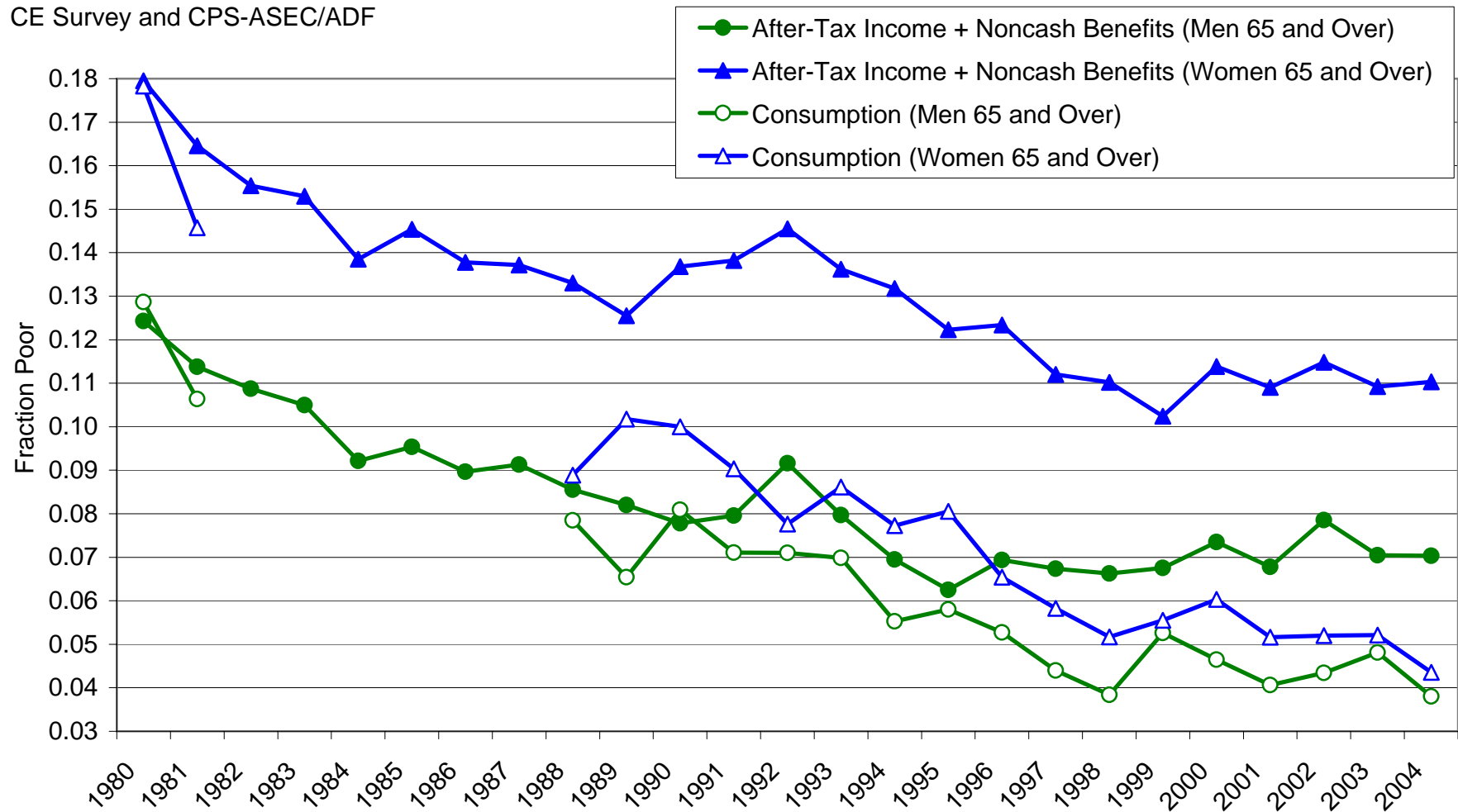
Notes: All poverty rates are at the person level. Official Income Poverty is as in Figure 1. For measures other than the official one, the threshold in 1980 is equal to the value that yields a poverty rate equal to the official poverty rate in 1980 for those 65 and over (15.7 percent). The threshold in 1980 is then adjusted overtime by the CPI-U-RS. See Figure 2 for additional notes.

Figure 4: Consumption and Income Poverty for Persons 65 and Over by Age Group Using NAS Scale and CPI-U-RS, 1980-2004, CE Survey and CPS-ASEC/ADF



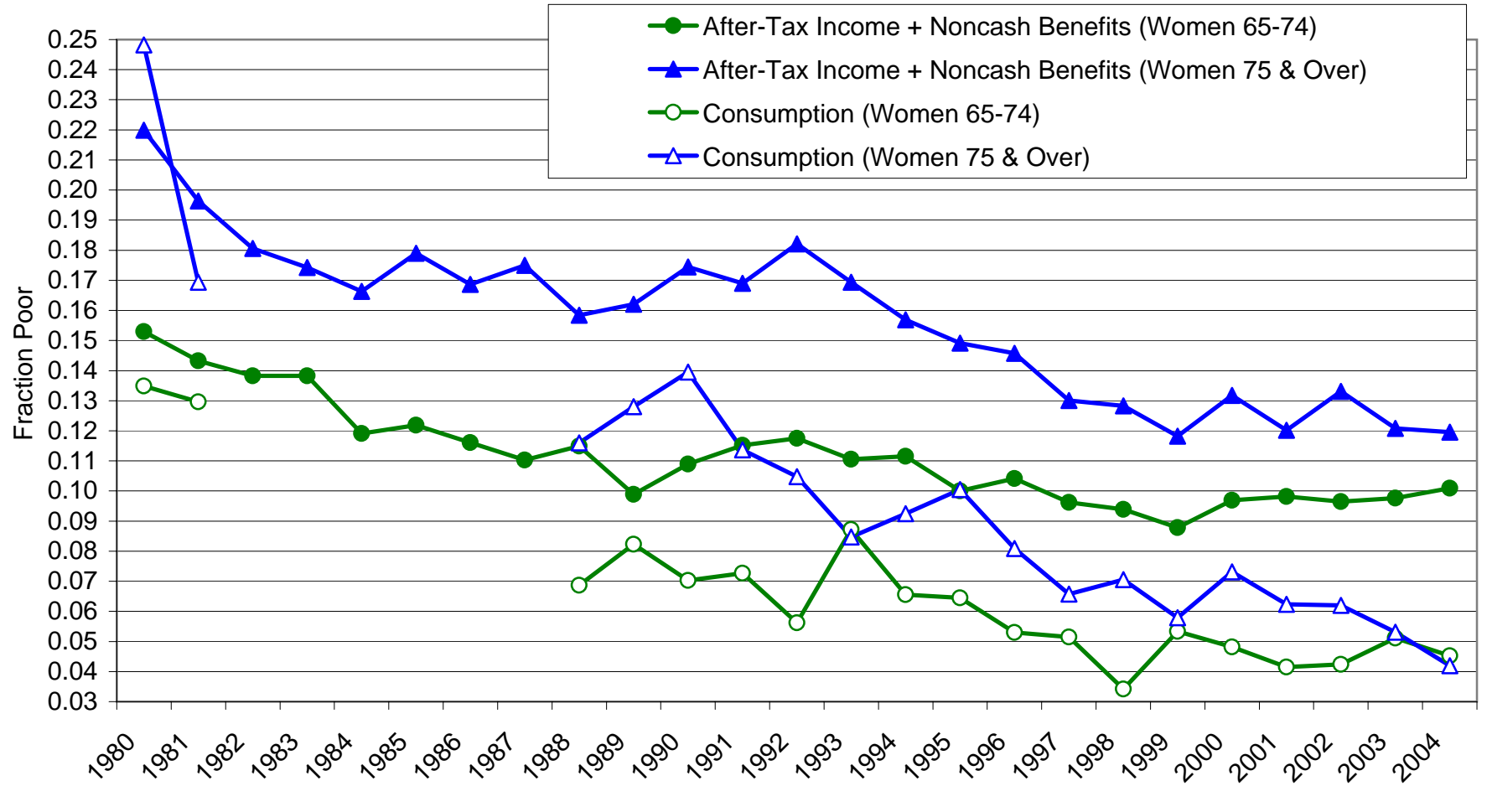
Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 5: Consumption and Income Poverty for Persons 65 and Over by Gender Using NAS Scale and CPI-U-RS, 1980-2004, CE Survey and CPS-ASEC/ADF



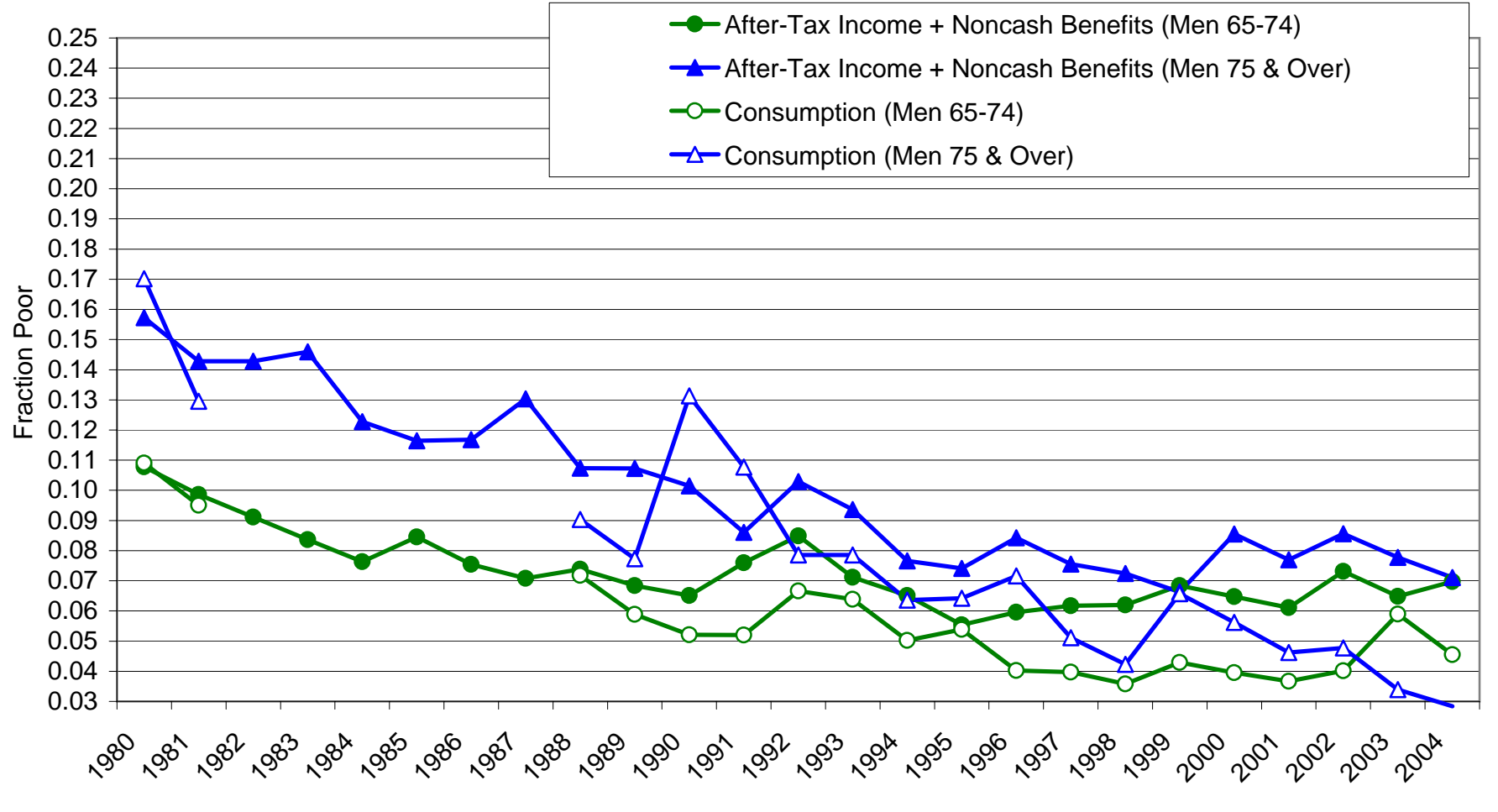
Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 6: Consumption and Income Poverty for Women 65 and Over by Age Group Using NAS Scale and CPI-U-RS, 1980-2004, CE Survey and CPS-ASEC/ADF



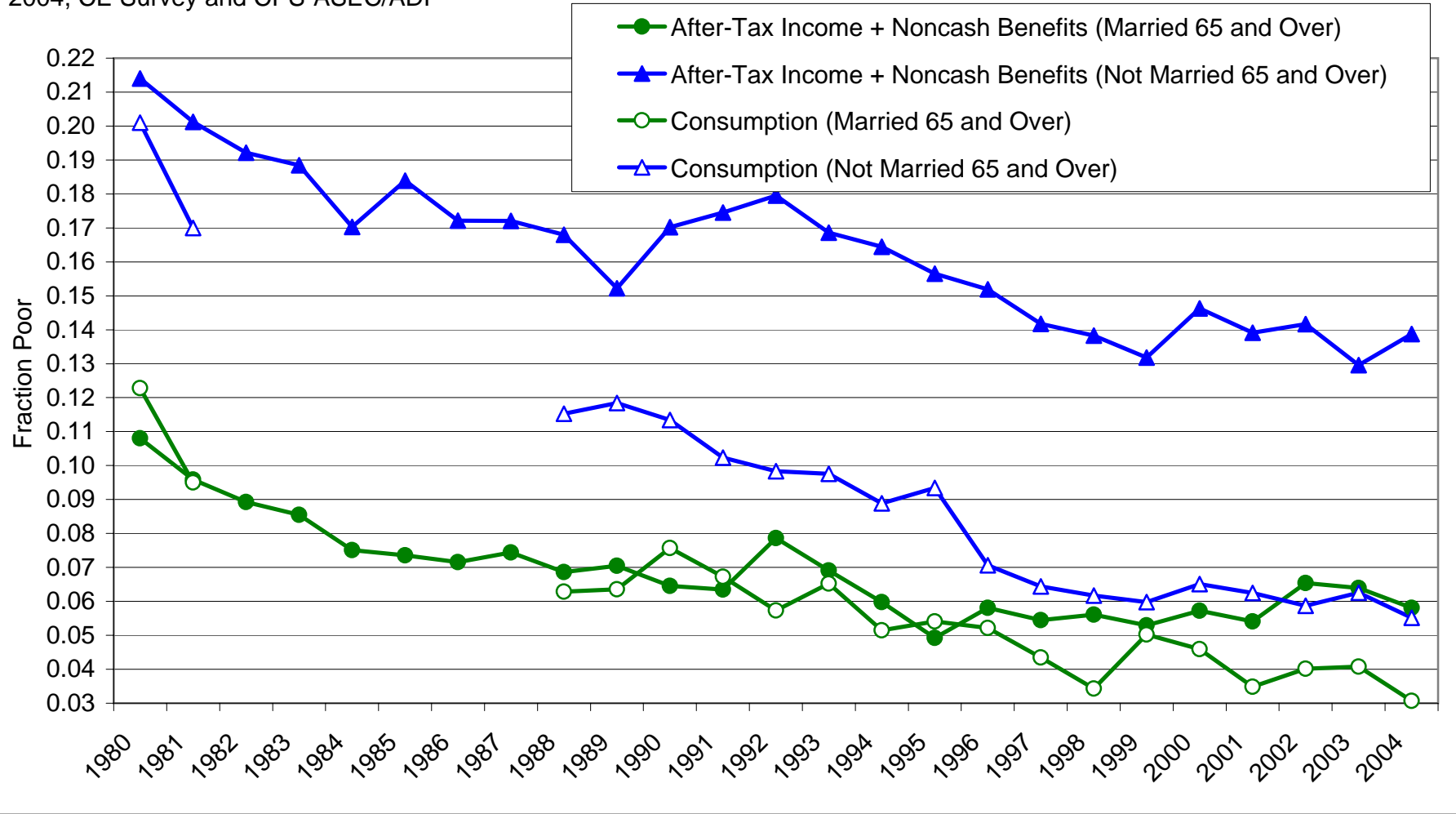
Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 7: Consumption and Income Poverty for Men 65 and Over by Age Group Using NAS Scale and CPI-U-RS, 1980-2004, CE Survey and CPS-ASEC/ADF



Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 8: Consumption and Income Poverty for Persons 65 and Over by Marital Status Using NAS Scale and CPI-U-RS, 1980-2004, CE Survey and CPS-ASEC/ADF



Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Table 1: Income and Consumption Poverty Rates for Persons 65 and Over for 150%, 100%, and 50% of NAS Scale-adjusted Threshold, CPI-U-RS, 1980-2004, CPS-ASEC/ADF and CE Survey

year	150 % of Threshold				100 % of Threshold (Anchored at 1980)				50 % of Threshold			
	Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption Less Health Insurance		Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption Less Health Insurance		Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption Less Health Insurance	
	CPS	CPS	CE	CE	CPS	CPS	CE	CE	CPS	CPS	CE	CE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1980	0.373	0.341	0.404	0.396	0.157	0.157	0.157	0.157	0.021	0.025	0.015	0.017
1981	0.352	0.319	0.380	0.379	0.151	0.144	0.130	0.140	0.020	0.023	0.015	0.016
1982	0.335	0.289			0.139	0.136			0.024	0.028		
1983	0.326	0.282			0.136	0.133			0.023	0.027		
1984	0.305	0.262		0.360	0.120	0.119		0.121	0.018	0.020		0.009
1985	0.302	0.254		0.339	0.120	0.125		0.120	0.020	0.022		0.007
1986	0.291	0.239		0.334	0.118	0.118		0.121	0.020	0.023		0.009
1987	0.281	0.231		0.300	0.121	0.118		0.098	0.018	0.021		0.006
1988	0.284	0.229	0.291	0.296	0.113	0.113	0.084	0.096	0.018	0.021	0.003	0.004
1989	0.276	0.217	0.297	0.310	0.107	0.107	0.086	0.100	0.019	0.021	0.003	0.004
1990	0.267	0.217	0.281	0.297	0.107	0.112	0.092	0.100	0.020	0.023	0.005	0.006
1991	0.273	0.222	0.277	0.291	0.109	0.114	0.082	0.094	0.022	0.023	0.003	0.004
1992	0.277	0.226	0.262	0.277	0.114	0.123	0.075	0.084	0.022	0.025	0.003	0.005
1993	0.275	0.220	0.265	0.277	0.109	0.113	0.079	0.091	0.022	0.025	0.002	0.003
1994	0.260	0.204	0.250	0.266	0.098	0.106	0.068	0.078	0.024	0.026	0.001	0.002
1995	0.242	0.191	0.262	0.275	0.085	0.097	0.071	0.081	0.019	0.021	0.002	0.002
1996	0.246	0.192	0.246	0.254	0.089	0.101	0.060	0.070	0.021	0.022	0.002	0.002
1997	0.232	0.177	0.220	0.234	0.084	0.093	0.052	0.061	0.021	0.023	0.001	0.002
1998	0.220	0.175	0.204	0.216	0.082	0.092	0.046	0.052	0.024	0.026	0.003	0.003
1999	0.211	0.170	0.216	0.223	0.081	0.088	0.054	0.057	0.019	0.020	0.003	0.003
2000	0.231	0.183	0.221	0.228	0.084	0.096	0.054	0.058	0.021	0.024	0.002	0.003
2001	0.226	0.180	0.209	0.219	0.083	0.092	0.047	0.055	0.020	0.022	0.001	0.002
2002	0.228	0.187	0.201	0.215	0.086	0.099	0.048	0.056	0.021	0.023	0.002	0.003
2003	0.229	0.182	0.203	0.226	0.083	0.093	0.050	0.057	0.025	0.025	0.003	0.003
2004	0.222	0.177	0.192	0.209	0.082	0.093	0.041	0.049	0.025	0.027	0.001	0.002
Change												
1980-1990	-0.106	-0.124	-0.123	-0.099	-0.050	-0.045	-0.065	-0.057	-0.001	-0.002	-0.009	-0.011
Change												
1990-2000	-0.036	-0.034	-0.060	-0.069	-0.023	-0.016	-0.038	-0.043	0.001	0.001	-0.003	-0.003
Change												
2000-2004	-0.009	-0.006	-0.029	-0.019	-0.001	-0.003	-0.013	-0.009	0.005	0.003	-0.001	-0.001
Change												
1980-2004	-0.151	-0.164	-0.212	-0.187	-0.074	-0.064	-0.116	-0.108	0.005	0.002	-0.013	-0.015

Notes: All poverty rates are at the person level. Thresholds are 150 percent, 100 percent and 50 percent of the thresholds used in Figures 2 and 3. See Figures 2 and 3 for additional notes.

Table 2: Average Poverty Gap for Various Income And Consumption Measures, Poor Families with at Least One Person 65 or Older, 1980-2004, CPS-ASEC/ADF and CE Survey

Resources	Pre-Tax Money Income	Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption	Consumption Less Health Insurance
Scale	Official	NAS	NAS	NAS	NAS
Price Index	CPI-U	CPI-U-RS	CPI-U-RS	CPI-U-RS	CPI-U-RS
	(1)	(2)	(3)	(4)	(5)
1980	2,697	2,848	3,692	2,724	3,525
1981	2,856	2,852	3,809	2,593	3,372
1982	3,098	3,217	4,131		
1983	3,029	3,214	4,150		
1984	2,786	2,872	3,756		3,514
1985	2,859	2,980	3,748		3,642
1986	2,846	2,880	3,666		3,568
1987	2,835	2,865	3,744		3,429
1988	2,808	2,854	3,743	3,253	3,559
1989	2,941	2,949	3,787	3,053	3,478
1990	2,957	3,036	3,735	3,123	3,663
1991	3,028	3,067	3,768	2,739	3,210
1992	3,143	3,237	3,948	2,587	3,288
1993	3,365	3,289	4,050	2,481	3,259
1994	3,454	3,605	4,234	2,421	3,205
1995	3,201	3,373	3,807	2,566	3,261
1996	3,284	3,445	3,938	2,680	3,309
1997	3,342	3,554	4,178	2,683	3,320
1998	3,427	3,834	4,350	2,596	3,194
1999	3,359	3,464	4,068	2,786	3,344
2000	3,386	3,535	4,036	2,726	3,335
2001	3,422	3,528	4,175	2,625	3,204
2002	3,385	3,623	4,180	2,599	3,212
2003	3,715	4,046	4,600	2,578	3,254
2004	4,062	4,325	4,820	2,786	3,143
% Change					
1980-1990	9.62%	6.61%	1.15%	14.67%	3.92%
% Change					
1990-2000	14.52%	16.43%	8.06%	-12.73%	-8.94%
% Change					
2000-2004	19.97%	22.35%	19.44%	2.22%	-5.74%
% Change					
1980-2004	50.60%	51.86%	30.54%	2.29%	-10.81%

Notes: Amounts are in 2004 dollars. The gap in Column 1 is calculated using the official definition of poverty. The gaps in all other columns are calculated using the same thresholds as in Figures 2 and 3.

Table 3: Age Distribution of the Consumption and Income Poor, 1980-2004, CPS-ASEC/ADF and CE Survey

Sample	All CPS	All CE Survey	Poor CPS	Poor CPS	Poor CE Survey
Resources Used to Define Poverty			Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption Less Health Insurance
	(1)	(2)	(3)	(4)	(5)
Age	1980-1989				
0-17	0.267	0.273	0.396	0.382	0.387
18-64	0.617	0.609	0.494	0.515	0.493
65+	0.116	0.118	0.110	0.103	0.120
N (1000s)	1,600	168.7	227.3	221.7	19.2
Age	1990-1999				
0-17	0.265	0.272	0.397	0.374	0.403
18-64	0.615	0.606	0.504	0.524	0.505
65+	0.120	0.122	0.099	0.101	0.092
N (1000s)	1,427	219.9	202.6	168.1	21.4
Age	2000-2004				
0-17	0.255	0.261	0.358	0.327	0.374
18-64	0.624	0.620	0.541	0.564	0.546
65+	0.120	0.119	0.101	0.109	0.079
N (1000s)	983.9	155.8	119.2	93.8	12.7

Notes: All poverty rates are determined at the person level. For Column 3 the official definition of poverty is used. Columns 4 and 5 are from Meyer and Sullivan (2006). For the results in these columns, poverty is measured using the NAS scale, the CPI-U-RS and a threshold that equates poverty to the official measure in 1984. The results in the top 4 rows of Columns 2 and 5 are for the years 1984-1989.

Appendix Table 1: Demographic Characteristics of Those 65 and Over, 1980-2004, CE Survey

Sample	Those 65 & Over							Those 65 & Over and Consumption Poor						
	All	Men	Women	Married	Not Married	Ages 65-74	Ages 75+	All	Men	Women	Married	Not Married	Ages 65-74	Ages 75+
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1980-1989														
Own car	0.798	0.890	0.730	0.924	0.629	0.863	0.692	0.489	0.643	0.402	0.711	0.309	0.568	0.412
Own home	0.784	0.826	0.753	0.869	0.669	0.810	0.742	0.483	0.553	0.444	0.640	0.357	0.500	0.468
Male	0.421	.	.	0.575	0.215	0.449	0.377	0.361	.	.	0.563	0.197	0.385	0.337
Married	0.571	0.781	0.419	.	.	0.660	0.430	0.448	0.699	0.306	.	.	0.521	0.377
Age 65-74	0.615	0.655	0.586	0.711	0.488	.	.	0.495	0.528	0.476	0.575	0.430	.	.
Age 75+	0.385	0.345	0.414	0.289	0.512	.	.	0.505	0.472	0.524	0.425	0.570	.	.
Retired	0.646	0.676	0.625	0.619	0.683	0.586	0.742	0.605	0.657	0.576	0.582	0.624	0.510	0.698
Do not work	0.825	0.744	0.884	0.792	0.869	0.767	0.917	0.902	0.844	0.936	0.872	0.927	0.856	0.948
1990-1999														
Own car	0.835	0.908	0.783	0.936	0.702	0.886	0.767	0.543	0.669	0.473	0.723	0.396	0.606	0.488
Own home	0.816	0.856	0.787	0.898	0.708	0.839	0.785	0.490	0.556	0.454	0.620	0.384	0.494	0.487
Male	0.420	.	.	0.564	0.229	0.447	0.382	0.356	.	.	0.547	0.201	0.386	0.330
Married	0.570	0.765	0.428	.	.	0.658	0.449	0.449	0.689	0.316	.	.	0.507	0.399
Age 65-74	0.577	0.615	0.549	0.666	0.458	.	.	0.464	0.503	0.443	0.524	0.415	.	.
Age 75+	0.423	0.385	0.451	0.334	0.542	.	.	0.536	0.497	0.557	0.476	0.585	.	.
Retired	0.715	0.720	0.711	0.695	0.741	0.646	0.808	0.689	0.725	0.669	0.682	0.695	0.638	0.734
Do not work	0.832	0.773	0.875	0.803	0.870	0.765	0.923	0.905	0.856	0.932	0.877	0.928	0.859	0.945
2000-2004														
Own car	0.852	0.908	0.811	0.937	0.745	0.895	0.803	0.531	0.621	0.479	0.718	0.392	0.578	0.489
Own home	0.832	0.860	0.812	0.907	0.738	0.855	0.806	0.448	0.512	0.411	0.601	0.335	0.450	0.447
Male	0.424	.	.	0.563	0.246	0.454	0.389	0.368	.	.	0.572	0.216	0.434	0.308
Married	0.560	0.745	0.425	.	.	0.654	0.453	0.426	0.663	0.288	.	.	0.489	0.369
Age 65-74	0.534	0.572	0.506	0.623	0.420	.	.	0.474	0.559	0.425	0.544	0.422	.	.
Age 75+	0.466	0.428	0.494	0.377	0.580	.	.	0.526	0.441	0.575	0.456	0.578	.	.
Retired	0.732	0.708	0.750	0.717	0.751	0.647	0.830	0.733	0.730	0.734	0.733	0.732	0.658	0.800
Do not work	0.808	0.753	0.849	0.786	0.837	0.732	0.896	0.906	0.874	0.925	0.893	0.915	0.873	0.936

Notes: The top panel includes data for 1980-1981 and 1988-1989.