Consumption and Income of the Poor Elderly Since 1960*

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ABSTRACT

We examine changes in material well-being among individuals 65 and over during the last five decades, focusing on poverty and low percentiles of income and consumption, housing quality, and durable ownership. Our analyses make many methodological improvements in the measurement of income and consumption for those with few resources. We answer three related research questions. First, how has poverty and well-being changed among those 65 and over during the past five decades? Second, for which groups of elderly have the changes in consumption and income been the most pronounced? Third, what are the proximate causes of the changes in poverty and low percentiles? In particular, what is the role played by changes in the demographic composition of the elderly, taxes, transfers, household savings, and the ownership of durables such as houses and cars? The consumption data show much greater improvement over time than do the income data. This pattern of greater improvement in consumption is even more striking for poverty gaps, deep poverty, and relative poverty. Low percentiles of consumption have risen sharply in recent years, much faster than the same percentiles of income. Housing quality and durable ownership have increased sharply over time for those at the bottom of the income and consumption distributions. We find that the sharp differences in income poverty by age have narrowed over time, and for consumption-based poverty they narrow further. Sharp differences in income poverty by gender continue, but have almost disappeared for consumption poverty. In analyzing these trends, how one accounts for price changes has a large affect on the results. Demographics (other than education) do not play a large role in explaining the patterns, nor do taxes and in-kind transfers, but changes in social security benefits play a large role.

Keywords: Elderly, poverty, inequality, income, consumption, well-being.

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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 2008 the official poverty rate for the elderly had fallen to 9.7 percent, well below the overall rate of 13.2 percent. Some 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 (Joint Economic Committee 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.

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. Many have argued that social security 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. Similarly, McGarry (2002) finds that Supplemental Security Income raises 1.0 percent of the elderly above the poverty line, but has a larger effect on incomes below the poverty line.

Throughout this paper we emphasize important differences between income and consumption-based measures of well-being. In previous work we presented fairly strong evidence that consumption provides a more appropriate measure of well-being than income for families with few resources (Meyer and Sullivan 2003, forthcoming). Consumption better captures long-run resources (Cutler and Katz 1991; Poterba 1991; and Slesnick 1993). 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 2008, Meyer, Mok and Sullivan 2009). Meyer and Sullivan (2003, forthcoming) also show that consumption is more closely associated with other measures 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 changes in Medicare such as the addition of Part D. Surveys have a difficult time with these products, for example even in the case of IRAs only a tiny fraction of payouts are reported. 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.

This paper examines income and consumption based poverty measures and low percentiles for those 65 and over between 1960 and 2008. We also examine housing quality and durable ownership. This study contributes to the existing literatures on poverty and well-being in several ways. First, we construct consumption based measures of well-being and 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 consider estimates of consumption that include the value of health insurance. Second, we provide estimates of consumption based poverty and well-being for those 65 and over using the most recent data through 2008. Third, we examine the effect on poverty and well-being 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

percentiles, extreme poverty, near poverty and poverty gaps in order to examine more fully the trends in well-being of older individuals. Fifth, we examine the housing quality and durable holdings of the elderly over time.

Our results show that consumption based measures of poverty and well-being indicate greater improvements in well-being than are evident in alternative income based measures for individuals 65 and over. Between 1980 and 2008, consumption poverty for this group fell by 10.9 percentage points, while poverty based on a comprehensive measure of income fell by 7.9 percentage points. During this period, we find a striking substantial decline in consumption based deep poverty, but an increase in income based deep poverty. Similarly, the income based poverty gap grew significantly, while the consumption based poverty gap 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 the reduction in poverty is most noticeable among those 75 and over, among women, and among those not married. Moreover, much of the difference between the changes in consumption and income poverty are accounted for by differences across these measures for elderly women or those not married. We also find that housing characteristics and durable ownership improve sharply for those at the bottom of the income and consumption distributions.

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

2. The Merits of Income and Consumption Data for the Elderly

A previous literature argues that consumption generally provides a more appropriate measure of well-being than income for families with few resources (Cutler and Katz 1991; Poterba 1991; Slesnick 1993; and Meyer and Sullivan 2003,

forthcoming). Income based measures are likely to have particular weaknesses and consumption particular advantages in the case of the elderly. We begin with conceptual issues and then turn to data reporting problems.

First, income and consumption might be particularly different among older households, because they are more likely to have accumulated assets that can be used to maintain consumption even when income is low. The elderly are more likely to consume out of savings and less likely to consume out of earned income than younger groups—less than 20 percent of those 65 and over work (Appendix Table 1).

Second, income surveys have a hard time handling retirement income. 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.[2] This problem suggests that 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 and Medicare. 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. Medicare changes such as the addition of Part D free up resources for consumption on other goods, which is not reflected by income measures.

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

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 changes well-being needs to be elicited. A measure of consumption reflects the degree of risk. If risk falls, one can consume more since less saving is needed to protect oneself (self-insure) against a bad event. 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 value of medical care (Cutler 2004, Murphy and Topel 2006). 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.[3]

Finally, the flow of resources from durables is particularly important for the elderly given their relatively high home and car ownership rates. In 2000-2008, 83 percent of households 65 and over owned a home and 86 percent owned a car (Table 3).

[3] The Census Bureau is currently adding questions about out of pocket medical expenditures to the CPS, but historical comparisons will not be possible.

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.

On the data reporting side, we generally think it is easier to report income than consumption. However, there is substantial under-reporting of government transfers in household surveys (Meyer, Mok and Sullivan 2009). While the most important transfers for the elderly, social security and supplemental security income (SSI) are relatively well reported, that still means that 10 to 20 percent of the dollars are missing in the CPS. Given that social security accounts for about 80 percent of income reported in the bottom quintile of the elderly, under-reporting of social security is important. For food stamps, the situation is much worse. Only about half of true food stamp recipient households are recorded as receiving food stamps in the CPS. For households with an elderly head, the numbers are considerably worse (Meyer and Goerge 2010). For various types of retirement income, the situation is worse yet. In the 2006 CPS, the source of official income and poverty statistics, only 6 of 166 billion dollars in IRA withdrawals were reported (Investment Company Institute 2009).

While comparisons of survey data on expenditures to National Income and Product Accounts (NIPA) consumption indicate under-reporting of expenditures as well, the poor consume a different bundle of goods than the general public, so that aggregate analyses do not reflect the composition of consumption for the poor. In fact, key components of spending match up well with PCE aggregates, and these components account for a large fraction of total spending for the poor—about 70 percent of consumption for those near the poverty line (Meyer and Sullivan, 2009). For food at home, on average the CE/PCE ratio is over 0.85 and for rent plus utilities the ratio is nearly 1.00.

3. Methods of Measuring Poverty and Well-Being for the Elderly

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 or Eberstadt 2008). 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 individual's disposal. Pre-tax money income does not include taxes or noncash benefits such as food stamps, housing 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 calculated since 1980 for the CPS Annual Social and Economic (ASEC) Supplement,formerly called the Annual Demographic File (ADF) or March CPS. 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 2009 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 cohabitors 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 2008 the CPI-U grew on average about 0.4 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). There is some research that finds that prices have risen faster for the elderly than the general public (McGranahan and Paulson 2005; Goda,

Shoven, and Slavov 2010). Nevertheless, it is still likely that the CPI-U-RS substantially overstates inflation.

4. The Literature on Poverty and Well-Being 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 9.7 percent in 2008. 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 income 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. Joint Economic Committee (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.

Center for Economic Opportunity (2008), Hutto et al. (2010), Isaacs et al. (2010) and Zedlewski et al. (2010) examine alternative income poverty measures following the approach of Citro and Michael (1995). These papers uniformly estimate that the poverty rate of the aged is much higher than the official income poverty rate for the elderly. These papers do not allow us to estimate a trend over time though in the poverty rate, as they are for a single year or a very short time 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) or March CPS. The ADF/ASEC is an annual supplement to the CPS, and is the source of official U.S. poverty statistics. We examine ADF/ASEC data from 1963 through 2008. In addition to information about money income, starting in 1980 the ADF/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 1960/1961, 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 calculate a service flow for vehicle consumption based on the

[5] 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.

market value of the vehicle. Instead of including the full purchase price of a vehicle, we calculate a flow that reflects the value that a consumer receives from owning a car during the period. This procedure improves 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. 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.

Our second methodological improvement is the imputation of a 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).

Third, we impute a measure of the value of public and private health insurance, though we do not include it in our base consumption measure.[5] 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 is clearly a compromise. In the future, we plan to estimate the cash value of health coverage using a more general utility function than this Leontief version.

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.[6]

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 cohabitors that share responsibility for housing, food, or other living expenses, but excludes cohabitors 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 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, and 4) after-tax money income plus noncash benefits including an

[6] 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.

imputed value of Medicaid and Medicare, and an imputed value of employer provided health insurance. These disposable income measures (except for 4) follow the suggestions from Citro and Michael (1995), and all 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 (2009) 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 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 consider other thresholds including 50 percent (deep poverty) and 150 percent (near poverty) of the thresholds described above. Finally, we examine percentiles of the income and consumption distributions, as well as housing characteristics and durable ownership.

6. Results

6.A Overall Poverty

Figure 1 and Table 1 show changes in poverty for individuals 65 and over between 1972 and 2008. All three 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 2008.

How one accounts for inflation has a noticeable effect on changes in poverty. Using the same measure of income and the same NAS recommended equivalence scale, poverty declines by 10 percentage points between 1972 and 2008 when thresholds are adjusted using the CPI-U, while the decline is 15.5 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.[7] 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 drop 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. In generally, failing to account for bias in the CPI-U will significantly understate the decline in elderly poverty over the past four decades.

The pattern for income based measures of poverty that include taxes and noncash benefits is very similar to that for pre-tax money income measures. As shown in Figure 2 and column 6 of Table 1, the series are similar except for non-cash benefits lowering poverty in much of the 1980s and early 1990s. That taxes do not affect change in poverty for the elderly is not surprising given that such a large fraction of their income comes from social security payments, which for those near or below the poverty line, are typically nontaxable. Social Security income accounts for more than 80 percent of pre-tax money income for those in the bottom quintile of the income distribution among the elderly. Including noncash benefits such as food stamps and housing subsidies, also has very little impact on change in poverty. If the CPS' imputed value of health insurance is also included, the results show a more modest decline in poverty than is evident for a money income based measure starting in the late 1980s, due to Medicaid and Medicare becoming less important for the poor elderly at this time.

[7] 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.

Some of the most noticeable differences are evident when comparing income based poverty to consumption based poverty. Figure 3 and columns 7 and 8 of Table 1 report changes in official poverty, comprehensive income based poverty, and several consumption based poverty measures.[8] Between 1980 and 2008 consumption poverty fell by 3 percentage points more than comprehensive income poverty (compare columns 6 and 7). Figure 3 also shows that changes in expenditure based poverty mirror the changes for consumption based poverty. Despite these similar patterns, who is designated as poor at a point in time will differ considerably for expenditure and consumption based poverty measures. Among the elderly, consumption poverty is considerably lower than expenditure poverty, and this difference is most noticeable for homeowners.

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. We do not emphasize this measure that excludes housing for several reasons. First, housing is the largest component of consumption for the poor, so excluding it could give a distorted picture of well-being for those with few resources. Second, non-housing consumption over-weights the components of consumption that are measured poorly and have seen declining reporting in recent years. We should note that the discrepancy between total consumption and non-housing consumption appears in the late 1980s and grows steadily through the early 1990s, implying that it is not due to the recent sharp rise in housing prices. In fact, poverty based on non-housing consumption falls more than poverty based on total consumption between 2000 and 2006, a period of rapidly rising housing prices.

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, including 0.5 and 1.5 times the thresholds used in Figures 1 through 3. 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, columns 1 through 4) we again see

[8] 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.

that consumption poverty falls by more than income poverty. Between 1980 and 2008 near income poverty fell by 17 percentage points (49.1 percent) while near consumption poverty fell by 52.8 percent. For deep poverty (50 percent of our original thresholds), income and consumption based poverty diverge, and the percentage differences are substantial. Between 1980 and 2008, deep income poverty rose 9.4 percent while deep consumption poverty fell by 87.1 percent.

The analyses of poverty discussed above do not reflect 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 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, the patterns for income and consumption poverty gaps diverge sharply. Between 1980 and 2008, the income poverty gap grew by 55 percent while the consumption poverty gap fell by 28 percent. During the 1990s the income poverty gap increased by 8.1 percent, while the consumption poverty gap fell by 12.7 percent. Thus, income based gaps suggest that while elderly poverty falls, those who remain in poverty are more likely to be severely deprived. By contrast, the pattern for consumption based gaps suggests that as overall poverty falls during this period the degree to which families are severely deprived also falls.

6.B. 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. Both income and consumption based measures of poverty show a more noticeable decline for those age 75 and over than for those 65 to 74 (Figure 4).[9] In 1980, the income based poverty rate for those 75 and over was 5.9 percentage points higher than the rate for the younger group. By 2008, however, this difference had dropped to 2.3 percentage points. This figure also shows that

[9] We verify that the patterns for a measure of consumption poverty that includes the value of health insurance are very similar to those presented for consumption poverty in this section.

consumption poverty declines more noticeably than income poverty for both the 65-74 and 75 and over age groups. The most significant decline in consumption poverty is 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 2008, consumption poverty among women 65 and over fell by 13 percentage points—a decline of 72 percent (Figure 5). This decline is 4.6 percentage points more than that for income poverty for this same period. For men, consumption poverty fell by 8.2 percentage points between 1980 and 2008 while income poverty fell by 7.2 percentage points.

The drop in consumption poverty relative to income poverty for women is particularly noticeable among those 75 and over, as shown in Figure 6. For this group, consumption poverty drops by 19 percentage points (75 percent) between 1980 and 2008, while income poverty declines by 10.7 percentage points (51 percent). Although poverty also falls faster for men 75 and over than for men 65 to 74, the differences are less evident across the age groups than for women (Figure 7). Figure 8 shows that differences in poverty rates across marital status have converged, particularly when poverty is measured using consumption. In 1980, consumption poverty among the unmarried was 9 percentage points greater than that for the elderly who are married. This difference falls to 2 percentage points by 2008. In percentage terms, the patterns are similar across marital status. Consumption poverty falls by about 70 percent for both married and unmarried individuals between 1980 and 2008, while income poverty falls by about 50 percent for both groups.

6.C. Percentiles of Income and Consumption

The noticeable improvement in the economic circumstances of the elderly over the past few decades is also evident in analyses of percentiles of income and consumption. As shown in Figure 9, real consumption for the elderly rises throughout the distribution, and the relationship between the percentile and the growth in consumption is monotonic—with consumption rising faster for lower percentiles. The 5^{th} percentile of the consumption distribution rises by 40 percent, the 10^{th} percentile, by 36

percent, the median by 34 percent and the 90th by 27 percent. We also see growth at all percentiles of the income distribution among the elderly (Figure 10), and again the relationship between the percentile and the growth rate is monotonic. However, this relationship is the opposite of that for consumption. For income, the largest growth is evident for the highest percentiles. Between 1980 and 2008, the 90th percentile of the income distribution rises by 41 percent, the median by 31 percent, the 10th percentile by 25 percent, and the 5th percentile by 13 percent. Thus, while both income and consumption indicate marked improvement in well-being among the elderly, the consumption data show that inequality has narrowed within this group, while the income data show that inequality has widened.

6.D. Relative Poverty

Relative poverty measures provide another way of examining the extent of poverty and are more akin to measures of income inequality. We examine the share of the elderly living in families with resources below half of the median value for the full population. Figure 11 presents trends for income and consumption relative poverty. In general, the level of consumption relative poverty is much lower than that of income relative poverty due to the lower dispersion of consumption. Income relative poverty does not decline throughout the 1980s and 1990s as was the case with absolute poverty. The income relative poverty rate in 2000 is about the same as it was in 1980, though it falls in the 2000s. Consumption relative poverty falls noticeably throughout the 1980s and 1990s, as was the case for consumption absolute poverty. However, consumption relative poverty remains fairly flat during the 2000s, a period when consumption absolute poverty continued to decline.

6.E. Other Indicators of the Economic Conditions of the Elderly

Other measures of the material circumstances of the elderly also show a noticeable improvement in well-being. These patterns can be seen in Table 3, where we report descriptive characteristics of the elderly from the CE Survey from 1960 to 2008. Among all elderly (columns 1 to 5), the data show a sharp rise in ownership of durables. Homeownership rose by 9 percentage points between 1960 and 1980, and an additional 5

percentage points between 1980 and 2008. Car ownership among the elderly has also risen sharply, increasing from 56 percent in 1960 to 86 percent in the 2000s. Information on the characteristics of the living unit also point to improved well-being. The average number of rooms in the living unit, regardless of whether it is owned or rented, grew from 5.1 in the early 1970s to 5.9 in the 2000s. Both the number of bedrooms and the number of bathrooms rose over this period. In the 2000s, the elderly are much more likely to have a dishwasher, clothes washer and dryer, and central air conditioning in the living unit as compared to the 1980s. In other analyses of housing conditions of the elderly using data from the American Housing Survey, we find strong evidence of improved living conditions over the past few decades.

Many of these indicators of material circumstances also improve for the low-income elderly (columns 11 to 15). One notable exception is homeownership. Although about 70 percent of the elderly who are income poor own a home, this rate has not grown since the early 1970s. On the other hand, car ownership has risen sharply for the income poor, as has the presence of amenities in the living unit such as a dishwasher, clothes washer and dryer, and central air conditioning.

7. The Role of Demographics and Savings

Over the past few decades the demographic characteristics of the elderly has changed noticeably. For example, those over 65 are older and more likely to be retired in recent years than in the 1980s (Appendix Table 1). To determine how much of the change in income and consumption poverty is accounted for by changes in the characteristics of the elderly we calculate the predicted changes in poverty over time if poverty rates within demographic groups remained fixed at the level in a base year, but only the shares of family types and other demographics changed. We examine the role of demographics including gender, age, marital status, education, employment, and receipt of SSI or social security. These results are reported in Table 4, using mutually exclusive and exhaustive groups determined by full interactions of gender, age, marital status and either education, employment, SSI receipt, or Social Security receipt. We perform these calculations using the poverty rates in two base years (1980 and 2008). We report the

predicted poverty rates for four years—1980, 1990, 2000, and 2008—for both consumption poverty (panel A) and income poverty (panel B).

In general, the results in Table 4 indicate that, with the exception of rising educational attainment, changing demographics do not explain a substantial fraction of the actual changes in elderly poverty. In panel A we see that changes in gender, age and marital status, cannot explain any of the 11 percentage point decline in consumption poverty between 1980 and 2008, holding within group poverty fixed at the 1980 rate. In fact, changes in these characteristics alone predict that consumption poverty rises during this period. When education is added, these characteristics account for 33 percent of the actual decline in consumption poverty. Including employment, SSI receipt, or Social Security receipt does little to account for the decline in consumption poverty between 1980 and 2008. Holding within group poverty rates at the 2008 levels, the changes are similar, but smaller.

For income we again see that changes in gender, age and marital status cannot explain the decline in poverty (panel B). When changes in education are added, these characteristics account for about 70 percent of the 7.9 percent point decline in income poverty between 1980 and 2008. Including changes in employment or Social Security receipt does little to account for the decline during this period, but changes in SSI receipt can explain 1.8 percentage points or 22 percent of the decline. Again, holding within group poverty rates at the 2008 levels, the estimated changes are similar, but smaller.

The two most plausible explanations for the differences between the changes in income and consumption poverty are measurement error and saving or dissaving. There is considerable evidence that changes in measurement error are important for families with few resources. First, transfer income, which is particularly relevant for those with few resources, is significantly under-reported in U.S. household surveys and the extent of under-reporting has grown over time (Meyer, Mok and Sullivan, 2008). Cash transfers, however, account for a smaller fraction of total income for the elderly than for other groups. Social security accounts for about 80 percent of money income for the elderly over the past few decades, and under-reporting appears to be less of a concern for this more steady income stream; it compares more favorably to administrative aggregates (Meyer, Mok and Sullivan, 2008). The elderly do receive in-kind transfers such as food

stamps and housing subsidies, which are significantly under-reported. For this reason, measurement error is likely to account for part of the differences in patterns for consumption poverty and income poverty measures. Though in-kind benefits were earlier estimated to have a small effect on poverty trends, part of the reason may be that some of these benefits are sharply under-reported for the elderly. We suspect that measurement error is a likely candidate for the large differences in poverty measures that focus on the distribution below the poverty line: the poverty gap and deep poverty. For these measures we saw particularly sharp differences between income and consumption based measures, with the two often moving in opposite directions.

A second explanation for differences between income and consumption is that consuming out of past saving or borrowing against future income allows some groups to spend more than their income, and this saving or borrowing has changed over time. To address this possibility, we examine changes over time in various percentiles of the financial asset and non-mortgage, non-vehicle debt distributions in the CE survey for all elderly as well as for just those who are income poor. We also examine various percentiles of the one year change in financial assets for these same groups. A summary of these numbers is reported in Table 3. After 1990, more than fifteen percent of the aged income poor have financial assets over $22,000, and more than ten percent have assets over $72,000. For those aged income poor who are not consumption poor, which is most of the aged income poor in recent years, assets are even higher—the corresponding numbers are fifteen percent over $52,000 and ten percent over $128,000. These high levels of financial assets indicate that some of the elderly who are income poor have sufficient savings to maintain higher levels of consumption. Dissaving is also suggested by the change in asset distribution, which shows that at least five percent of the aged income poor, but not consumption poor have drawn down their assets by more than $27,000 per year during the past decade.

These last results are consistent with other evidence. Several studies, summarized in Hurd (1990) have found that the elderly as a whole dissaved even back in the 1970s. However, this literature does not show how the distribution of dissaving rates or amounts for the elderly has changed over time. Nor does it specifically examine the poor. More recently, Hurd and Rohwedder (2010) find that dissaving can explain the difference

between income and consumption for a broad group of the aged. There is also the possibility that the aged in recent years may be more able to consume housing wealth by borrowing against their homes. Venti and Wise (2004) find that it is uncommon for the aged to draw down housing equity to support consumption, although they find that housing equity is consumed in the case of negative shocks, such as nursing home entry or the death of a spouse. These studies do not provide evidence on whether those near the bottom of the income distribution are more likely to draw down equity than in the past.

Another possible source of the differences between income and consumption is the ownership of houses and cars that provide a flow of consumption services to their owners. Rising ownership of durables may explain some of the differences between income and consumption changes.

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 2008, consumption poverty for this group fell by 10.9 percentage points, while a measure based on disposable income fell by 7.9 percentage points. During this period we also find a more striking decline in consumption based deep poverty, but an increase in income based deep poverty. Similarly, the income based

poverty gap increased significantly, while the consumption based poverty gap declined, particularly after 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 Census Bureau alternative income poverty measures indicate. Results for subgroups indicate that the decline in poverty is most noticeable among those 75 and over, among women, and among those not married. Moreover, much of the difference between the decline in consumption and income poverty is accounted for by differences across these measures for elderly women and those not married. Finally, there are sharp increase in other measures of elderly well-being such as improved housing characteristics and durable ownership at the bottom of the consumption and income distributions.

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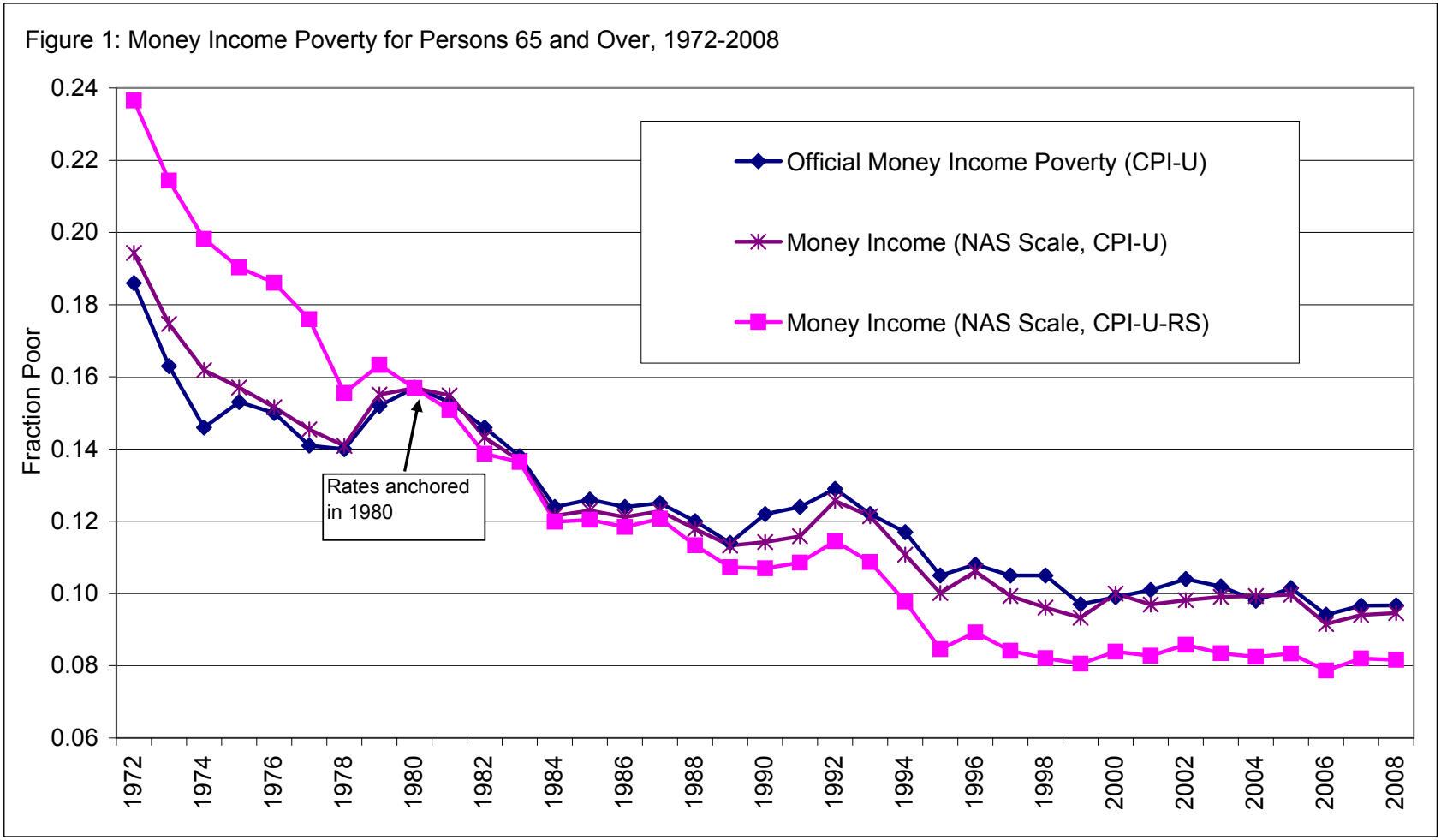
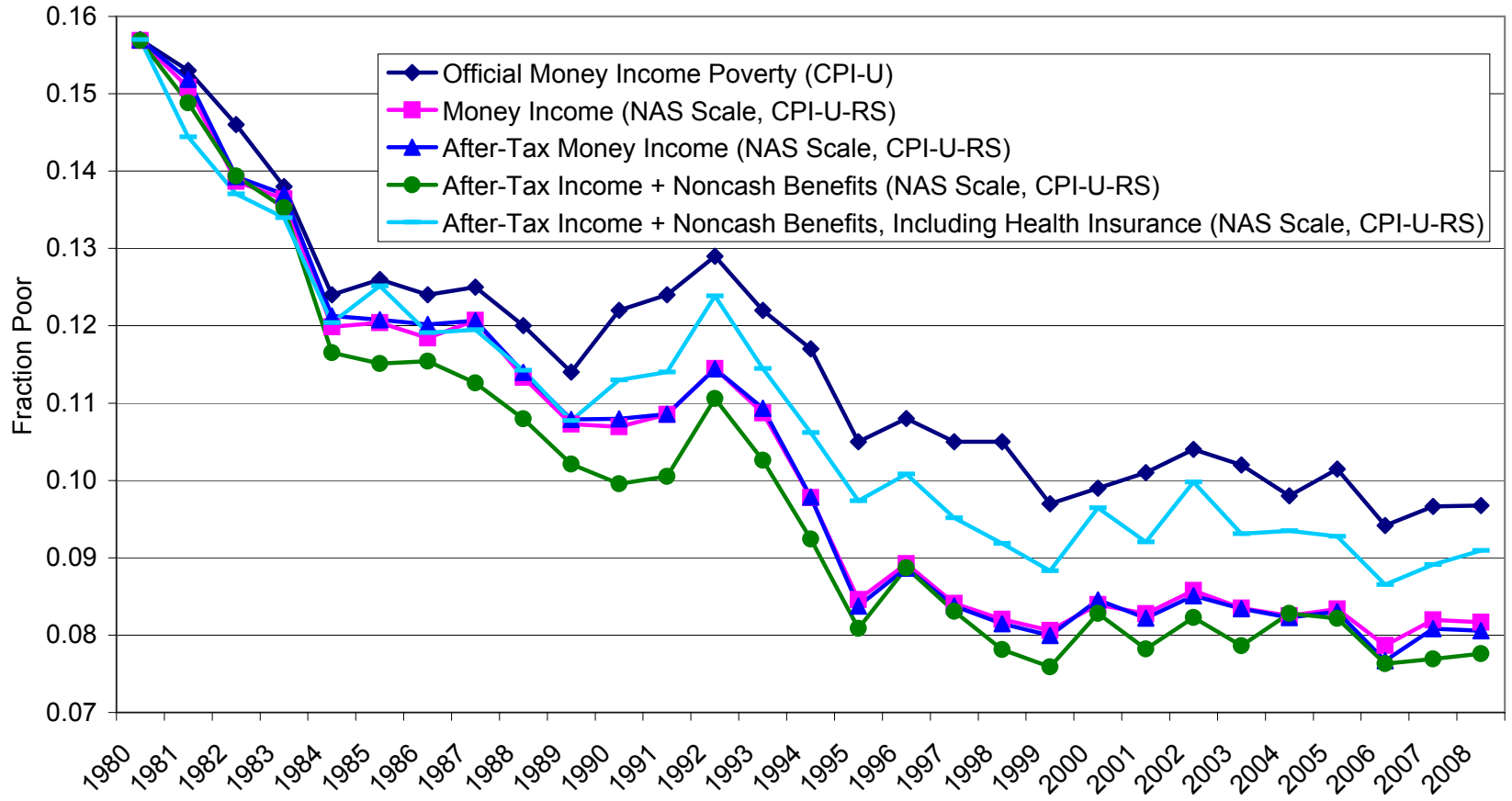
Figure 1: Money Income Poverty for Persons 65 and Over, 1972-2008



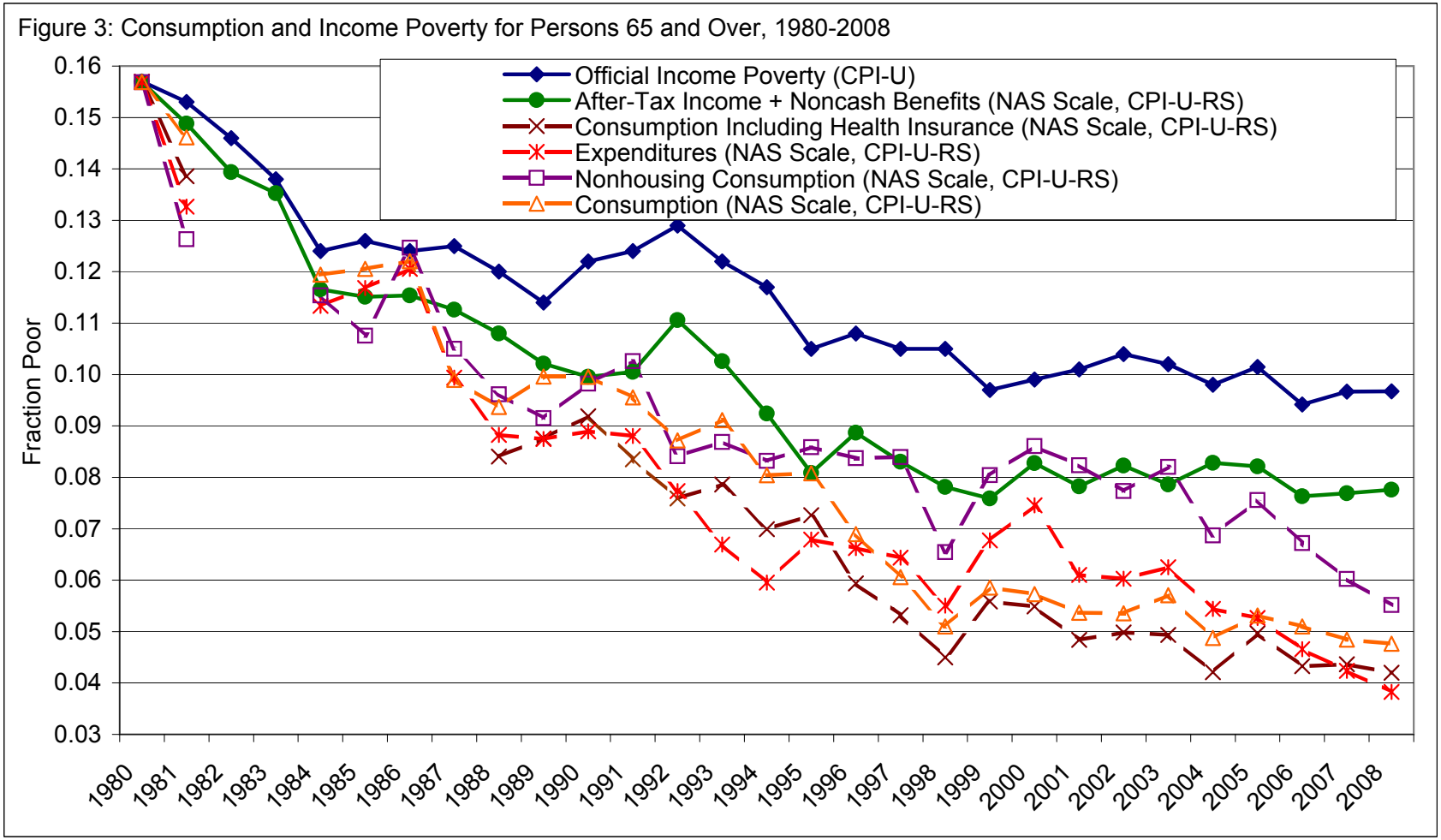
Notes: Prior to 2002 the Annual Social and Economic Supplement (ASEC) to the CPS was called the Annual Demographic File (ADF). All poverty rates are at the person level. Official Income Poverty follows the U.S. Census definition of income poverty using official thresholds. For measures other than the 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 the CPI-U or the CPI-U-RS.

Figure 2: Income Poverty for Persons 65 and Over, 1980-2008



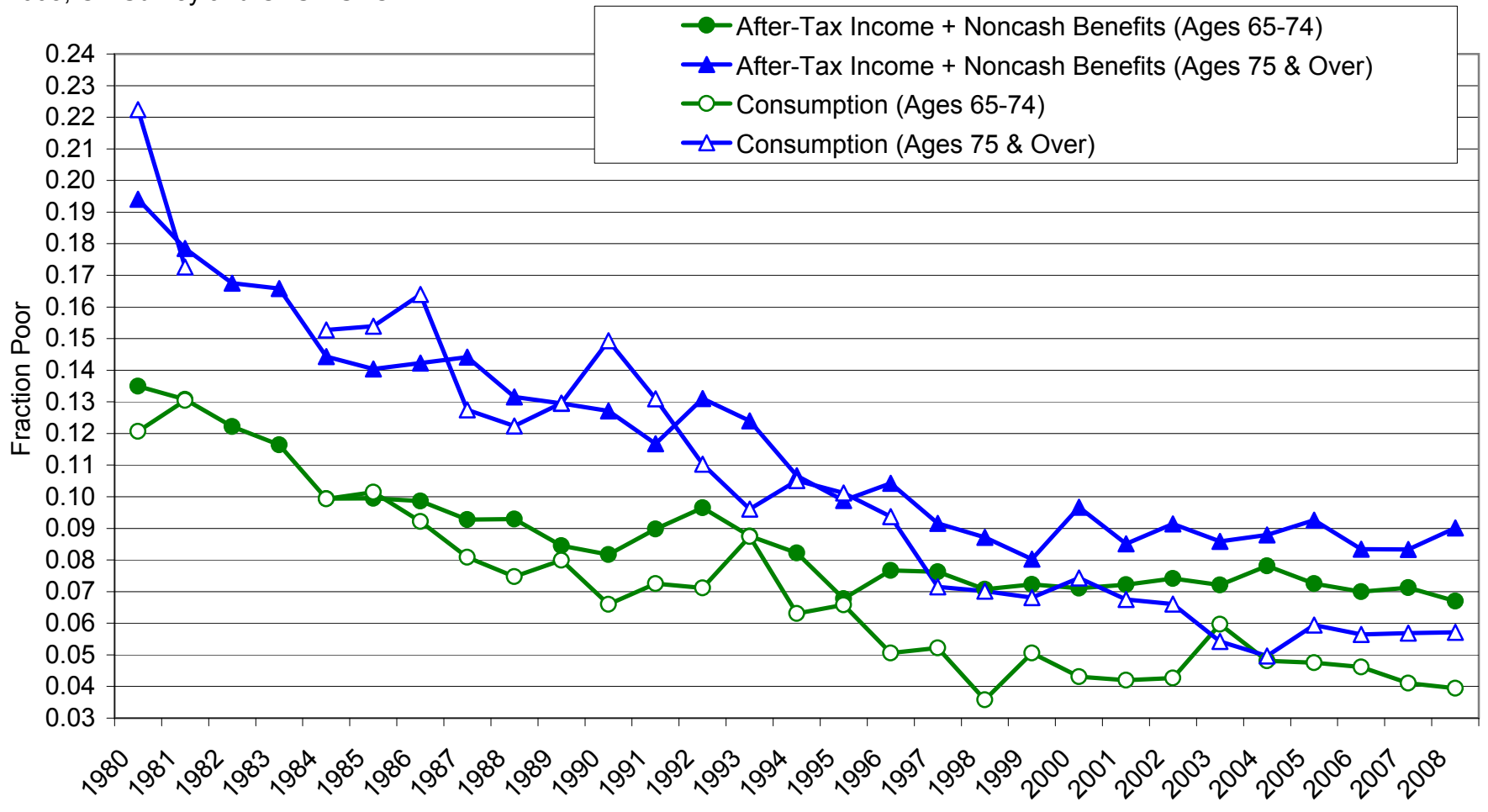
Notes: All poverty rates are at the person level. Official Income Poverty and Money Income are as in Figure 1. For measures other than the official one, the threshold in 1980 is equal to the value that yields a poverty rate equal to the official poverty rate in 1980 for those 65 and over (15.7 percent). 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, 1980-2008



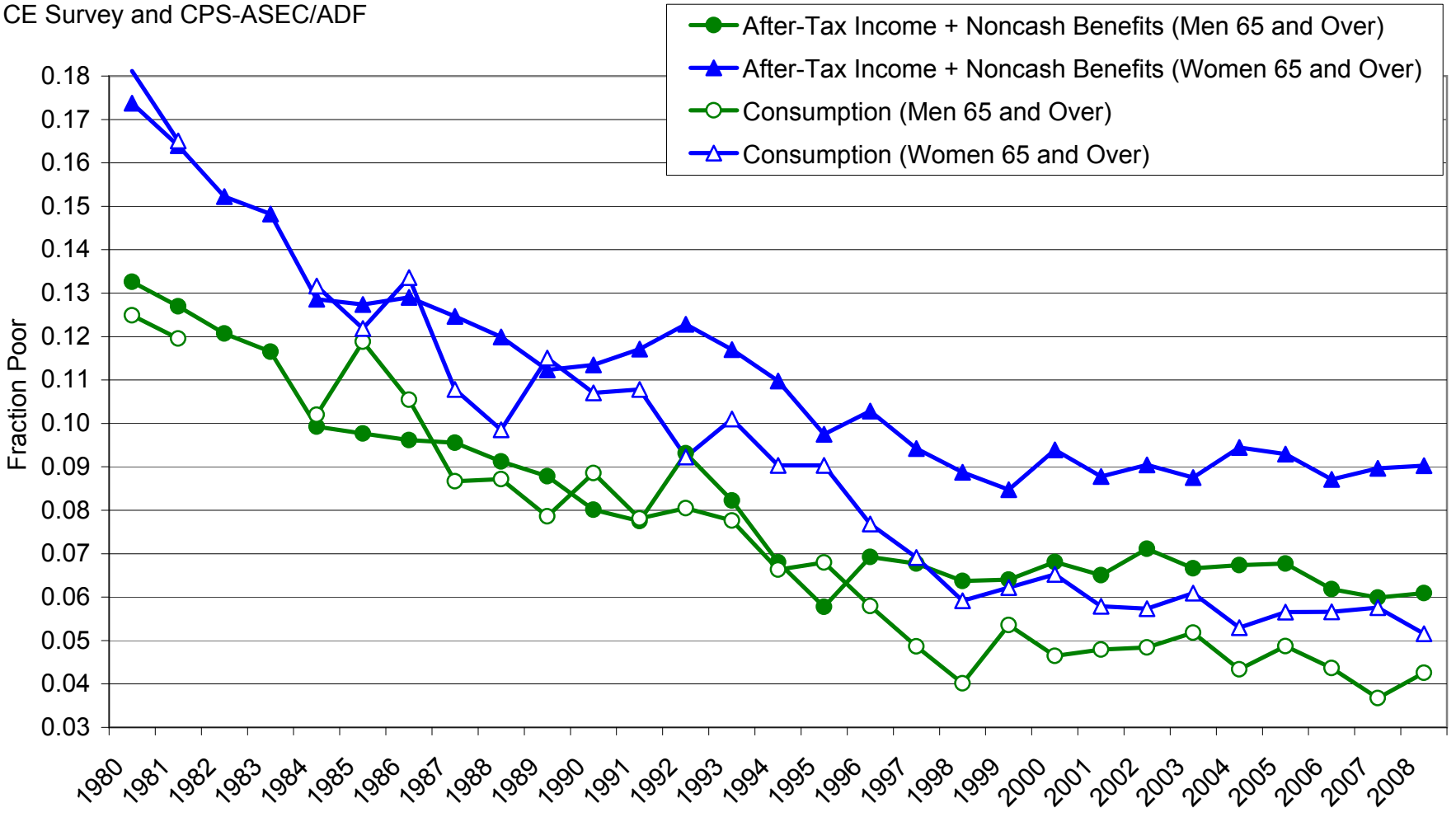
Notes: All poverty rates are at the person level. Official Income Poverty is as in Figure 1. For measures other than the official one, the threshold in 1980 is equal to the value that yields a poverty rate equal to the official poverty rate in 1980 for those 65 and over (15.7 percent). The threshold in 1980 is then adjusted overtime by the CPI-U-RS. Income data are from the CPS ASEC/ADF and consumption data are from the CE Survey. 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, 1980-2008, CE Survey and CPS-ASEC/ADF



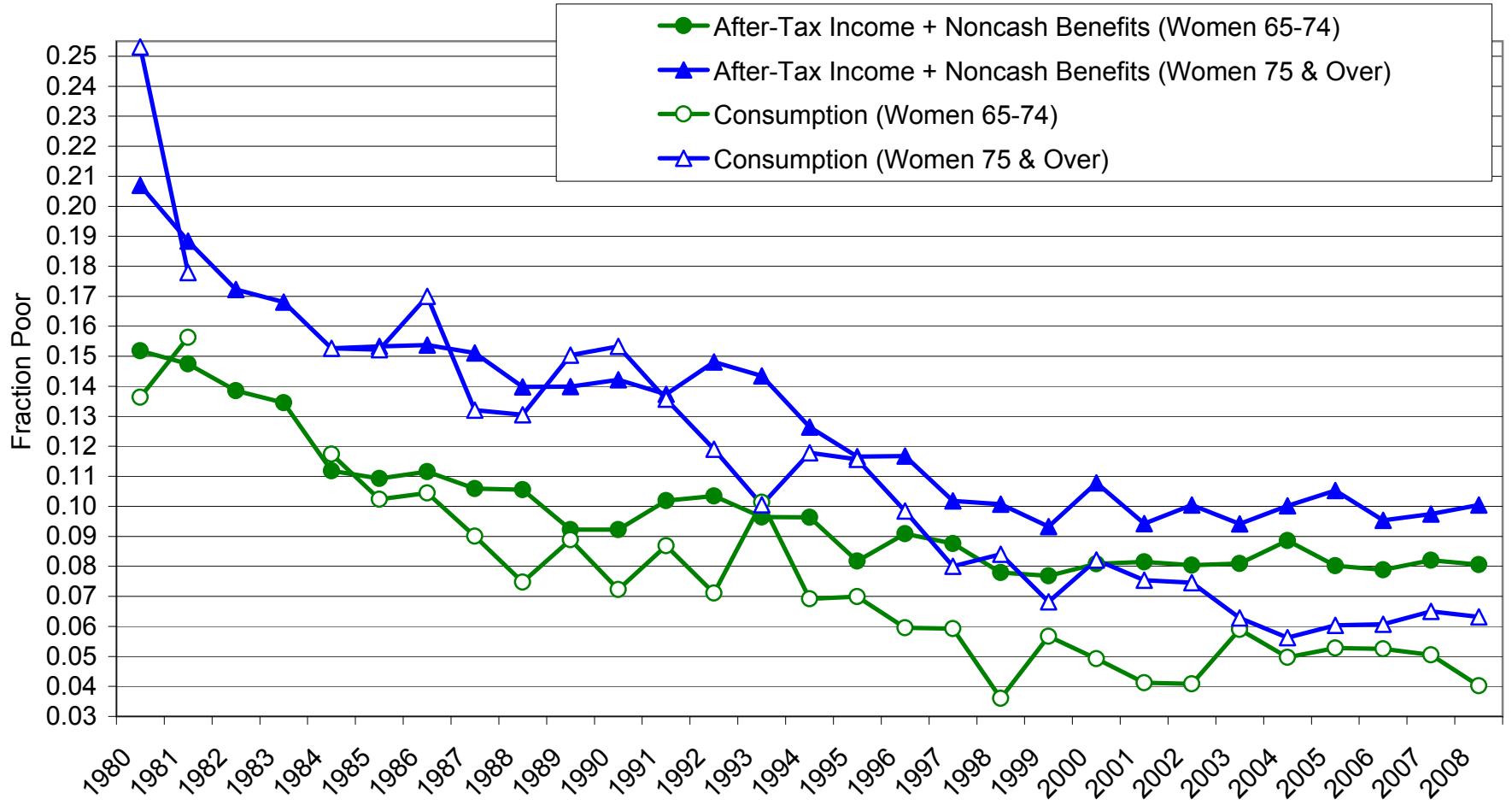
Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 5: Consumption and Income Poverty for Persons 65 and Over by Gender Using NAS Scale and CPI-U-RS, 1980-2008, CE Survey and CPS-ASEC/ADF



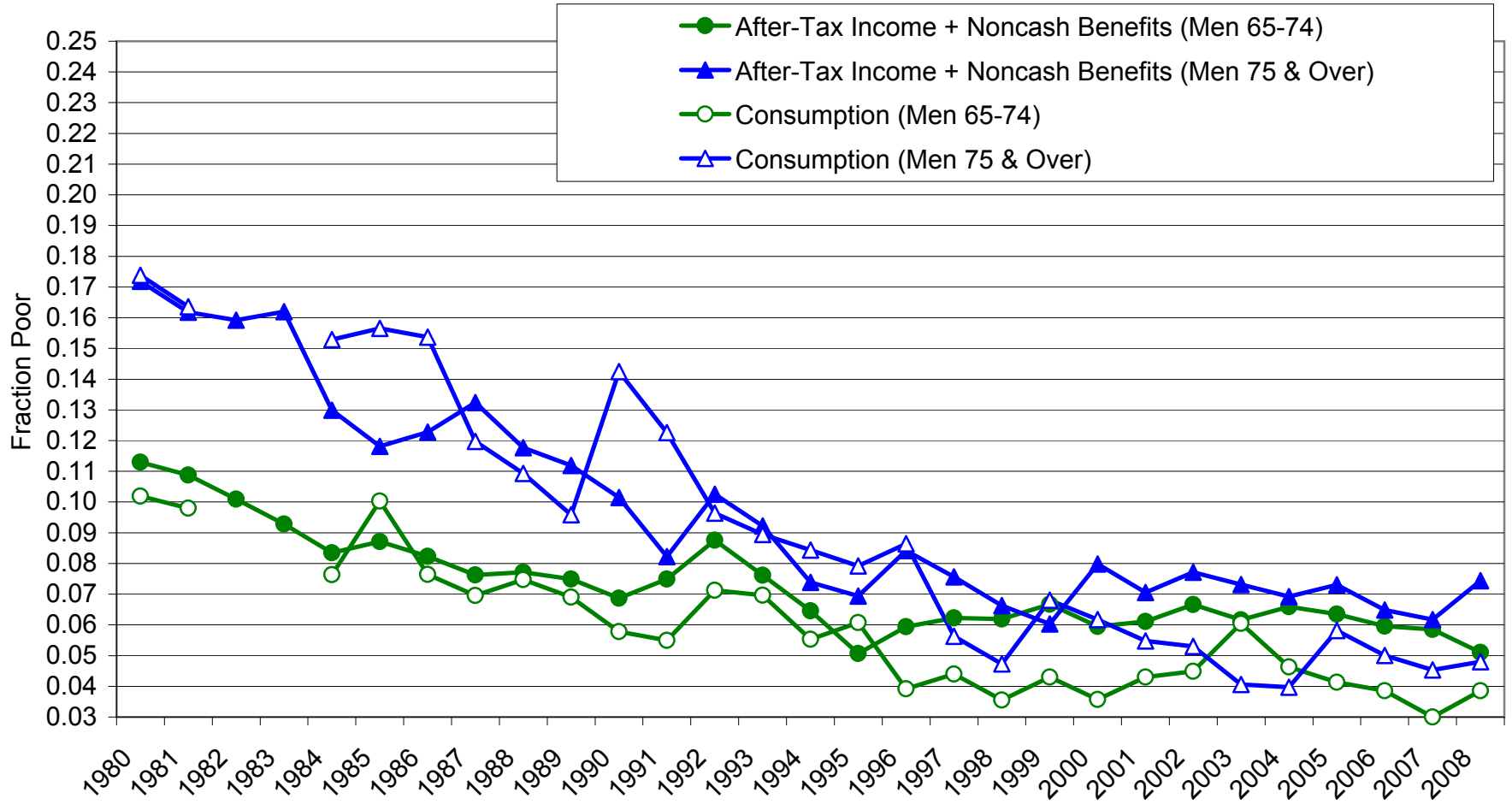
Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 6: Consumption and Income Poverty for Women 65 and Over by Age Group Using NAS Scale and CPI-U-RS, 1980-2008, CE Survey and CPS-ASEC/ADF



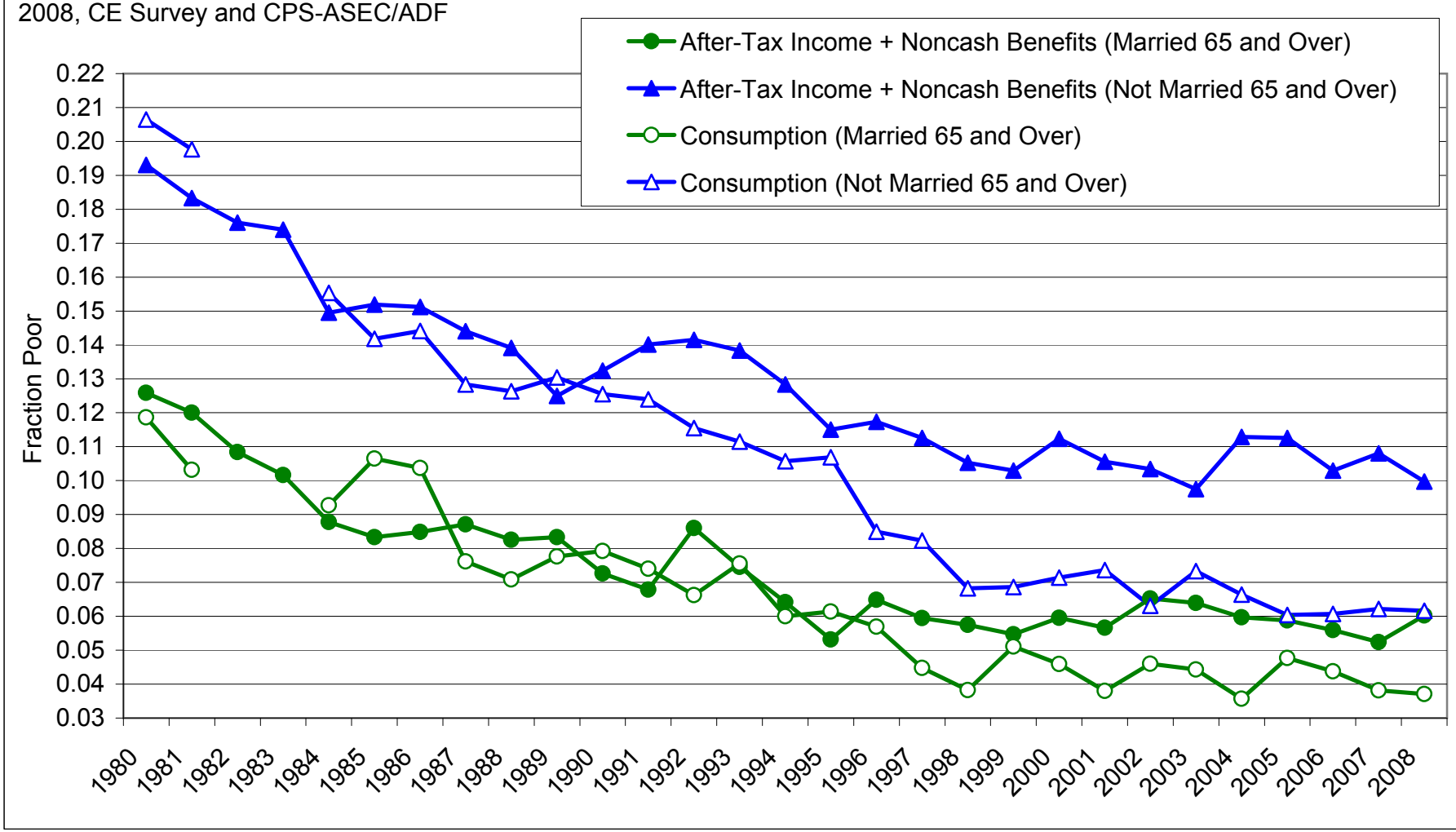
Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 7: Consumption and Income Poverty for Men 65 and Over by Age Group Using NAS Scale and CPI-U-RS, 1980-2008, CE Survey and CPS-ASEC/ADF



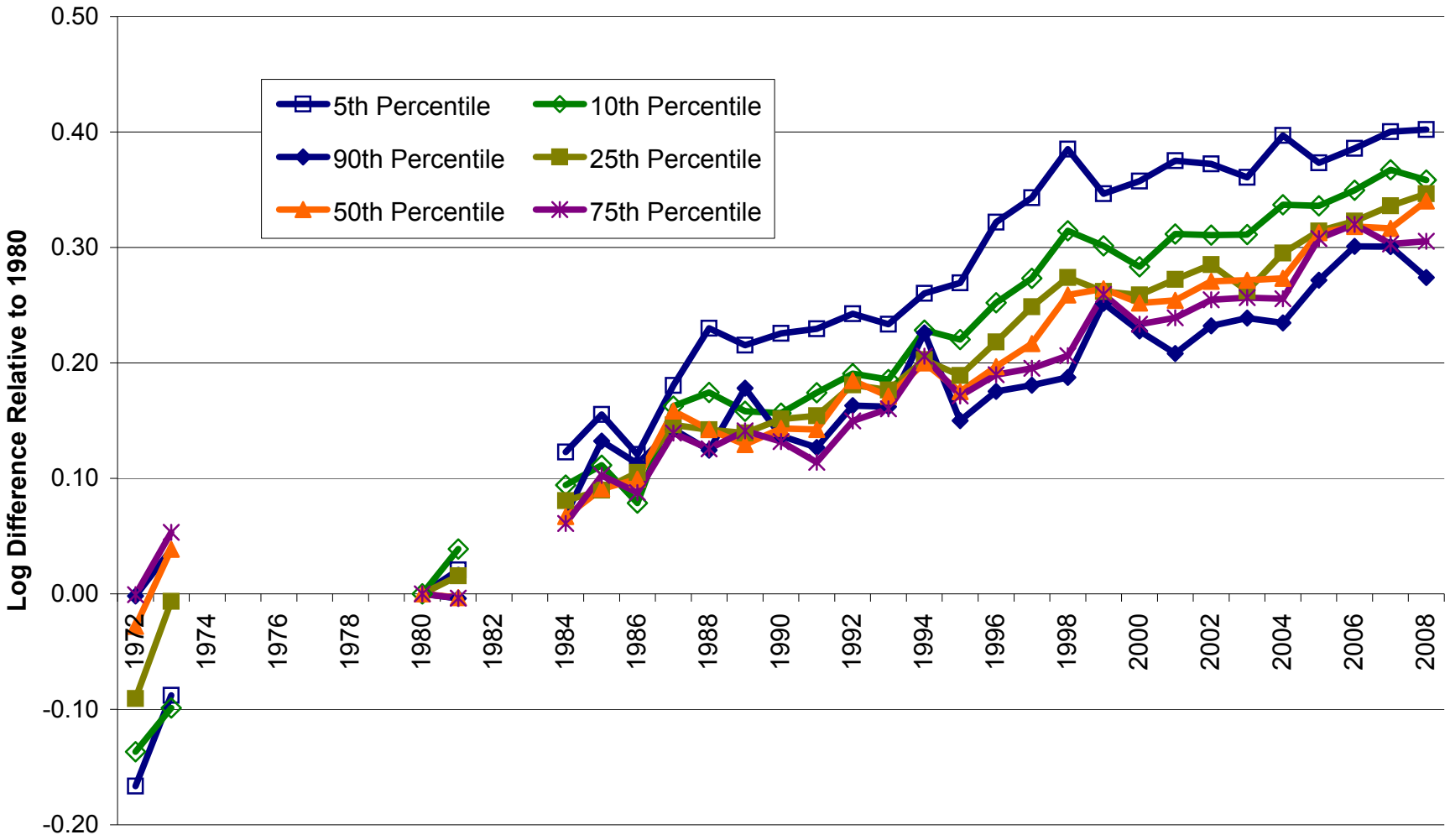
Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 8: Consumption and Income Poverty for Persons 65 and Over by Marital Status Using NAS Scale and CPI-U-RS, 1980-2008, CE Survey and CPS-ASEC/ADF



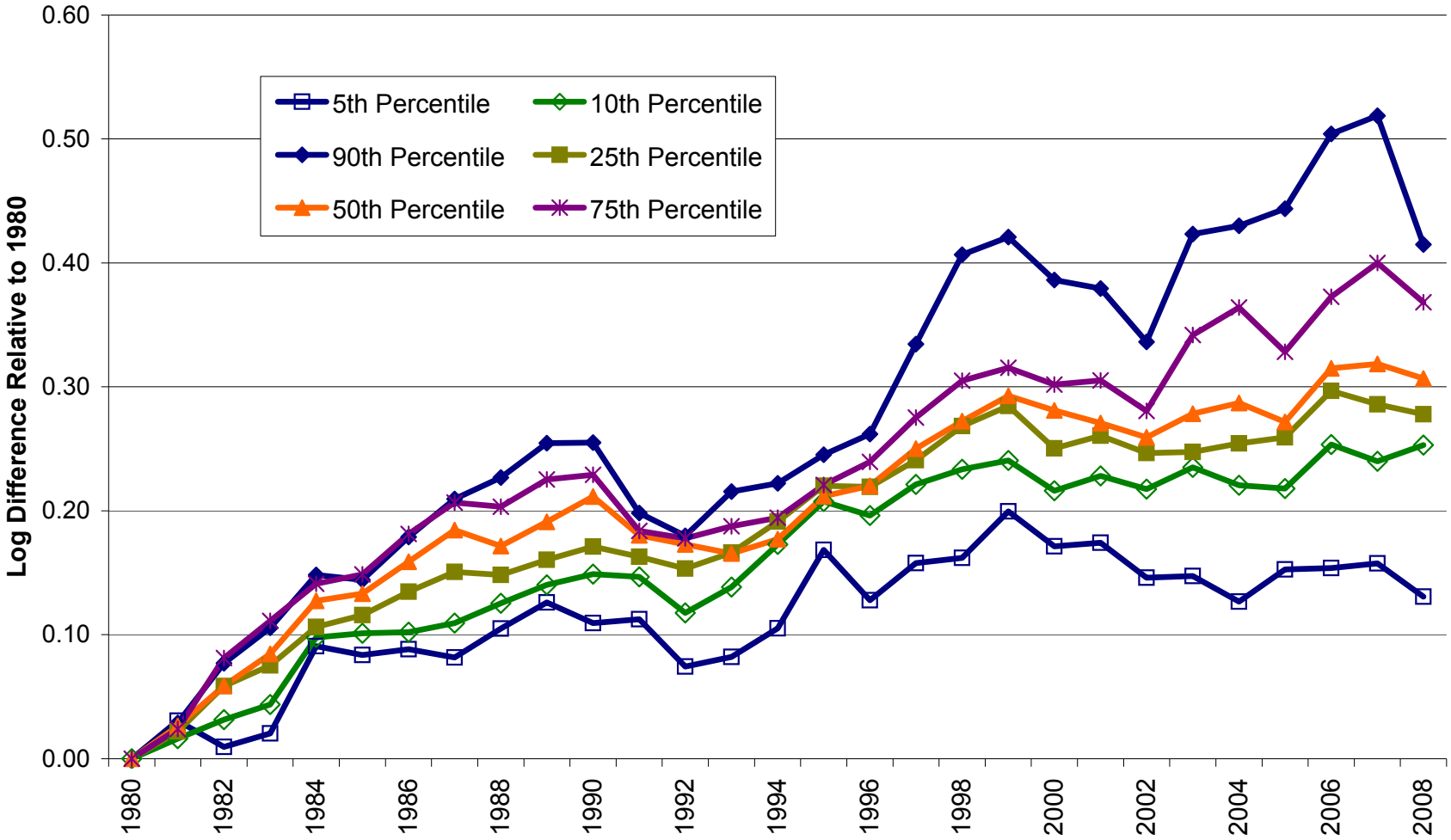
Notes: All poverty rates are at the person level. See Figure 2 for additional notes.

Figure 9: Real Changes in Consumption at Various Percentiles, Persons 65 and Over, 1972-2008



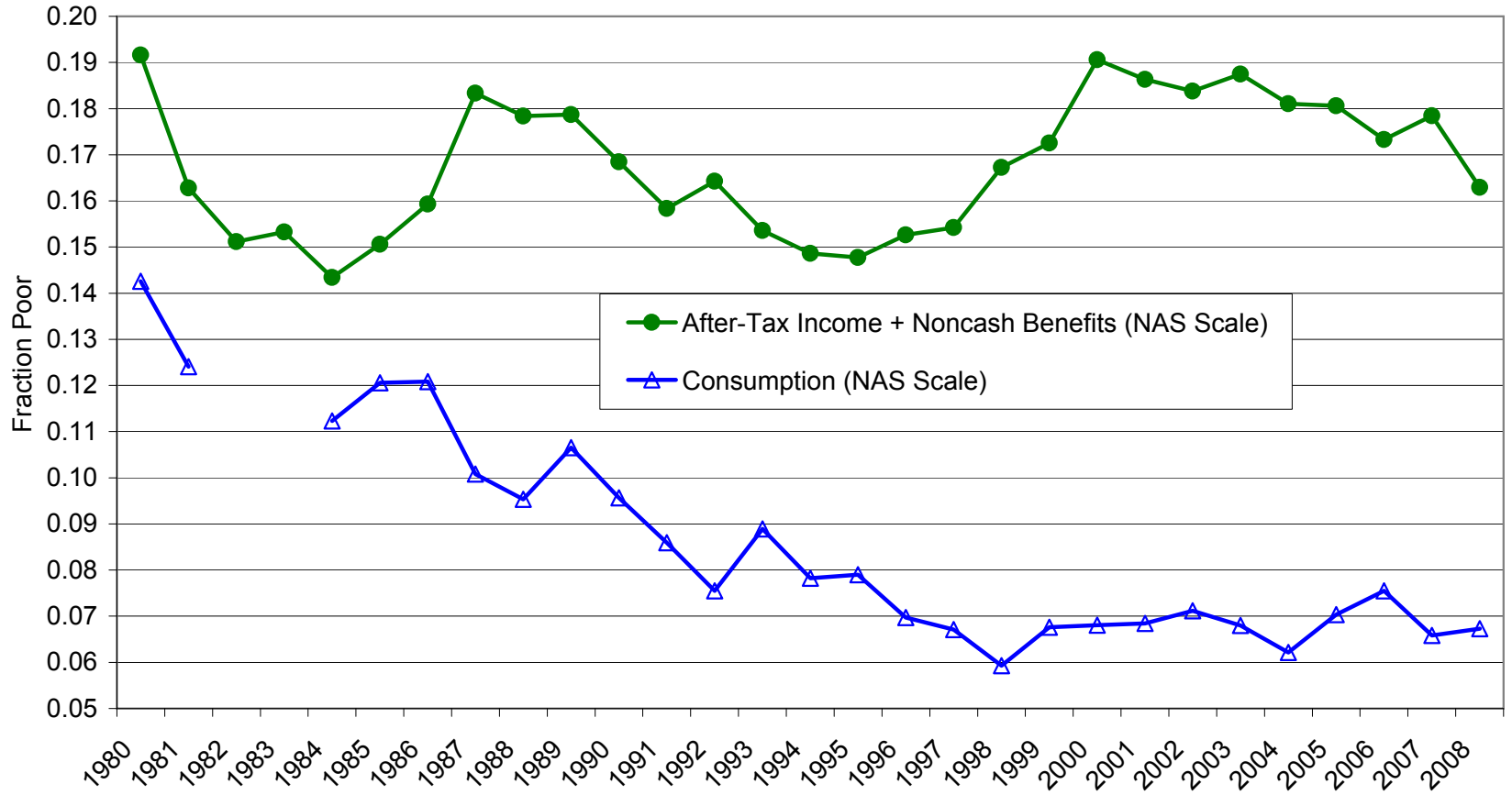
Notes: Data are from the CE Survey and are person weighted. This figure reports the difference between log consumption in a year and log consumption in 1980. The results are adjusted for inflation using using the CPI-U-RS.

Figure 10: Real Changes in After-Tax Income Plus Noncash Benefits at Various Percentiles, Persons 65 and Over, 1980-2008



Notes: Data are from the CPS and are person weighted. This figure reports the difference between log income in a year and log income in 1980. The results are adjusted for inflation using using the CPI-U-RS.

Figure 11: Consumption and Income Relative Poverty (Fraction below 50% of Median) for Persons 65 and Over, 1980-2008



Notes: Poverty status is determined at the family level and then person weighted. An individual 65 and older is designated as poor if the measure of resouces falls below 50 percent of the median of the individual weighted, scale-adjusted distribution for the respective resource measure for the full sample. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF.

Table 1: Income and Consumption Poverty Rates, Deep Poverty Rates (Fraction below 50% of Threshold), and Near Poverty Rates (Fraction below 150% of Threshold) for Persons 65 and Over, 1960-2008

	150 % of Threshold				100 % of Threshold (Anchored at 1980)				50 % of Threshold			
	Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption	Consumption Including Health Insurance	Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption	Consumption Including Health Insurance	Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption	Consumption Including 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)
1960			0.597				0.296				0.039	
1972	0.462		0.442		0.236		0.211		0.044		0.033	
1973	0.449		0.392		0.214		0.181		0.037		0.022	
1980	0.373	0.346	0.402	0.411	0.157	0.157	0.157	0.157	0.021	0.025	0.017	0.015
1981	0.352	0.325	0.401	0.401	0.151	0.149	0.146	0.139	0.020	0.023	0.019	0.018
1982	0.335	0.293			0.139	0.139			0.024	0.028		
1983	0.326	0.284			0.136	0.135			0.023	0.027		
1984	0.305	0.264	0.359		0.120	0.117	0.119		0.018	0.020	0.008	
1985	0.302	0.258	0.341		0.120	0.115	0.121		0.020	0.022	0.007	
1986	0.291	0.243	0.334		0.118	0.115	0.122		0.020	0.023	0.007	
1987	0.281	0.233	0.305		0.121	0.113	0.099		0.018	0.021	0.006	
1988	0.284	0.231	0.300	0.298	0.113	0.108	0.094	0.084	0.018	0.021	0.004	0.003
1989	0.276	0.220	0.312	0.305	0.107	0.102	0.100	0.088	0.019	0.021	0.004	0.002
1990	0.267	0.219	0.300	0.285	0.107	0.100	0.100	0.092	0.020	0.023	0.006	0.005
1991	0.273	0.224	0.297	0.285	0.109	0.101	0.096	0.084	0.022	0.023	0.004	0.003
1992	0.277	0.227	0.282	0.268	0.114	0.111	0.087	0.076	0.022	0.025	0.004	0.004
1993	0.275	0.222	0.283	0.271	0.109	0.103	0.091	0.079	0.022	0.025	0.003	0.002
1994	0.260	0.204	0.269	0.254	0.098	0.092	0.080	0.070	0.024	0.026	0.002	0.001
1995	0.242	0.191	0.277	0.265	0.085	0.081	0.081	0.073	0.019	0.021	0.003	0.002
1996	0.246	0.193	0.258	0.249	0.089	0.089	0.069	0.059	0.021	0.022	0.002	0.002
1997	0.232	0.179	0.238	0.224	0.084	0.083	0.061	0.053	0.021	0.023	0.002	0.001
1998	0.221	0.177	0.220	0.210	0.082	0.078	0.051	0.045	0.024	0.026	0.003	0.003
1999	0.211	0.170	0.227	0.220	0.081	0.076	0.059	0.056	0.019	0.020	0.003	0.003
2000	0.231	0.184	0.228	0.224	0.084	0.083	0.057	0.055	0.021	0.024	0.003	0.002
2001	0.226	0.181	0.222	0.215	0.083	0.078	0.054	0.048	0.020	0.022	0.002	0.001
2002	0.228	0.188	0.218	0.208	0.086	0.082	0.054	0.050	0.021	0.023	0.003	0.002
2003	0.229	0.184	0.230	0.211	0.083	0.079	0.057	0.049	0.025	0.025	0.003	0.003
2004	0.222	0.178	0.211	0.197	0.082	0.083	0.049	0.042	0.025	0.027	0.002	0.002
2005	0.220	0.179	0.201	0.188	0.083	0.082	0.053	0.050	0.024	0.026	0.004	0.003
2006	0.206	0.165	0.191	0.182	0.079	0.076	0.051	0.043	0.025	0.027	0.002	0.001
2007	0.211	0.171	0.190	0.178	0.082	0.077	0.048	0.044	0.023	0.026	0.004	0.003
2008	0.212	0.176	0.190	0.176	0.082	0.078	0.048	0.042	0.025	0.026	0.002	0.002
Change												
1960-1972			-0.155				-0.085				-0.007	
1972-1980	-0.089		-0.039		-0.080		-0.054		-0.024		-0.016	
1980-1990	-0.106	-0.127	-0.103	-0.126	-0.050	-0.057	-0.057	-0.065	-0.001	-0.002	-0.010	-0.010
1990-2000	-0.036	-0.035	-0.071	-0.061	-0.023	-0.017	-0.042	-0.037	0.001	0.001	-0.003	-0.003
2000-2008	-0.018	-0.007	-0.038	-0.048	-0.002	-0.005	-0.010	-0.013	0.004	0.002	0.000	0.000
1980-2008	-0.161	-0.170	-0.213	-0.235	-0.075	-0.079	-0.109	-0.115	0.004	0.002	-0.014	-0.013
1960-2008			-0.407				-0.248				-0.037	

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. Thresholds are adjusted over time using the CPI-U-RS. Poverty status is determined at the family level and then person weighted. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. 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, 1980-2008

Resources	Pre-Tax Money Income	Pre-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption	Consumption Including 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)
1960				3,458	
1972				3,022	
1973				3,036	
1980	2,760	2,913	2,912	2,979	3,167
1981	2,892	2,885	2,929	2,999	3,274
1982	3,167	3,287	3,264		
1983	3,083	3,273	3,271		
1984	2,845	2,933	3,021	2,625	
1985	2,912	3,033	3,146	2,745	
1986	2,918	2,950	3,071	2,884	
1987	2,924	2,946	3,098	2,771	
1988	2,896	2,898	3,058	2,679	2,963
1989	3,035	2,998	3,091	2,453	2,622
1990	3,047	3,099	3,238	2,384	2,391
1991	3,113	3,121	3,267	2,277	2,459
1992	3,233	3,285	3,362	2,486	2,714
1993	3,462	3,367	3,475	2,395	2,339
1994	3,537	3,653	3,758	2,457	2,330
1995	3,308	3,486	3,553	2,218	1,996
1996	3,392	3,555	3,502	2,311	2,428
1997	3,453	3,659	3,684	2,160	2,204
1998	3,536	3,926	4,027	2,577	2,657
1999	3,415	3,512	3,614	2,750	2,695
2000	3,464	3,608	3,696	2,554	2,527
2001	3,521	3,628	3,824	2,249	2,201
2002	3,449	3,686	3,903	2,667	2,550
2003	3,788	4,117	4,339	2,568	2,630
2004	4,171	4,440	4,342	2,431	2,630
2005	3,803	4,070	4,007	2,704	2,512
2006	4,018	4,290	4,207	2,454	2,415
2007	3,938	4,045	4,209	2,674	2,577
2008	4,133	4,399	4,505	2,140	2,070
% Change					
1960-1972				-12.58%	
1972-1980				-1.42%	
1980-1990	10.43%	6.40%	11.21%	-20.00%	-24.50%
1990-2000	13.66%	16.41%	14.13%	7.14%	5.68%
2000-2008	19.33%	21.94%	21.89%	-16.20%	-18.06%
1980-2008	49.77%	51.03%	54.71%	-28.18%	-34.63%
1960-2008				-38.11%	

Notes: Amounts are in 2005 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.Thresholds are adjusted over time using the CPI-U-RS. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF.

Table 3: Demographic Characteristics of All Individuals 65 and Over and by Poverty Status, CE Survey, 1960-2008

	All Individuals 65 and Over					Consumption Poor					Income poor					Income Poor but Not Consumption Poor				
	1960-1961	1972-1973	1980-1989	1990-1999	2000-2008	1960-1961	1972-1973	1980-1989	1990-1999	2000-2008	1960-1961	1972-1973	1980-1989	1990-1999	2000-2008	1960-1961	1972-1973	1980-1989	1990-1999	2000-2008
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Head Employed	0.459	0.300	0.208	0.191	0.240	0.299	0.165	0.103	0.109	0.137	0.267	0.139	0.121	0.101	0.125	0.336	0.164	0.146	0.111	0.129
Number of Earners	.	.	0.479	0.447	0.531	.	.	0.365	0.393	0.441	.	.	0.427	0.404	0.300	.	.	0.438	0.391	0.284
Homeowner	0.688	0.707	0.775	0.810	0.827	0.515	0.494	0.464	0.483	0.429	0.605	0.737	0.700	0.705	0.696	0.894	0.815	0.801	0.791	0.765
Single family home	.	0.618	0.648	0.675	0.688	.	0.449	0.391	0.390	0.336	.	0.673	0.585	0.610	0.577	.	0.740	0.660	0.686	0.631
Mobile home or trailer	.	0.027	0.055	0.056	0.053	.	0.018	0.050	0.064	0.064	.	0.026	0.048	0.042	0.038	.	0.029	0.052	0.039	0.039
Own a car	0.559	0.649	0.792	0.834	0.862	0.321	0.320	0.481	0.537	0.547	0.313	0.518	0.630	0.702	0.697	0.495	0.676	0.721	0.790	0.755
Service flows from vehicles	223	609	831	1,090	1,287	73	135	132	156	206	82	316	500	728	870	182	589	697	946	1,035
Service flows from owned homes	2,521	3,784	4,297	5,328	6,369	1,122	751	1,026	1,102	1,044	1,673	2,577	3,197	3,735	5,024	3,579	5,085	4,328	4,731	5,949
Total service flows	2,744	4,393	5,128	6,419	7,656	1,195	887	1,158	1,258	1,250	1,754	2,893	3,697	4,463	5,893	3,760	5,674	5,025	5,677	6,984
Family size	2.263	2.030	2.019	1.963	1.978	2.175	1.999	2.223	2.261	2.380	1.998	2.656	2.196	2.244	2.036	1.636	2.371	2.015	2.082	1.899
# of children	0.195	0.127	0.099	0.101	0.098	0.198	0.184	0.215	0.282	0.292	0.169	0.344	0.205	0.267	0.184	0.040	0.129	0.126	0.177	0.127
# over 64	1.485	1.459	1.507	1.496	1.489	1.534	1.467	1.479	1.429	1.422	1.479	1.724	1.393	1.386	1.394	1.387	1.604	1.378	1.395	1.400
# of rooms	.	5.107	5.443	5.673	5.901	.	4.505	4.547	4.679	4.537	.	5.088	5.111	5.362	5.374	.	5.360	5.378	5.612	5.632
# of Bedrooms			2.497	2.610	2.730			2.158	2.204	2.142			2.451	2.523	2.501			2.527	2.609	2.606
# of Bathrooms			1.374	1.409	1.581			1.230	1.080	1.144			1.456	1.290	1.428			1.541	1.373	1.504
Appliances																				
Stove			0.998	0.997	0.994			0.995	0.996	0.981			0.992	0.995	0.993			0.992	0.996	0.996
Microwave			0.395	0.807	0.942			0.149	0.578	0.811			0.248	0.689	0.877			0.328	0.745	0.911
Refrigerator			0.995	0.997	0.996			0.992	0.993	0.993			0.984	0.997	0.993			0.982	0.998	0.994
Freezer			0.439	0.446	0.456			0.369	0.366	0.354			0.439	0.446	0.420			0.435	0.465	0.444
Disposal			0.282	0.359	0.444			0.080	0.097	0.148			0.161	0.224	0.334			0.221	0.277	0.381
Dishwasher			0.347	0.471	0.600			0.051	0.089	0.159			0.213	0.313	0.443			0.305	0.401	0.515
Window Air Conditioning	.	0.279	0.302	0.257	0.219	.	0.140	0.297	0.345	0.350	.	0.174	0.254	0.270	0.249	.	0.241	0.276	0.254	0.230
Central Air Conditioning	.	0.106	0.286	0.449	0.590	.	0.024	0.098	0.176	0.341	.	0.042	0.185	0.327	0.465	.	0.092	0.245	0.387	0.510
Washer			0.780	0.836	0.870			0.572	0.625	0.633			0.678	0.747	0.759			0.740	0.799	0.801
Dryer			0.622	0.745	0.833			0.292	0.410	0.504			0.467	0.599	0.684			0.578	0.683	0.743
Television			0.691	0.972	0.990			0.621	0.898	0.952			0.644	0.931	0.975			0.668	0.957	0.984
Computer			0.034	0.119	0.466			0.008	0.025	0.147			0.040	0.082	0.315			0.047	0.101	0.358
Stereo			0.227	0.372	0.552			0.075	0.168	0.360			0.157	0.286	0.484			0.191	0.321	0.508
VCR			0.227	0.579	0.810			0.083	0.263	0.571			0.142	0.427	0.688			0.180	0.489	0.728
Race																				
White, Non Hispanic			0.863	0.856	0.821			0.654	0.648	0.588	0.823	0.796	0.692	0.687	0.636			0.784	0.756	0.683
Black, Non Hispanic			0.089	0.078	0.079			0.252	0.219	0.177	0.163	0.204	0.211	0.196	0.175			0.135	0.148	0.159
Other			0.047	0.066	0.100			0.094	0.133	0.235	0.015	0.000	0.097	0.117	0.189			0.081	0.096	0.158
Expenditures > Income	0.388	0.313	0.413	0.417	0.375	0.394	0.154	0.260	0.279	0.249	0.586	0.615	0.840	0.908	0.928	0.887	0.881	0.946	0.966	0.970
N	3,163	4,303	28,992	40,264	50,919	938	852	3,366	3,018	2,728	748	272	3,099	3,111	3,533	163	115	2,058	2,311	2,872
Total Financial Assets																				
Median	.	7,916	10,726	9,912	6,229	.	19	26	0	6	.	0	10	102	55	.	202	793	559	454
75th Percentile	.	48,717	66,198	64,108	62,000	.	6,851	1,705	1,264	717	.	4,044	2,682	4,306	2,422	.	10,387	17,646	13,682	10,610
85th Percentile	.	99,241	125,965	134,832	169,315	.	16,479	7,930	4,216	2,440	.	11,799	13,840	22,441	22,606	.	25,275	48,440	66,906	51,805
90th Percentile	.	151,479	170,758	161,136	304,000	.	31,027	16,430	11,771	5,616	.	20,220	26,057	72,762	82,782	.	41,485	96,986	130,342	127,553
95th Percentile	.	285,709	219,830	269,798	504,348	.	65,330	73,720	27,280	16,723	.	41,485	98,332	146,766	261,000	.	112,357	205,375	167,331	315,068
Change in Total Financial Assets																				
5th Percentile	-10,612	-10,919	-8,954	-10,424	-22,680	-4,425	-2,022	-476	-120	-388	-8,297	-5,055	-1,730	-2,626	-12,000	-16,593	-12,132	-3,172	-4,194	-27,150
10th Percentile	-5,531	-4,044	-3,286	-3,020	-6,000	-1,831	-761	0	0	0	-4,978	-2,022	-465	0	-181	-12,176	-5,257	-1,730	-636	-1,061
15th Percentile	-3,209	-1,724	-850	-782	-1,814	-1,095	0	0	0	0	-2,766	-934	0	0	0	-8,750	-2,022	-1,038	0	0
Percent Change in Total Financial Assets																				
5th Percentile	.	-0.50	-0.24	-0.22	-0.26	.	-0.50	-0.09	0.00	-0.14	.	-1.00	-0.45	-0.12	-0.20	.	-0.99	-0.47	-0.17	-0.21
10th Percentile	.	-0.17	-0.09	-0.09	-0.12	.	-0.10	0.00	0.00	0.00	.	-0.50	-0.05	0.00	-0.01	.	-0.52	-0.09	-0.05	-0.09
15th Percentile	.	-0.07	-0.03	-0.03	-0.05	.	0.00	0.00	0.00	0.00	.	-0.20	0.00	0.00	0.00	.	-0.30	-0.04	0.00	0.00
N (asset sample)	3,163	4,303	4,123	6,519	7,281	938	852	470	537	498	748	272	345	490	554	163	115	190	341	408
Debt																				
Median	.	.	0	0	0	.	.	0	0	0	.	.	0	0	0	.	.	0	0	0
75th Percentile	.	.	197	290	272	.	.	0	0	0	.	.	30	0	0	.	.	88	0	0
85th Percentile	.	.	1,010	1,255	1,541	.	.	240	217	263	.	.	440	315	194	.	.	615	453	302
90th Percentile	.	.	1,825	2,660	3,175	.	.	654	652	772	.	.	1,019	808	1,008	.	.	1,193	1,009	1,188
95th Percentile	.	.	4,175	6,284	7,721	.	.	1,436	2,033	2,267	.	.	2,146	2,042	3,297	.	.	2,693	2,124	3,628
N (debt sample)	.	.	14,685	20,369	25,789	.	.	1,689	1,486	1,357	.	.	1,497	1,547	1,797	.	.	975	1,160	1,452

Notes: The sample includes all families in the CE Survey that are designated as complete income reporters and have at least one individual 65 or older. All estimates are person weighted. Debt includes all non-mortgage, non-vehicle debt. Financial asset statistics come from samples of families in their fifth CE Survey interview, while debt statistics come from families in either their second or fifth interview. Income poverty is determined using after-tax money income.

Table 4: The Effect of Changes in Demographic Characteristics on Changes in Elderly Poverty, 1980-2008

	1980	1990	2000	2008	Change 1980-2008
A. Consumption Poverty					
Actual Poverty	0.157	0.100	0.057	0.048	-0.109
Predicted poverty holding within group poverty at 1980 rate					
Changes in gender and age	0.157	0.163	0.167	0.167	0.010
Changes in gender, age, and marital status	0.157	0.162	0.166	0.166	0.009
Changes in gender, age, marital status, and education	0.157	0.143	0.130	0.120	-0.037
Changes in gender, age, marital status, and employment	0.157	0.163	0.167	0.166	0.009
Changes in gender, age, marital status, and SSI receipt	0.157	0.153	0.155	0.154	-0.003
Changes in gender, age, marital status, and Social Security receipt	0.157	0.159	0.166	0.165	0.008
Predicted poverty holding within group poverty at 2008 rate					
Changes in gender and age	0.046	0.047	0.048	0.048	0.002
Changes in gender, age, and marital status	0.046	0.047	0.048	0.048	0.002
Changes in gender, age, marital status, and education	0.078	0.066	0.054	0.048	-0.030
Changes in gender, age, marital status, and employment	0.047	0.048	0.049	0.048	0.001
Changes in gender, age, marital status, and SSI receipt	0.052	0.048	0.047	0.048	-0.004
Changes in gender, age, marital status, and Social Security receipt	0.050	0.045	0.048	0.048	-0.003
B. Income Poverty (After-tax Income Plus Noncash Benefits)					
Actual Poverty	0.157	0.100	0.083	0.078	-0.079
Predicted poverty holding within group poverty at 1980 rate					
Changes in gender and age	0.157	0.158	0.160	0.160	0.004
Changes in gender, age, and marital status	0.157	0.157	0.158	0.158	0.001
Changes in gender, age, marital status, and education	0.157	0.134	0.115	0.102	-0.055
Changes in gender, age, marital status, and employment	0.157	0.157	0.157	0.154	-0.003
Changes in gender, age, marital status, and SSI receipt	0.157	0.146	0.142	0.139	-0.018
Changes in gender, age, marital status, and Social Security receipt	0.157	0.156	0.160	0.163	0.006
Predicted poverty holding within group poverty at 2008 rate					
Changes in gender and age	0.080	0.080	0.081	0.081	0.001
Changes in gender, age, and marital status	0.082	0.081	0.081	0.081	-0.001
Changes in gender, age, marital status, and education	0.118	0.102	0.090	0.081	-0.037
Changes in gender, age, marital status, and employment	0.086	0.085	0.083	0.081	-0.005
Changes in gender, age, marital status, and SSI receipt	0.091	0.085	0.082	0.081	-0.010
Changes in gender, age, marital status, and Social Security receipt	0.074	0.072	0.075	0.081	0.006

Notes: Predicted poverty is the weighted average of the poverty rates for each group in the base year using as weights the distribution across groups in the year listed in the column headings.

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.

Appendix Table 2: Age Distribution of the Consumption and Income Poor, 1980-2008, 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
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Age			1980-1989		
0-17	0.267	0.273	0.396	0.404	0.385
18-64	0.617	0.610	0.494	0.520	0.499
65+	0.116	0.117	0.110	0.075	0.116
N (1000s)	1,600	157.4	227.3	235.0	17.7
Age			1990-1999		
0-17	0.265	0.272	0.397	0.393	0.403
18-64	0.615	0.607	0.504	0.530	0.510
65+	0.120	0.121	0.099	0.077	0.087
N (1000s)	1,427	221.5	202.6	182.2	20.9
Age			2000-2008		
0-17	0.252	0.257	0.355	0.338	0.368
18-64	0.626	0.623	0.547	0.575	0.554
65+	0.121	0.120	0.098	0.087	0.078
N (1000s)	1,811.9	271.8	222.0	182.6	20.5

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 1980. The results in the top 4 rows of Columns 2 and 5 are for the years 1980-1981 and 1984-1989.