Three Decades of Consumption and Income Poverty*

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Abstract

This paper examines poverty in the United States from 1972 through 2005. We investigate how poverty rates and poverty gaps have changed over time, explore how these trends differ across demographic groups, and contrast these trends for several different income and consumption measures of poverty. We document sharp differences, particularly in recent years, between different income poverty measures, and between income and consumption poverty rates and gaps. Moving from the official pre-tax money income measure to a disposable income measure that incorporates taxes and transfers has a substantial effect on poverty rate changes over the past two decades. Furthermore, consumption poverty rates often indicate large declines, even in recent years when income poverty rates have risen. The patterns are very different across demographic groups, with consumption poverty falling much faster than income poverty for the elderly, but more slowly for married couples with children. Income and consumption measures of deep poverty and poverty gaps have generally moved sharply in opposite directions in the last two decades with income deep poverty and poverty gaps rising, but consumption deep poverty and poverty gaps falling. Poverty measures that account for the overstatement of inflation in official price indices indicate sharp declines in poverty, while changes in relative poverty have been fairly small over the past three decades.

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1. Introduction

The change in the extent of poverty over time is of general interest. The trend in poverty is relied upon as an indicator of success or failure of our economic system and government policies. The official poverty rate based on pre-tax money income is the most cited measure of the well-being of those with few resources. In 2005 the official poverty rate was 12.6 percent, virtually the same as it was in 1970. This measure is still relied upon despite its well-known flaws, which include a narrow definition of income, an odd adjustment for family size, and a biased adjustment for price changes (Citro and Michael 1995; Besharov and Germanis 2004, Jencks, Mayer and Swingle 2004a). While past work has examined some modifications to the official poverty rate, the effect that alternative measures have on changes over time remains unclear. Some have found that the change in poverty is sharply altered, while others have argued that alternative measures differ in levels but not trends. This paper examines changes over the last three decades in a wide variety of income and consumption measures of poverty in the United States, incorporating many methodological improvements. In addition to the standard poverty rate, we examine deep poverty, near poverty, poverty gaps and how they differ across demographic groups.

A better understanding of recent changes in poverty is important to both policy makers and researchers. First, the poverty rate is frequently cited by those who are evaluating the need for and consequences of social programs. Together, these programs account for a substantial amount of government spending. In 2002, government expenditures for means-tested state and federal transfer programs exceeded $522 billion (U.S. Census Bureau 2004, p. 347). A large body of research examines poverty rates and poverty gaps (the difference between family income and the poverty line), or uses these measures to argue in support of or in opposition to specific government policies (Murray 1984; Sawhill 1988; Blank 1997; Burtless and Smeeding 2001; Scholz and Levine 2001; Ziliak 2004; JEC 2004).[1] Over the past few decades, we have seen dramatic changes in policies that target poor families including welfare reform and expansions of the Earned Income Tax Credit (EITC). However, there is little consensus on how these reforms

[1] A pointed use of poverty statistics comes from former House Ways and Means Committee Chairman Bill Archer's opening comments in the debate on the bill that became the 1996 welfare reform law. He stated that "Government has spent $5.3 trillion on welfare since the war on poverty began, the most expensive war in the history of this country, and the Census Bureau tells us we have lost the war." (Congressional Record, 104th Cong., 1st sess., March 21, 1995).

have affected poverty. Second, poverty rates are a key determinant of the allocation of federal funds to states and localities for use in education and other programs for the disadvantaged. The poverty line or a multiple of the poverty line is also used as an eligibility criterion for dozens of assistance programs (Citro and Michael 1995). Third, an accurate assessment of the material well-being of the worst off helps to gauge the performance of our economy. The degree of poverty and inequality is cited in discussions of the benefits of growth and the merits of limits on free-markets.

Within the literature on alternative measures of poverty there is considerable disagreement regarding whether using different measures affects trends in poverty. Many have argued that while the level of poverty differs significantly for different measures, the trends are quite similar across these measures.[2] In contrast, others provide evidence that some of these alternative measures follow distinct patterns.[3] Earlier work looking specifically at consumption based measures of poverty suggests that changes in these measures differ from income based poverty trends, but some recent work concludes otherwise.[4]

In our study, we emphasize the advantages of consumption based measures of poverty. Consumption reflects permanent income and thus captures the long-term prospects of a family better than does transitory income. Consumption is more likely to capture the effects of saving and dissaving, the ownership of durable goods such as houses and cars, and access to credit. Consumption is also more likely to reflect private and government transfers. The consumption and income data available in the U.S. are both subject to error, but our consumption data provide more information than income data to impute noncash housing benefits and the return to vehicle and home ownership. Disaggregated consumption data permit solutions to problems of under-reporting that are not available with income data.

[2] Hoynes, Page, and Stevens (2006) report that "Although poverty can be measured in ways other than the official definition, our work, and the work of others, shows that most of these different ways will alter the level of poverty but not the trend." Similarly, Lang (2007) states that "Although… there is considerable support for improving the poverty measure, doing so has only a small effect on recent trends." Also see U.S. Census (1992, 1995), Triest (1998), Short et al. (1999), and Dalaker (2005).

[3] For example, Joint Economic Committee (2004) shows that adding the EITC to money income results in a noticeably greater decline in poverty during the 1990s. Jencks et al. (2004b) present similar findings for child poverty.

[4] For example, comparing consumption to official income thresholds, Cutler and Katz (1991) find that consumption poverty rose more than income poverty during the 1970s. Slesnick (2001) concluded that consumption poverty fell considerably more than income poverty from 1980 through 1995. Johnson (2004) also found differences between consumption and income based poverty trends, while Bavier (2008) concluded they are similar.

Our 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. Using detailed housing characteristics, we calculate better measures of housing consumption for those living in public or subsidized housing. We measure the flow value of vehicle ownership using the purchase prices of over 340,000 vehicles, and the imputed market price (validated using published car price data) for other vehicles. Using several data sources, we impute the value of public and private health insurance coverage. We also construct a measure of core consumption that relies on the components of consumption that are reported consistently well over time compared to the national income accounts. Second, we examine consumption and income based measures through 2005. Examining poverty trends in recent years is particularly interesting given the extensive overhaul during the 1990s in tax and transfer programs that target poor families. Moreover, there is evidence that trends in income and consumption differ noticeably during this period (Meyer and Sullivan, forthcoming). Third, we examine the effect of alternative price indices, equivalence scales, and resource sharing units (the family or household) on poverty measures over the past three decades. Fourth, in addition to the poverty rate, which is just the cumulative distribution function at a single point, we also study deep poverty, near poverty, poverty gaps, and relative poverty in order to examine more fully the trends in well-being of disadvantaged households. Fifth, we contrast income and consumption poverty rates and gaps for a number of demographic groups defined by marriage, presence of children, and age.

We find sharp differences, particularly in recent years, between different income based poverty measures, and between income and consumption based poverty rates and gaps. Moving from the official pre-tax money income measure to an income measure that incorporates taxes has a substantial effect on poverty rate changes over the past two decades. Furthermore, consumption based poverty rates often indicate large declines, even in recent years when income based poverty rates have risen. The patterns are very different across demographic groups, with consumption poverty falling much faster than income poverty for the elderly, but more slowly for married couples with children. Income and consumption measures of deep poverty and poverty gaps have generally moved sharply in opposite directions in the last two decades with income deep poverty and poverty gaps rising, but consumption based deep poverty and poverty

gaps falling. Poverty measures that account for the overstatement of inflation in official price indices indicate sharp declines in poverty, while changes in relative poverty have been fairly small over the past three decades.

In the next section we discuss the official poverty measure and some of its weaknesses. In Section 3, we outline the conceptual advantages of consumption based measures of poverty. In Section 4 we describe our income data and income based measures of poverty, while in Section 5 we do the same for the consumption data and consumption poverty measures. Section 6 discusses the quality of income and consumption data. Adjusting poverty thresholds for inflation is handled in Section 7. Section 8 discusses the remaining issues in constructing poverty rates, including the unit of analysis and adjustments for family composition. In Section 9 we present our results for changes in a number of different income and consumption based poverty measures over the past three decades. We also examine near poverty, deep poverty, poverty gaps, and relative poverty, and present poverty trends for various demographic groups. We offer conclusions in Section 10.

2. The Official Poverty Measure and its Weaknesses

Official poverty in the U.S. is determined by comparing the pre-tax money income of a family or an unrelated individual to a predetermined poverty threshold. Official poverty estimates are based on data from the Annual Social and Economic (ASEC) Supplement (formerly the Annual Demographic File (ADF)) to the Current Population Survey (CPS).[5] The original poverty thresholds, developed by Mollie Orshansky of the Social Security Administration in 1964, were based on the U.S. Department of Agriculture's Economy Food Plan budgets. These budgets provide an estimate of the minimum cost for a nutritional diet for families of different sizes. A poverty threshold for a family of three or more was determined as three times the cost of the economy food plan. This multiplier was used because 1955 survey data on expenditures suggested that the average family of three or more people allocated about a third of their after-tax income for food. The current thresholds vary by the number of adults 65 and over, the number of younger adults, and the number of children under 18. These thresholds

[5] A family in the CPS is defined as all individuals related by blood or marriage living in the same unit. See Section 4 for more details.

are adjusted for inflation annually using the CPI-U. For a more detailed summary see Citro and Michael (1995).

A number of studies have highlighted the shortcomings of the official poverty measure and proposed alternative approaches for measuring poverty.[6] One of the most commonly criticized features of the official measure is that it defines resources as pre-tax money income, failing to reflect appropriately the resources at a family'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. It is precisely these tax credits and in-kind transfers that have expanded in recent decades. Many observers have argued that these benefits should be included as part of family income because they have an important effect on the resources available for consumption.

Other problems with the official poverty measure include 1) a price adjustment that overcompensates for inflation, 2) a definition of the family that is not based on who in the household shares resources, and 3) an adjustment for family size and composition with unattractive features.[7] We discuss alternative measures of family resources in Sections 3 through 6, and then alternative approaches to these remaining issues in Sections 7 and 8.[8]

3. The Conceptual Advantages of Consumption Measures of Poverty

Throughout this paper we emphasize the differences between income and consumption based measures of poverty. In previous work, we presented evidence that consumption provides a more appropriate measure of well-being than income for families with few resources (Meyer and Sullivan 2003, 2007). Conceptual arguments as to whether income or consumption is a better measure of the material well-being of the poor almost always favor consumption.[9] For example, consumption captures permanent income (for further discussion see Cutler and Katz

[6] The National Academy of Sciences (NAS) panel, which was appointed to review the official measure, offers a discussion of the shortcomings and recommended improvements. See Citro and Michael (1995).
[7] The unattractive features include an allowance for additional people that first rises and then falls.
[8] Other alternative approaches suggest constructing measures of poverty that vary by geographic area or measures for time periods other than a year, but we do not tackle these issues here.
[9] Blundell and Preston (1998) is sometimes characterized as finding that income has advantages over consumption. A more accurate summary is that some comparisons of consumption across cohorts or age will not give the correct sign to the difference in utility, but income suffers from the same types of problems in the situations they consider.

1991; Poterba 1991; Slesnick 1993). Income measures fail to capture disparities in consumption that result from differences across families in the accumulation of assets or access to credit. Also, consumption reflects the insurance value of government programs, better accommodates illegal activity and price changes, and is more likely to reflect private and government transfers. In addition to these reasons, available consumption data are better suited than available income data for imputing some non-money resources, particularly those related to housing and vehicle ownership. For example, a better value of housing subsidies can be computed using Consumer Expenditure (CE) Survey data because the survey provides information on out of pocket rent and the characteristics of the living unit including the total number of rooms, the number of bathrooms and bedrooms, and appliances such as a washer, dryer, etc. These characteristics can be used to impute a total rental value as we will explain in Section 5. In addition, for homeowners the CE Survey provides self reported values of the rental equivalent of the home.

That consumption can be divided into meaningful categories, such as food and housing, provides several advantages over income. First, expenditures on categories such as food and housing are of interest in their own right, and second, one can better account for relative price changes. Even more importantly, subcategories of consumption such as nondurable consumption have been used extensively in past work. In this paper, we will report results for what we call core consumption, a measure that closely approximates essentials and only includes items that are well measured over time.

Meyer and Sullivan (2003, 2007) also provide evidence that consumption is a better predictor of well-being than income. For example, we examine other measures of material hardship or adverse family outcomes for those with very low consumption or income. These problems are more severe for those with low consumption than for those with low income, indicating that consumption does a better job of capturing well-being for these families.

4. Current Population Survey (CPS) Based Income Measures

The official poverty measure in the U.S. is based on data from the ASEC/ADF Supplement to the Current Population Survey (CPS) for approximately 100,000 households

(60,000 households prior to 2002).[10] For the previous calendar year, respondents report the income amounts for a number of different sources that are included in the money income measure used to determine official poverty statistics.[11] In addition, the survey collects information on the dollar value of food stamps received by the household, as well as whether household members received other noncash benefits including housing subsidies and subsidies for reduced or free school lunch. Starting with the 1980 survey, the ASEC/ADF also provides imputed values for these and other noncash benefits including Medicaid and Medicare, the value of housing equity converted into an annuity, and the value of employer health benefits. The Data Appendix provides more details on these noncash benefits. While respondents do not report income taxes, since 1980 imputed values for taxes and credits have been included in the ASEC/ADF.[12] From these income data, we construct a measure of money income that follows the definition used by the Census to calculate official poverty statistics. In addition we construct several different measures of disposable income that include imputed values of taxes and noncash income as described below and in the Data Appendix.

Several studies have constructed alternative measures of poverty using these imputed values of taxes and noncash benefits that the Census has provided since 1980. However, some of these imputation methods have important limitations. For example, the Census imputes a fungible value of Medicare and Medicaid that attributes a market value to these benefits only to the extent that they exceed an allowance for food and housing (see Data Appendix). Thus, these fungible values imply that public health insurance has no value for families whose resources fall short of this allowance, which surely understates the value of public health insurance for this group.[13]

Additional complications arise with the Census' valuation of subsidized and owner occupied housing. Rental subsidies are imputed using data on housing characteristics and gross

[10] The ASEC is currently administered to the March sample of the CPS as well as a random subsample of the respondents in the February and April CPS. Prior to 2002, the supplement was only included in the March survey.
[11] These sources, as reported in the ASEC codebook, include: earnings; net income from self employment; Social Security, pension, and retirement income; public transfer income including Supplemental Security Income, welfare payments, veterans' payment or unemployment and workmen's compensation; interest and investment income; rental income; and alimony or child support, regular contributions from persons outside the household, and other periodic income.
[12] Prior to 1992, tax and noncash benefit data are available in separate data files. Much of these data are available at http://www.census.gov/housing.
[13] See Citro and Michael (1995), p. 223-237 for a discussion of the inclusion of health insurance and health expenditures in a measure of poverty.

rent in the 1985 American Housing Survey (AHS) (see Data Appendix). However, it is difficult to match AHS data with the CPS because the latter does not include information on the characteristics of the living unit. The number of bedrooms is imputed for the CPS sample using information on family composition. Studies have shown that weighted estimates of total housing subsidies using CPS data fall far short of the administrative numbers reported by the U.S. Department of Housing and Urban Development (Steffick 1993).

The Census' imputed value of annuitized home equity, which is included in some alternative poverty measures to capture the value of owner occupied housing, is particularly problematic not only because home equity is not observed in the CPS, but also because this imputed value is highly sensitive to changes in interest rates. It is calculated as the product of imputed net housing equity and a municipal bond rate that has changed sharply over time. Thus, when the bond rate rises, poverty will fall even if disposable income or consumption does not change.

5. Consumption Based Measures from the Consumer Expenditure (CE) Survey

Our main consumption poverty source and the most comprehensive source of consumption data in the U.S. is the Consumer Expenditure (CE) Survey, which is conducted by the Bureau of Labor Statistics (BLS). We use the Interview component of the CE Survey, which is a rotating panel survey of approximately 7,500 families each quarter (5,000 prior to 1999). Each family in the survey reports spending on a large number of expenditure categories for up to four consecutive quarters. Expenditure data are reported at the level of the consumer unit, which is defined as either a group of individuals who are related by blood or marriage, a single or financially independent individual, or two or more persons who share resources.[14] Expenditure data are available for 1972, 1973, and annually beginning in 1980. However, in 1982 and 1983, the survey only included respondents from urban areas.[15] The information in some of the earlier years is not as complete as that in later years. As we report below, the survey changes have only

[14] Individuals are considered to be sharing resources if expenses are not independent for at least two of the three major expense categories: housing, food, and other living expenses.

[15] We examine CE Survey data for 1972, 1973, 1980, 1981 and 1984 through 2005. The limitations of the CE Survey in earlier years include the inability to identify consumer units living in public or subsidized housing prior to 1982, and in 1980 and 1981, homeowners do not report a rental equivalent.

a small effect on the poverty rates that we calculate. For more information on the CE Survey see Meyer and Sullivan (2003) or Bureau of Labor Statistics (1997).

Our measures of family consumption in the CE Survey are derived from expenditure questions. To convert reported expenditures into a measure of consumption, we make a number of adjustments. First, expenditures on durable goods tend to be large and infrequent because the entire cost of new durables is included in current expenditures. In the case of vehicle expenditures, we are able to convert vehicle spending to a service flow equivalent. Second, consumption does not include spending that is better interpreted as an investment such as spending on education and health care, and outlays for retirement including pensions and social security.[16] However, given the importance of health coverage and changes over time in public and private insurance, we report alternative consumption measures that include the value of public and private health insurance. Third, rather than including housing outlays, housing consumption is measured as the reported rental equivalent of the home for home owners, and as the reported out of pocket spending on rent for non-homeowners. Because respondents living in government or subsidized housing do not report a rental equivalent, we use detailed housing characteristics in the CE Survey to impute a rental value for these units. Each of these adjustments has several steps and involves important methodological improvements. We consider these adjustments in turn.

We convert reported expenditures on vehicles into a service flow value. For example, 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 340,000 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 validate the predicted vehicle values for those

[16] We also exclude spending on individuals or entities outside the family, such as charitable contributions and spending on gifts to non-family members. This category is very small relative to total consumption.

observations where we do not have a purchase price by comparing the predicted values to published values in National Automobile Dealers Association (NADA) guides. We find a correlation of 0.88 between our predictions and the published values.[17] We use the same data to determine how the value of different vehicles depreciates over time (see the Data Appendix for more detail).

We impute a measure of the value of public and private health insurance.[18] We exclude out of pocket medical expenses because we believe high out of pocket expenses are more likely to reflect substantial need or lack of good insurance rather than high well-being. 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 cost of employer provided health insurance that varies by year and nine geographic regions. The cost of Medicaid and Medicare is taken from 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.

While we can well approximate the cost of different types of coverage, what should be included in consumption is less clear. A family may value health coverage more highly than its cost because of its insurance value, or much less than cost given the one size fits all nature of insurance and the lower value of purchases of most goods by the poor. The compromise that we consider here is to count desired health expenditures. Assuming that desired health expenditures by those with few resources can be characterized by Cobb-Douglas preferences with a coefficient of 0.33 on health and 0.67 on other goods, only health expenditures up to one-third of total expenditures are included. This compromise values health coverage at cost for those with substantial resources as they likely spend less than one-third of consumption on health, but at much less than cost for those who with few other resources.

Housing consumption is measured as the reported rental equivalent of the home for home owners, and as the reported out of pocket spending on rent for non-homeowners. However,

[17] From the 2000 CE Survey we took a random sample of 100 vehicles for which a purchase price was not observed. Based on observable characteristics of each vehicle we found the average retail price of the vehicle reported in the 2000 Official Used Car Guide provided by NADA. The correlation between our imputed price and the NADA price was 0.88. Similarly, for a sample of cars with a reported purchase price, the correlation between the reported price and the NADA price was 0.91.

[18] 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.

respondents living in government or subsidized housing do not report a rental equivalent, and the CE Survey collects information on only the out of pocket portion of rent. To appropriately measure consumption for these families, we impute a rental value using reported information on their living unit including the number of rooms, bedrooms, and bathrooms, and the presence of appliances such as a microwave, disposal, refrigerator, washer, and dryer. Our procedure accounts for the lower quality of public and subsidized housing using information on the rental equivalent of such housing from the Panel Survey of Income Dynamics (PSID). Specifically, for renters that are not in public or subsidized housing we estimate quantile regressions for log rent using the housing characteristics mentioned above as well as a number of geographic identifiers including state, region, urbanicity, and SMSA status, as well as interactions of a nonlinear time trend with appliances (to account for changes over time in their price and quality). We then use the estimated coefficients to predict the 40^{th} percentile of rent for the sample of families that do not report full rent because they reside in public or subsidized housing. We use the 40^{th} percentile because public housing tends to be of lower quality than private housing in dimensions we do not directly observe. We arrived at the 40^{th} percentile by comparing the reported rental equivalent for public housing to regression estimates using similar housing characteristics in the PSID, which has both types of data.

We considered subtracting estimated monetary work expenses from consumption. Work related expenses that are reported in the CE Survey, such as child care and domestic services, tend to be very small relative to total spending. We have also examined the difference in transportation and clothing expenditures for those who work and those who do not as an estimate of additional work expenses, but again this estimate is small.[19]

6. Data Quality and Under-reporting in the CPS and CE Survey

Evidence on the tendency of surveys to capture more accurate information on income or consumption is split. For most people, income is easier to report given administrative reporting and a small number of sources of income. However, for analyses of families with few resources this argument is less valid, as these families tend to have many income sources. Additionally,

[19] To account for how work affects consumption more generally, one may want to examine the consumption of leisure (Aguiar and Hurst 2007, Meyer and Sullivan forthcoming).

while income may be easier to report, it is likely to be a more sensitive topic for survey respondents than consumption. The CPS has slightly lower survey non-response than the CE Survey, but much higher item non-response on income questions than the CE Survey has on expenditure questions. Taken together, the CPS has appreciably higher nonresponse than the CE Survey (Meyer and Sullivan 2007).

6.A. Income Under-Reporting

Income in the CPS appears to be substantially under-reported, especially for categories of income important for those with few resources. Furthermore, the extent of under-reporting appears to have changed over time. Meyer and Sullivan (2003, 2007) and Meyer, Mok and Sullivan (2007) report comparisons of weighted micro-data from the CPS to administrative aggregates for government transfers and tax credits. These ratios are substantially below one and have declined over time, falling to below 0.6 for Food Stamps and 0.5 for Temporary Assistance for Needy Families in recent years. Comparisons of survey micro-data to administrative micro-data for the same individuals also indicate severe under-reporting of government transfers in other household surveys. Consistent with these results, several authors have found that income is often far below consumption for those with few resources, even for those with little or no assets or debts (Meyer and Sullivan 2003, 2007).

6.B. Consumption Under-Reporting

There is also under-reporting of consumption, but because consumption often exceeds income, we might be more concerned about over-reporting of consumption, of which there is little evidence. Nevertheless, past work (Giesman 1987, Slesnick 1992, Garner et al. 2006, Attanasio et al. 2006) has emphasized a discrepancy between CE aggregates and Personal Consumption Expenditure (PCE) data from the National Income and Product Accounts (NIPA). Some of this evidence is easily misinterpreted and is less applicable to the current analyses than it may seem for several reasons. First, many published comparisons are based on the integrated data that combine CE Diary and CE Interview data rather than the Interview data used exclusively here. It is not clear whether the integrated CE Survey data should compare more favorably to the PCE. For example, while we might expect food expenditures from the Diary to

have lower measurement error, they do seem to have greater downward bias. Second, 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. Third, the PCE numbers cover a different population, are defined differently from the CE, and are the product of a great deal of estimation and imputation that is subject to error.

PCE numbers differ from CE data for reasons besides under-reporting. PCE coverage is wider, including purchases by nonprofits, purchases by those abroad, on military bases and in institutions—all categories not included in CE expenditures. More importantly, the NIPA PCE values are constructed through a complex process that relies on input-output tables to impute sales to final sector, wholesale and retail markups, and taxes. Thus, the PCE values are not as reliable as the administrative aggregates to which we compare government transfers, for example. An indication of the error in the PCE calculations is the substantial revisions that are made to the historical data from time to time (Slesnick 1992). The Bureau of Economic Analysis reported that in 1992 more than half of the difference between PCE and CE consumer spending was due to coverage and definitional differences (summarized in GAO 1996).

Subject to the caveats above, we examine the ratio of CE Interview Survey values weighted by population to corresponding categories of PCE data. We have followed the approach of Garner et al. (2004) who report that they chose the categories in the PCE and CE data that are most comparable based on concepts and comprehensiveness. In Appendix Table 1, we report CE/PCE ratios for the Interview data for 8 categories of expenditures, including the three largest: housing, food, and transportation. To improve comparability, we combine rent with utilities since rent often includes some utilities and space rent (exclusive of utilities) cannot be obtained in the CE. We divide food consumption into food consumed at home and food consumed away from home.

A few patterns are evident in Appendix Table 1. The numbers indicate fairly steady ratios of CE to PCE expenditures on food at home and rent plus utilities. For food at home, on average the CE/PCE ratio is about 0.84 and for rent plus utilities the ratio is about 0.95. The numbers do indicate a noticeable decline over time in the ratio for food away, which leads to a decline in overall food. Since food away is a much smaller share of consumption for the poor, a share weighted ratio for total food expenditures for the poor would fall much less over time.

Since food plus housing account for 70 percent of consumption near the poverty line in 2004, we expect that consumption is understated somewhat on average for the poor, but not nearly as much as it is for other groups.

One should also notice in the table the types of goods that are badly reported. Taking the PCE data as truth, the numbers suggest that just over half of food away from home is reported in the CE Interview Survey. The reporting ratios for other key components of nondurable consumption are well under one-half. In the recent data, under forty percent of clothing and tobacco consumption is captured by the CE, and under fifty percent of alcoholic beverages is obtained. In general, Garner et al. (2006) suggests that nondurable goods, and non-housing services are not well-captured in the CE data. The under-reported items tend to be those that are discretionary and purchased at irregular intervals.

6.C. Core Consumption

Incorporating the lessons of the previous section, we construct a measure of core consumption that includes items with high and roughly constant reporting ratios. Our core consumption measure consists of food at home, rent plus utilities, the value of owner-occupied housing, rental assistance, transportation, gasoline, and the value of owned vehicles. The reporting rate is approximately 80 percent for food at home and gasoline. The reporting rate is over 90 percent for rent plus utilities and transportation. There is also little decline in these ratios over time except for gasoline and motor oil. Validating our measure of the value of owner occupied housing and owned vehicles requires other methods. This validation is currently in progress. In order for the ratio of the reported value to the true value of these durables to be trending, there would need to be a trend in the rate of correctly reporting home or car ownership or a change in the relationship between the reported rental equivalent and the true value, and in the reporting of the purchase price of cars. Estimates of homeownership rates in the CE Survey match up very closely with those from the CPS (see Section 9.F). Also, we know from Garner et al. (2006) that there has not been deterioration in the reporting of new car purchases. Furthermore, houses and cars are not like the small, discretionary purchases that seems to be badly reported in the CE.

We should also note that our measure of core consumption approximates essential consumption spending: food, housing and transportation. Omitted is food away from home, but that is largely a discretionary expenditure. Other omitted categories are clothing and toilet articles and preparations that have both an essential and discretionary component. We could add health care to this measure, but there is less agreement about how to measure the value of health insurance than there is about measuring any other category of consumption. Overall, our core consumption measure is 70 percent of total consumption, but is a much higher share of consumption for those near the poverty line.

7. Price Indices

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 little attention in the poverty literature.[20] 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 the changes.[21] 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. A reasonable estimate of the bias in the CPI-U over this period is much larger–about 1.3 percentage points per year between 1978 and 1995.

There are four types of biases in the CPI-U that have been emphasized: substitution bias, outlet bias, quality bias, and new product bias. Substitution bias refers to the bias in the use of a fixed market basket when people substitute away from high relative price items. Outlet bias refers to the inadequate accounting for the movement of purchases toward low price discount or

[20] A recent exception is Broda and Weinstein (2007).
[21] The CPI-U-RS does not incorporate all of the methodological improvements to the CPI-U. See Stewart and Reed (1999) for more details.

big box stores. Quality bias refers to inadequate adjustments for the quality improvements in products over time, while new product bias refers to the omission or long delay in the incorporation of new products into the CPI. The Boskin Commission (Boskin et al. 1996), a group of eminent economists appointed by the Senate Finance Committee, provides an authoritative source on the extent of these biases. They concluded that the annual bias in the CPI-U was 1.1 percentage points per year at the time of the report, but 1.3 percentage points prior to 1996 (the extra 0.2 percentage points is due to an inadvertent bias added by a 1978 change that was later corrected). While there have been criticisms of the Boskin Commission (for summaries see Berndt 2006; Gordon 2006; Johnson, Reed, and Stewart 2006), the conclusions have held up fairly well. Some of the critics such as Hausman (2003) suggest that the commission understated the bias. The Commission itself argued that the estimates were on the "conservative" side and tended to understate the bias (Boskin et al. 1996 Section VI, Gordon 2006 p. 13).

The Boskin Commission and several other surveys have estimated CPI bias by assembling direct bias estimates for parts of the index from a variety of sources. Costa (2001) and Hamilton (2001) use an alternative approach that essentially determines how much CPI-U adjusted income needs to be further adjusted so that spending patterns at adjusted income are unchanged over time. Costa (2001) concludes that the CPI-U overstated inflation by 1.6 percentage points per year between 1972 and 1994. Hamilton (2001) uses a different data source and concludes that the CPI-U overstated inflation by 3.0 percentage points per year between 1972 and 1981 and by 1.0 percentage point per year between 1981 and 1991. All of these sources indicate that the upward bias in the CPI-U exceeds the 0.4 - 0.5 percentage points per year correction of the CPI-U-RS.

Given the biases in the CPI-U, we consider other deflators. As mentioned above, the CPI-U-RS incorporates many of the improvements that have been made to the CPI over time. We use the CPI-U-RS as our base price adjustment.[22] However, given the estimated bias in the CPI-U of greater than one percentage point per year, the CPI-U-RS will not fully correct the problem. Thus, we report results using an adjusted CPI-U-RS that subtracts 0.8 percentage

[22] We also compare our results to those using the PCE deflator.

points from the growth in the CPI-U-RS index each year.[23] We base this adjustment on Gordon (2006) who argues that even with recent alterations to the CPI-U methodology that make it and the CPI-U-RS essentially the same for recent years, a bias of 0.8 percentage points per year remains. Berndt (2006) reports that the range of estimates for the remaining bias in 2000 indicated by the individual Boskin Committee members was 0.73 to 0.9 percentage points per year. Given the conservative nature of the earlier Boskin Commission numbers and the higher numbers from other sources such as Costa and Hamilton, this index seems reasonable.

An additional issue is whether the price adjustment for the poor should use the same market basket as overall official price indices. McGranahan and Paulson (2005) have compared a CPI-U based index using a market basket of the poor to the official index and found little difference. However, one could go one step further and ask if the bias calculations in the literature should be directly applied to the poor given that the market basket for the poor is different from that of the overall population—food at home, rent, and utilities have particularly large shares for the poor. The research on CPI bias for specific commodities provides mixed evidence on how the CPI bias for the poor might compare to the overall bias. Food at home is the main source of outlet bias that is estimated to be quite substantial in Hausman and Leibtag (2005). On the other hand, the largest single component of expenditures by the poor, rent, has been found to have bias in the opposite direction, i.e. true prices have gone up faster than suggested by the CPI through the mid-1980s (Gordon and vanGoethem 2005).
However, because of BLS changes in the mid-1980s, there is negligible bias in the shelter CPI for the bulk of our period. Furthermore, given that the rental weight in the CPI is only slightly lower than its share in the consumption of the poor (because the cost of home ownership is calculated using a rental equivalent), but the food at home weight is much lower, the bias in an index reweighted for the poor is unlikely to be appreciably smaller that that in the CPI-U.

8. The Unit of Analysis, Equivalence Scale, and Other Issues

8.A Unit of Analysis

[23] We use the CPI-U-RS index released by the BLS in 2006.

Although official poverty is a count of individuals, whether an individual is poor is determined by income measured at the family level. The family unit for the official measure of poverty includes only individuals within a housing unit who are related by blood or marriage. This measure excludes from family resources 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. However, in the CPS ADF/ASEC we do not observe whether the cohabitor is sharing resources with other family members. Other surveys offer a more appropriate unit of analysis for measuring poverty. For example, the unit of observation in the CE Survey 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. Different units of analyses may affect trends if there are significant changes in cohabitation over time, as suggested by Bumpass and Lu (2000). Haider and McGarry (forthcoming) show that the share of household income coming from household members outside the nuclear family increased noticeably during the 1990s. In the CPS, we examine two different resource sharing units: the family and the household. For the CE Survey, the only unit of analysis that we observe is the consumer unit, but this unit is closest to the conceptual ideal.

8.B. Equivalence Scales

Considerable debate has arisen over the best way to adjust poverty thresholds for different family types. The scale implicit in the official poverty thresholds does not exhibit diminishing marginal cost over the whole range of family sizes (Ruggles 1990), and the thresholds imply that children are more costly than adults in some cases. A number of alternative scales have been proposed and we will consider several of them.[24] 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. For much of the analyses we use an equivalence scale that follows the NAS panel recommendations: $(A + PK)^F$, where A is the number of adults in the family and K is the number of children. The panel recommended that the child proportion of an adult, P, be equal to 0.7 and that the economies of

[24] 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).

scale factor, F, fall in the range 0.65 to 0.75. In most cases we will use the midpoint of this range for F, although we also examine how patterns vary with F and P.

8.C Anchoring the Estimates for Comparison Purposes

To facilitate comparisons across resource measures and price indices 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 in 1980 (13.0 percent).[25] 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.[26] To obtain thresholds for other years, the thresholds are adjusted for inflation using the different price indices.

9. Results

We focus first on alternative definitions of resources, and second on different inflation adjustments. We then briefly discuss alternative equivalence scales and resource sharing units, but these changes have much less of an effect on our poverty measures. We then discuss poverty gaps, deep poverty, near poverty, relative poverty, and the demographics of poverty.

9.A Different Resources

Figure 1 and the first five columns of Table 1 report changes in poverty since 1972 for various income measures. Each measure is anchored in 1980 as described above so that the poverty rate is the same as the official measure in 1980 (13.0%). In all of the series besides the official measure, we use the CPI-U-RS price adjustment and the NAS equivalence scale. We will discuss the effect of the price adjustment in the next section and the equivalence scale in section 9.C. There are two main lessons to take from Figure 1 and Table 1. First, there are important effects of resource measures for income poverty measures. Subtracting taxes (adding

[25] In 1980, the 13.0 percentile of the distribution is actually quite similar across several of our different scale adjusted measures of resources. For example, the ratio of the threshold for after-tax money income to that of money income is 0.97; for after-tax money income plus noncash benefits, 1.11; for after-tax money income plus noncash benefits plus annuitized home equity, 1.27; and for consumption, 1.11 or 0.99 excluding health insurance.
[26] Triest (1998) and JEC (2004) use a similar approach.

tax credits) to money income increases the decline in poverty, particularly after 1986. There is a large decline in after-tax money income poverty relative to money income poverty between 1986 and 1988, the first period during which the EITC was expanded. The effect of the EITC is even more noticeable between 1990 and 1996, when after-tax money income poverty fell by a 1.3 percentage points more than the rate for money income. This growing gap coincides with the period of greatest expansion of the EITC. Since 1996, the end of the EITC expansions, there has been little change in the difference between these two measures of poverty.[27] Second, adding the value of noncash government benefits (food stamps, subsidies for housing and school lunch, the fungible value of Medicare and Medicaid, and the value of employer provided health benefits; Column 4) has little additional impact on changes in poverty. However, adding the annuitized value of home equity (Column 5) offsets much of the effect of the EITC since the early 1990s. Measures that include the annuitized value of home equity may fluctuate for reasons that are not directly related to changes in well-being because this value is very sensitive to changes in interest rates. For example, poverty based on this measure remains unchanged between 1984 and 1986–a period of significantly declining interest rates–while all other income based measures fall by approximately a percentage point.

Dalaker (2005) suggests that the similarity in trends between poverty based on money income and poverty based on money income plus noncash benefits and the annuitized value of home equity indicates that poverty trends are similar for different measures of resources. However, the results in Figure 1 show that how one defines income does have an important effect on changes in poverty, particularly for certain periods. For example, a measure of poverty that includes taxes and noncash benefits but excludes the annuitized value of home equity yields a poverty rate that declines by 2.3 percentage points more than one based on money income alone for the period from 1986 to 1996. In contrast, these different measures of income poverty exhibit very similar changes for the period since 1996.

There are important differences between trends in income and consumption measures of poverty. We report changes in consumption based measures of poverty from 1972 to 2005 in Figure 2 and Columns 6-10 of Table 1. We also show changes in official income poverty and an

[27] Certainly this difference between money income and after-tax income is partly mechanical given the implicit assumption of complete takeup in the imputation of tax credits in the CPS tax calculation and our TAXSIM based calculations. Nevertheless, we would expect that the imputation is a good approximation of receipt since the imputed amounts fall far short of those actually received (Meyer, Mok and Sullivan 2007).

after-tax income poverty measure from Figure 1 for comparison. Again, we anchor all the poverty series in 1980 to equal the official measure. As with measures of after-tax money income, consumption poverty falls by more than the money income poverty measure. Between some periods, the change in consumption poverty is similar to that of after-tax money income poverty. For example, between 1980 and 2000, consumption and after-tax money income poverty both fall sharply, though the latter falls by about one percentage point more. Recent research has presented patterns such as these as evidence that consumption and income provide very comparable measures of well-being at the bottom (Bavier, 2008). However, our analyses reveal important differences between the changes in consumption and income based poverty. Figure 2 shows that these measures often diverge over some periods. The decline in after-tax money income based poverty is nearly three percentage points greater than the decline for consumption based poverty between 1993 and 2000. And, between 2000 and 2005 income based poverty rises about one percentage point while consumption based poverty falls.[28]

Between 1972 and 1980 there is also a sharp difference between after-tax money income poverty and consumption poverty changes. Between 1972 and 1980 after-tax money income poverty falls 2.5 percentage points, while poverty based on consumption excluding health insurance rises 1.9 percentage points. A similar pattern was previously noted by Cutler and Katz (1991) and Johnson (2004). These results indicate that consumption measures do not always show greater or lesser improvement in poverty than income measures. We will also see this mixed pattern of differences when we turn to trends by demographic group below.

The patterns for changes in consumption poverty based on our measure of core consumption (Column 8), which includes components that are reported consistently well over time compared to the national income accounts, are similar to those for total consumption. Poverty based on core consumption declines about 0.4 percentage points more than poverty based on total consumption. Estimates reported in Column 10 of Table 1 show that our trends for consumption poverty are not driven by our method of imputing service flows for durables or housing consumption for those in public or subsidized housing, which are the main differences between expenditures and consumption. For much of this period, changes in expenditure based poverty mirror the changes for consumption based poverty.

[28] Given the standard errors of these estimates, differences of this magnitude between income and consumption poverty changes are strongly statistically significant.

9.B. Different Prices Adjustments

Changes in poverty are noticeably different for the poverty measures adjusted by price indices other than the CPI-U. Figure 3 displays changes in after-tax money income poverty and consumption poverty that excludes health insurance using three different price deflators: the CPI-U, CPI-U-RS, and our adjusted CPI-U-RS.[29] We report the consumption poverty measure that excludes health insurance because it is available for a longer time period. These series can be seen in Table 2. Between 1972 and 2005, moving from the CPI-U to the CPI-U-RS increases the decline in poverty by 4.2 percentage points, and moving from the CPI-U to the adjusted CPI-U-RS increases the decline by a full 7.0 percentage points. The effect of the move to the CPI-U-RS is most evident in the late 1970s. Between 1976 and 1980 poverty increases by more than a percentage point when thresholds are adjusted by the CPI-U, while poverty falls nearly one percentage point when adjusted by the CPI-U-RS.[30] This difference primarily results from how prices for owner-occupied housing were determined prior to 1983 when the BLS shifted from using the purchase price of residential homes to a rental equivalent value of the home. The effect of the adjusted CPI-U-RS is more uniform over time, as might be expected.

Price deflators that better approximate the change in the cost of living have an even greater effect for the consumption measure excluding health insurance. Between 1972 and 2005, moving from a measure based on the CPI-U to one based on the CPI-U-RS leads to a 4.1 percentage point difference, while the adjusted CPI-U-RS leads to a full 10.1 percentage point lower rate than that based on the CPI-U. It is not surprising that the deflators have a larger effect on the consumption measures, since consumption is less dispersed than income. Thus, a given reduction in the thresholds will move a larger share of the consumption distribution above the poverty line.

9.C. Different Equivalence Scales and Resource Sharing Units

The results in Figure 4 demonstrate how different equivalent scales and resource sharing units affect changes in poverty. Changing from the equivalence scale implicit in the official

[29] Results using the PCE are similar to those using the CPI-U-RS, although poverty declines slightly more between 1995 and 2005 when thresholds are adjusted using the PCE rather than the CPI-U-RS.
[30] These results are similar to those reported in Burtless and Smeeding (2001).

thresholds to one that is more generally accepted does not greatly alter the change in the poverty rate. Using the same measure of resources (money income) and the same price index (CPI-U), there is little difference in the change in poverty between official poverty and income poverty calculated using the NAS equivalence scale for the years 1972 through 2005.[31] These patterns are not appreciably different for other common choices, such as small changes in F or P or for a 3-parameter equivalence scale.[32]

The poverty rate falls somewhat more when the resource sharing unit is the household rather than the family. Figure 4 reports money income poverty using the same price adjustment (CPI-U-RS) for two different resource sharing units: the family and the household. Neither resource sharing unit is comparable to the CE resource sharing unit which is directly based on who shares resources. From 1972 to 2005, the poverty rate based on the household falls by 1.2 percentage points more than the similarly defined measure based on the family. Comparing the differences in patterns in Figure 3 to the differences in Figure 4 emphasizes that changes in poverty over the past three decades are much more sensitive to different price indices than they are to different equivalent scales or different resource sharing units.

9.D Deep Poverty, Near Poverty, and Poverty Gaps

To this point, our analyses of poverty have focused on a single threshold for each poverty measure. To determine how changes in poverty differ at different points in the cumulative distribution of resources, we also examine thresholds of 0.5 times the original thresholds, often called deep poverty, and thresholds of 1.5 times the original thresholds, often called near poverty. These results are reported in Table 3 (Columns 1-7) for our main income and consumption based measures of poverty. The deep poverty results are displayed in Figure 5 as well. At half of our original threshold (Columns 1 through 7), sharply distinct differences are evident between the income and consumption based measures. Deep poverty changes very little

[31] Citro and Michael (1995) show that their recommended equivalence scale does not have a significant effect on changes in poverty between 1979 and 1992 for economies of scale parameters 0.65 and 0.75 (Table 5-11). In contrast, Triest (1998) finds that poverty rates rise faster during the 1970s and early 1980s for measures adjusted by the NAS scale than for a modified measure of official poverty. While our analyses of different equivalent scales are consistent with results in Citro and Michael, efforts to replicate Triest have been unsuccessful.

[32] We find that changes in poverty between 1972 and 2005 are remarkably similar for values of F between 0.65 and 0.75, for values of P between 0.7 and 1, or using the 3-parameter scales reported in Short et. al. (1999) and Betson (1996). Poverty rates increase significantly more during this period if economies of scale are considered to be large (i.e. F = 0.25).

for our comprehensive income measures of poverty—at this threshold, the deep poverty rate for after-tax income plus noncash benefits in Column (3) increases by 0.4 percentage points from 1980 to 2005. By contrast, the deep poverty rate for our consumption based measure in Column (5) falls by a 0.8 percentage points–a drop of more than forty percent. At 150 percent of our original threshold (Columns 8 through 14) we again see that after-tax income plus noncash benefits and consumption based measures of poverty have decreased more in recent years than has poverty based on pre-tax money income. However, changes for consumption based measures of poverty are similar to those that are based on after-tax income plus noncash benefits.[33] It appears that much of the decline in consumption near poverty is due to health insurance, as can be seen by comparing Columns (12) and (14).

In order to examine more fully the trends in well-being of disadvantaged households and the depth of poverty, we also examine poverty gaps for the measures of poverty discussed above. We define the gap for a given poverty measure as the difference between the poverty threshold and family resources summed across all poor families (or unrelated individuals). In Table 4 we report the average gap (in 2005 dollars) across all poor families or unrelated individuals for each poverty definition. These patterns can also be seen in Figure 6. Comparisons of changes in the per poor person poverty gap across different measures of poverty reveal sharp differences. We see that the per person gap based on money income (Column 2) rises steadily throughout the past two decades. The gap per person is 12.6 percent higher in 2005 than in 1980. This increase is comparable to that of the after-tax income measure (Column 3). In contrast, the consumption based measures of the poverty gap per person (Columns 6 through 8) tell a very different story. The level of the gap is much lower for the consumption based measures, reflecting the tighter distribution of consumption. Also, unlike income, the consumption based gaps fall over time. This drop is evident for all measures of consumption poverty since 1990.

The difference in recent changes in the poverty gap has important implications for interpreting recent changes in poverty. For example, income based gaps suggest that while poverty has fallen over the past two decades those that remain in poverty are more likely to be severely deprived. By contrast, the pattern for consumption based gaps suggests that as overall

[33] Due to the less dispersed distribution for consumption, the level of consumption poverty is higher than that of income poverty at this higher cutoff even though the original thresholds are very similar.

poverty fell between 1980 and 2005 the degree to which families were severely deprived also fell.

9.E Relative Poverty

The emphasis in this paper is on absolute poverty measures that rely on an unchanging absolute standard to gauge the change over time in material deprivation. Relative poverty measures provide another way of examining the extent of poverty and are more akin to measures of income inequality. Following the most common international standard, we examine the share of the population living in families with resources below half of the median value (Smeeding 2006).

In Figure 7 we display relative poverty trends for our main income and consumption measures. These series as well as additional ones are reported in Table 5. While relative poverty increased for all of our measures prior to the late 1980s, the trends since then are not pronounced. Since the mid 1980s, money income poverty has moved upward slightly, while after-tax income has trended downward slightly. Consumption relative poverty has also trended downward slightly since the mid 1980s, though the measure including health insurance has been rising since 2000. The level of the consumption relative poverty measures is much lower than the income measures given the lower dispersion of consumption.

9.F Demographics and Poverty

Some of the most striking differences across measures in the changes in poverty are evident within demographic groups. We calculate income and consumption poverty rates for five mutually exclusive and exhaustive groups defined by marriage, children and age: single parent families, married parent families, single individuals without children, married couples without children, and households with a head 65 or older.[34] We report poverty rates for these groups in Table 6.

The sharpest drops in poverty during recent decades are evident for single parent headed families (Columns 1 and 2). The overall fall in consumption poverty since 1980 is noticeably greater than income poverty, though during the 1990s, income poverty fell more sharply. After

[34] Those households with a head 65 or older are included in this last category regardless of marriage or the presence of children.

2001, consumption poverty falls, while the change for income poverty is less clear. The difference between income and consumption poverty is also evident at lower points in the distribution. For example, at 50 percent of our baseline thresholds (not reported), after-tax income plus noncash benefit poverty for single mothers increases modestly after 1997 while consumption poverty appears to fall slightly.

Quite strikingly, for married couples with children—the largest of our demographic groups that accounts for about 40 percent of the entire sample and between 25 and 40 percent of poor individuals—a very different pattern is evident. These families experience a sharp decline in poverty of 4.4 percentage points between 1980 and 2005. Over the same period, consumption poverty only falls 1.9 percentage points. For single individuals we again see a decline in consumption poverty since 1980, while income poverty rises slightly. Married couples without children see little change in their (low) poverty rates throughout the period, measured with either income or consumption.

For those with a head 65 or older there are again large differences between income and consumption poverty changes. Between 1980 and 2005, consumption poverty falls by more than half. However, most of the fall took place before 1998, with only a small decline afterwards.

The sharp contrast between changes in income and consumption based poverty gaps is even more evident within demographic groups (Table 7). For families with a head 65 or older, we see an increase in the income based poverty gaps of 10 percent between 1980 and 2005 (Column 9). For this same group, the consumption based poverty gap (Column 10) falls by 13 percent over this period. For single mother headed families, we also see large increases in income based gaps and large decreases in consumption based gaps between 1980 and 2005.

The small movements in overall income and consumption relative poverty over the last three decades hide some striking changes within demographic groups and differences between income and consumption. In Table 8 we report relative poverty for our five demographic groups. For single parents, there has been a small decline in income relative poverty since 1980, but a large decline in consumption relative poverty. For married couples with children, the changes are of the opposite sign. There has been a small increase in relative income poverty, but a large increase in consumption relative poverty. For single childless individuals, there has been an enormous increase in relative income poverty, but little change in consumption poverty. For

those households with a head 65 and over, we continue to see the pattern of improvement as measured by consumption, with consumption relative poverty falling sharply, but income relative poverty increasing slightly.

A comparison of the demographic characteristics of the income poor and the consumption poor also reveals some important differences. As shown in Table 9, the consumption poor are more likely to be minority, more likely to live in married-parent families, and, in recent years, younger than the income poor (see Columns 4, 5, 9, 10, 14, and 15). The differences between the characteristics of the consumption and income poor do not appear to be the result of sampling differences across the two surveys, as the demographic characteristics of the full samples (Columns 1, 2, 6, 7, 11, 12) are very similar across surveys. The characteristics of the income and consumption poor also seem to become more different over time. In particular, the race, extent of homeownership, and family types become more different over time. We also see some changes in the characteristics of the poor over time that are evident regardless of how poverty is defined. For example, the poor in the 1980s are more likely to be either black or white than the poor in more recent years. Also, the poor in the 1980s are less likely to be single individuals, a group that includes cohabiting adults. One should note that over a third of the official income poor are homeowners, underscoring the need to account for the flow of housing services in resource measures.

9.G Choosing Between the Different Measures of Poverty

In this study we present a number of alternative income based measures of poverty that address well-known flaws in the official measure. Some of these alternatives offer clear improvements. For example, a disposable income based poverty measure is an improvement on the official measure because the former better reflects the resources available for consumption. A measure of resources will be more closely tied to well-being if it includes taxes and noncash benefits such as Food Stamps, housing subsidies, and school lunch subsidies, and incorporating public health insurance benefits such as Medicaid and Medicare. However, given the important limitations in the Census valuations for some of these alternative resources including health insurance, housing subsidies, and valuations of owner occupied housing, one should be cautious

in drawing strong conclusions about poverty trends based on alternative poverty measures that include these imputed values.

Although disposable income based poverty measures better capture the resources available for consumption than does the official measure, we argue that it is preferable to measure consumption directly. Among other reasons, as discussed in Section 2.C, consumption better captures permanent income, the insurance value of government programs, and some private and government transfers. Also, evidence shows that transfer income is significantly under-reported and the extent of under-reporting appears to have increased over time. In addition to these reasons, consumption data are better suited for imputing some non-money resources, such as housing subsidies and the value of owner occupied housing. Furthermore, the unit of observation in the CE Survey, the consumer unit, is more appropriate for measuring poverty because, by definition, it includes those living together that pool resources for consumption.

Regardless of the approach taken to measure resources, if we want to measure an unchanging living standard, we need an accurate price index. While the CPI-U-RS incorporates the latest improvements the BLS has made, it still overstates inflation. As a result, estimates of changes in poverty that rely on CPI-U or CPI-U-RS based thresholds will be biased, particularly if the change is over a long time period. As we show in Figure 3, this bias leads to significant differences in changes in poverty over the past three decades. Thus, while described as an absolute poverty measure, the current official measure is far from it. Relative poverty measures such as the share of people with resources below half the median provide an alternative way to measure poverty. Such measures are probably best thought of as summarizing inequality at the bottom, as they are not based on resources relative to an absolute standard, and thus are not measures of absolute deprivation.

10. Conclusions

This paper examines the measurement of poverty in the United States from 1972 through 2005. The official poverty rate suggests that poverty has changed very little over the past three decades. Other measures of poverty based on household disposable income or consumption,

rather than pre-tax family income, or that use a more accurate price adjustment, indicate that poverty has declined noticeably in recent years. We document sharp differences, particularly in recent years, between different income based poverty measures, and between income and consumption based poverty rates and gaps. We find that sensible changes from the official price index lead to substantial declines in measured income poverty rates, After-tax money income measures indicate declines in poverty rates of more than five percentage points over the past three decades. Measuring income at the household level instead of the family level leads to slightly greater declines in poverty during this period, but alternative equivalence scales have a very small impact. Consumption based poverty rates often indicate large declines, even in recent years when income based poverty rates have risen.

The patterns are very different across demographic groups, with consumption poverty falling much faster than income poverty for the elderly, but more slowly for married couples with children. On the other hand, our measure of relative poverty, the share below half of the median, increased in the early 1980s and has not had a clear trend since. Income and consumption poverty gaps have generally moved sharply in opposite directions in the last two decades with income gaps rising, but consumption gaps falling. Since both the poverty rate and the poverty gap per poor person have fallen appreciably more in consumption data than in income data, the overall picture of the change in poverty is much more favorable using consumption measures than income measures. This observation as well as our other findings renew the question as to why income and consumption measures differ. Further evidence on the importance of measurement error, saving, and dissaving in explaining the differences would be especially valuable.

We argue that consumption poverty is preferred for measuring changes in the well-being of the worst off. However, there are some practical limitations to an official, consumption based measure of poverty. Small sample sizes in the CE Survey relative to the CPS make it difficult to compute reliable poverty statistics at the state and local level. Also, many government transfer programs determine eligibility by comparing the applicant's income to a standard of need which is tied to the poverty line. While consumption has advantages when determining standards for benefit amounts for transfer programs such as Food Stamps and TANF, the ease of reporting income facilitates its use in determining eligibility for these programs.

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Data Appendix

A. Measures of Income in the CPS

Money Income: The Census definition of money income that is used to measure poverty.

After-tax Money Income: adds to money income the value of tax credits such as the EITC, and subtracts state and federal income taxes and payroll taxes, and includes capital gains and losses.

After-tax Money Income Plus Noncash Benefits: this adds to After-tax Money Income the cash value of food stamps, housing subsidies, school lunch programs, the fungible value of Medicaid and Medicare, the value of employer health benefits, and the value of housing equity converted into an annuity.

B. Noncash benefits in the CPS

Below is a brief summary of the methods used to determine noncash benefits in the CPS ADF/ASEC. This information comes from various reports issued by the U.S. Census. For more details see U.S. Census (1992), Appendix B.

Face Value of Food Stamps: The value of food stamps for each family is determined using reported information on the number of persons receiving food stamps in the household and the total value of food stamps received.

Income Value of School Lunch Program: The CPS imputes a value for lunch subsidies for families that report having children who receive free or reduced price school lunch. The value is determined using information on the dollar amount of subsidy per meal as reported by the USDA. If a child participates in school lunch, it is assumed that the child receives that subsidy type (reduced price or free) for the entire year.

Fungible Values of Medicaid and Medicare: The CPS imputes a "fungible" value of Medicaid/Medicare for families that include an individual who is reported to be covered by Medicaid/Medicare. Fungible means that "Medicare and Medicaid benefits are counted as income to the extent that they free up resources that could have been spent on medical care." Thus, these programs have no income value if the family does not have resources (the sum of money income, Food Stamps, and housing subsidies) that exceed basic needs. If these resources do exceed basic needs, then the fungible value of medical benefits is equal to the smaller of: a) the market value of these benefits and b) the value of resources less basic needs. The market value of Medicaid is equal to mean government outlays for families in a given state and risk class. The four risk classes are: 65 and over, blind and disabled, 21-64 nondisabled, and less than 21 nondisabled. The market value of Medicare is equal to mean government outlays for families in a given state and risk class. The two risk classes are: 65 and over and blind and disabled.

Housing Subsidies: The CPS imputes a value of housing subsidies for households that report living in public housing or receiving a public rent subsidy. The value of the subsidy is calculated as follows. Using data from the 1985 American Housing Survey (AHS), reported rent for unsubsidized two-bedroom housing units is regressed on housing characteristics. Separate regressions are estimated for each of four regions, and the coefficients from these models are used to predict rent for those living in subsidized units. The subsidy for those in subsidized housing is then calculated as the difference between out of pocket rent and imputed total rent. Region-specific adjustment factors for smaller and larger units are estimated using data on rent for units with different numbers of bedrooms in the 1985 AHS. Thirty-six different subsidy values are calculated which vary by four regions, three income brackets, and three different unit sizes. Because unit size is not observed in the CPS, this is imputed from family composition. Subsidy values for each year are based on estimates using the 1985 data, but are updated to reflect changes in shelter costs using the CPI residential rent index. Before 1985 March CPS data were linked to the Annual Housing Survey. For example, the 1980 March CPS was linked to the 1979 Annual Housing Survey.

Employer Contributions to Health Insurance: The CPS imputes a value of health insurance for persons who were covered by an employer health insurance plan. Using data from the 1977 National Medical Care Expenditures Survey, the value of the employer contribution was imputed as a function of observable characteristics including earnings, full-time/part-time, industry, occupation, sector, public/private, residence, and personal characteristics of the worker such as age, race, marital status, and education, and information on whether the employer paid all, part, or none of the cost of health insurance as reported in the supplement.

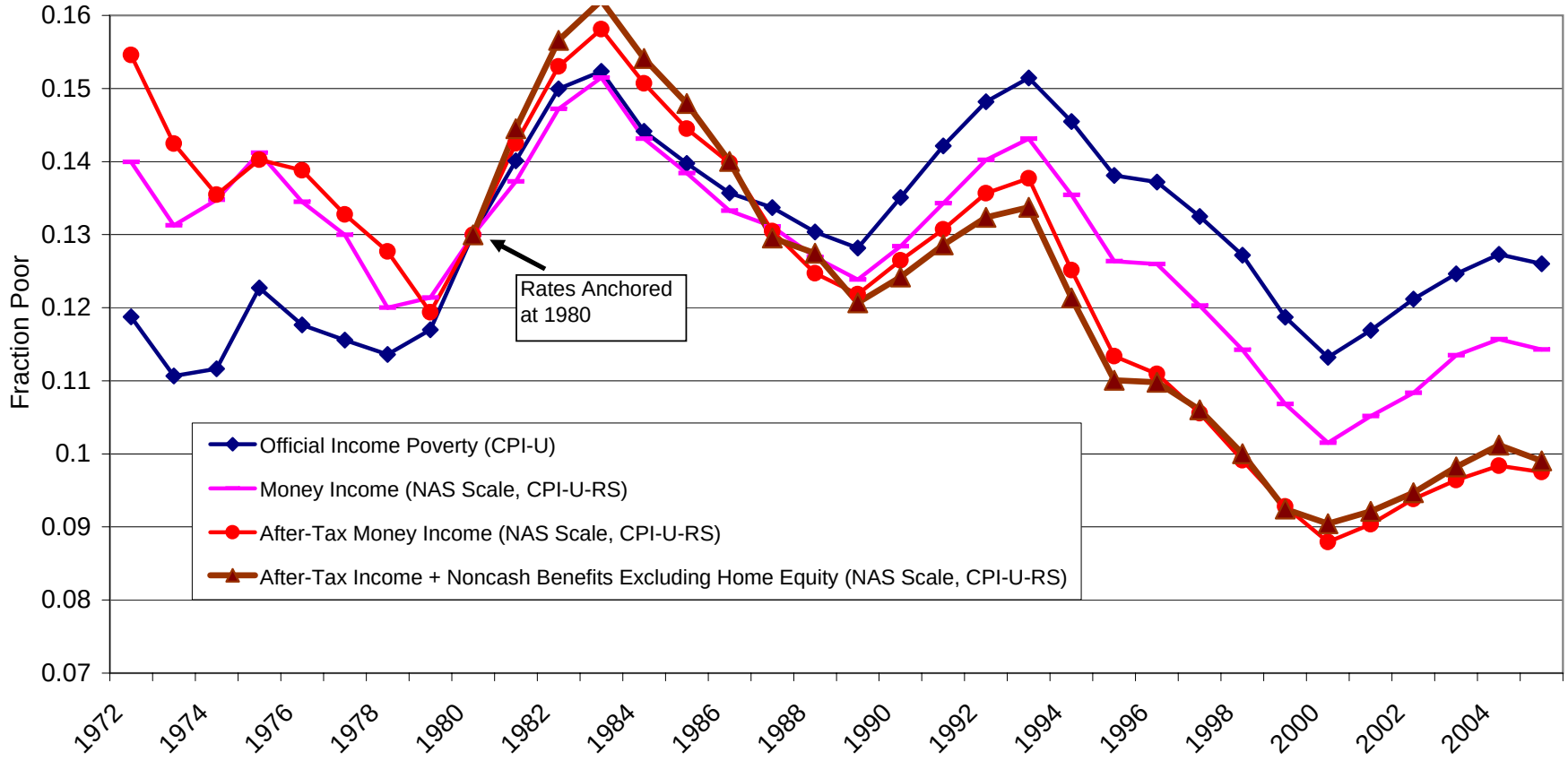
Net Return on Home Equity (annuitized value): Using data from the 1989 AHS, a value of home equity is imputed for each CPS household by matching the two surveys on observable characteristics. This equity is converted to an annuity, using a rate of return based on high grade municipal bonds from the Standard and Poors series. The value of home equity is net of imputed property taxes.

C. Measures of Consumption in the CE Survey

Expenditures: This summary measure includes all expenditures reported in the CE Survey. Expenditures are reported for three-month periods. We scale these quarterly expenditures to an annual level.

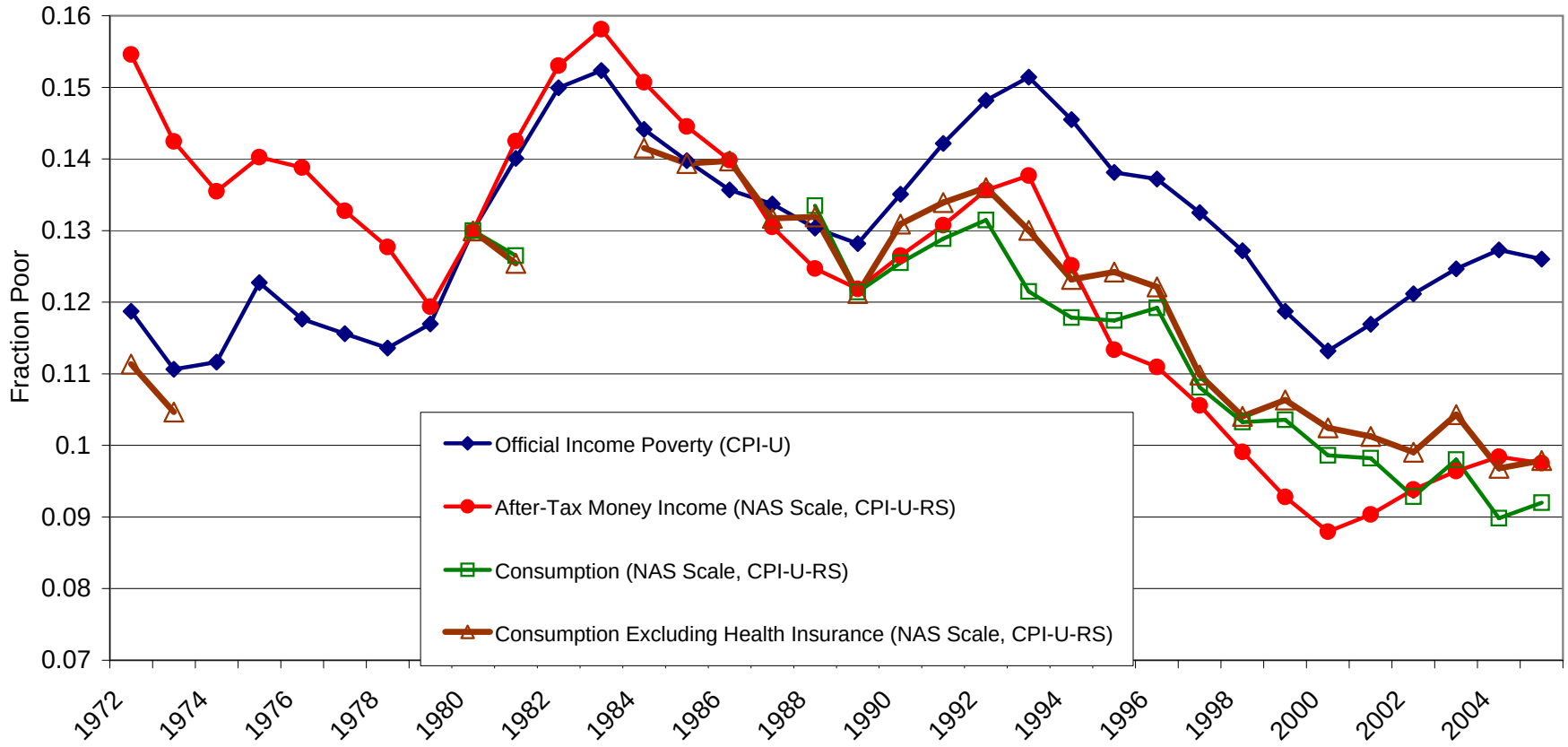
Consumption: Consumption includes all spending in total expenditures less spending on health care, education, pension plans, and cash contributions. In addition, housing and vehicle expenditures are converted to service flows. The rental equivalent for owned dwellings is used instead of spending on mortgage interest, property taxes, and spending on maintenance, repairs, and insurance. For those in public or subsidized housing, we impute a rental value using the procedure outlined in the text. For vehicles we compute a service flow from an imputed market value of the car at the time of the survey as explained in the text.

Figure 1: Official and Alternative Income Poverty Rates, 1972-2005



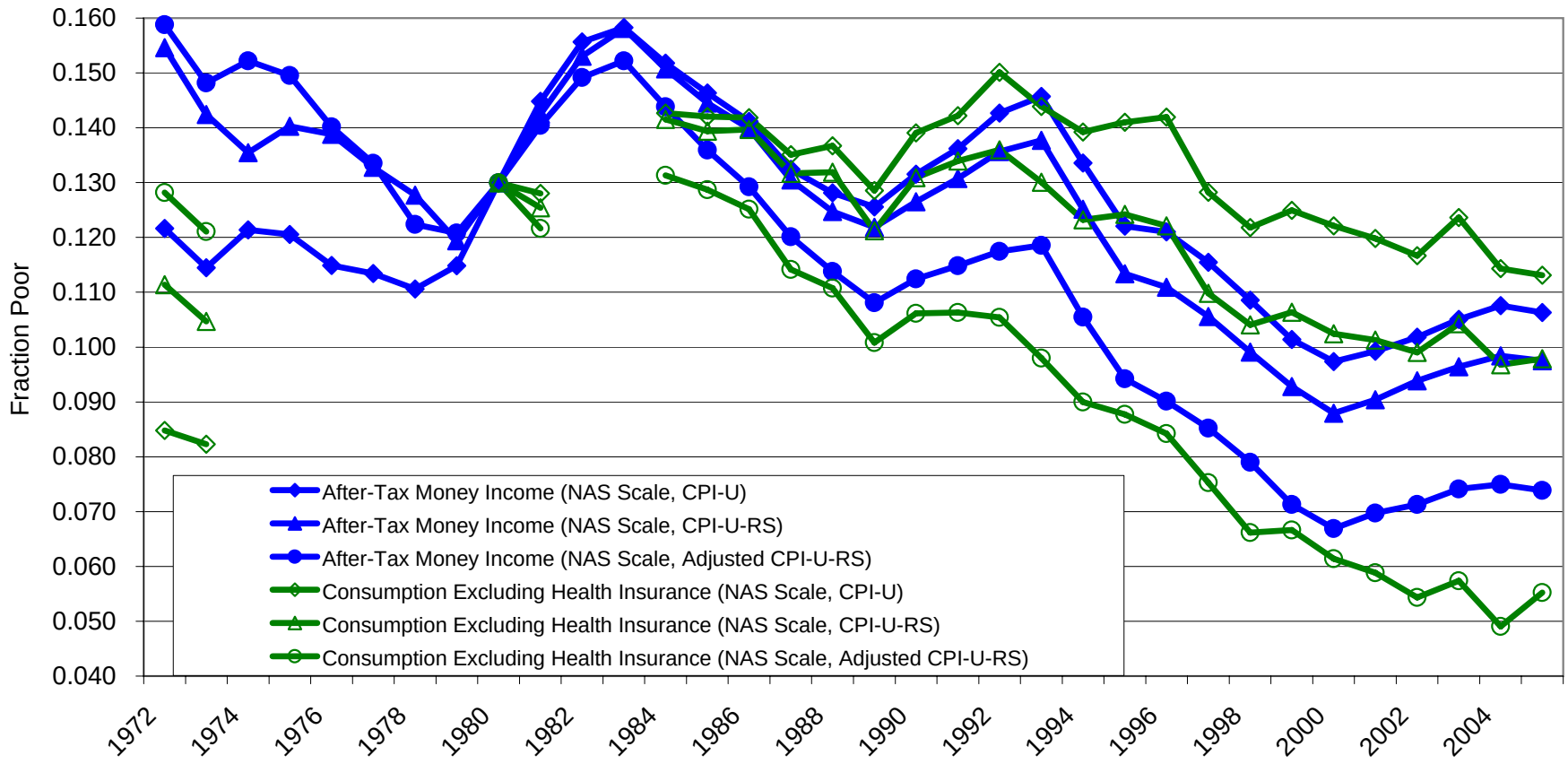
Notes: Rates Anchored at 1980. Data are from the CPS-ASEC/ADF. Official Income Poverty follows the U.S. Census definition of income poverty using official thresholds. For measures other than the official one, the threshold in 1980 is equal to the value that yields a poverty rate equal to the official poverty rate in 1980 (13.0 percent). The thresholds in 1980 are then adjusted overtime using the CPI-U-RS. All poverty rates are at the person level. After-tax Money Income includes taxes and credits (calculated using TAXSIM). After-tax Money Income + Noncash Benefits Excluding Home Equity also includes food stamps and CPS-imputed measures of housing and school lunch subsidies, and the fungible value of Medicaid and Medicare. This last series is only available starting with the 1980 CPS-ASEC/ADF. See Data Appendix for more details.

Figure 2: Consumption and Income Poverty Rates, 1972-2005



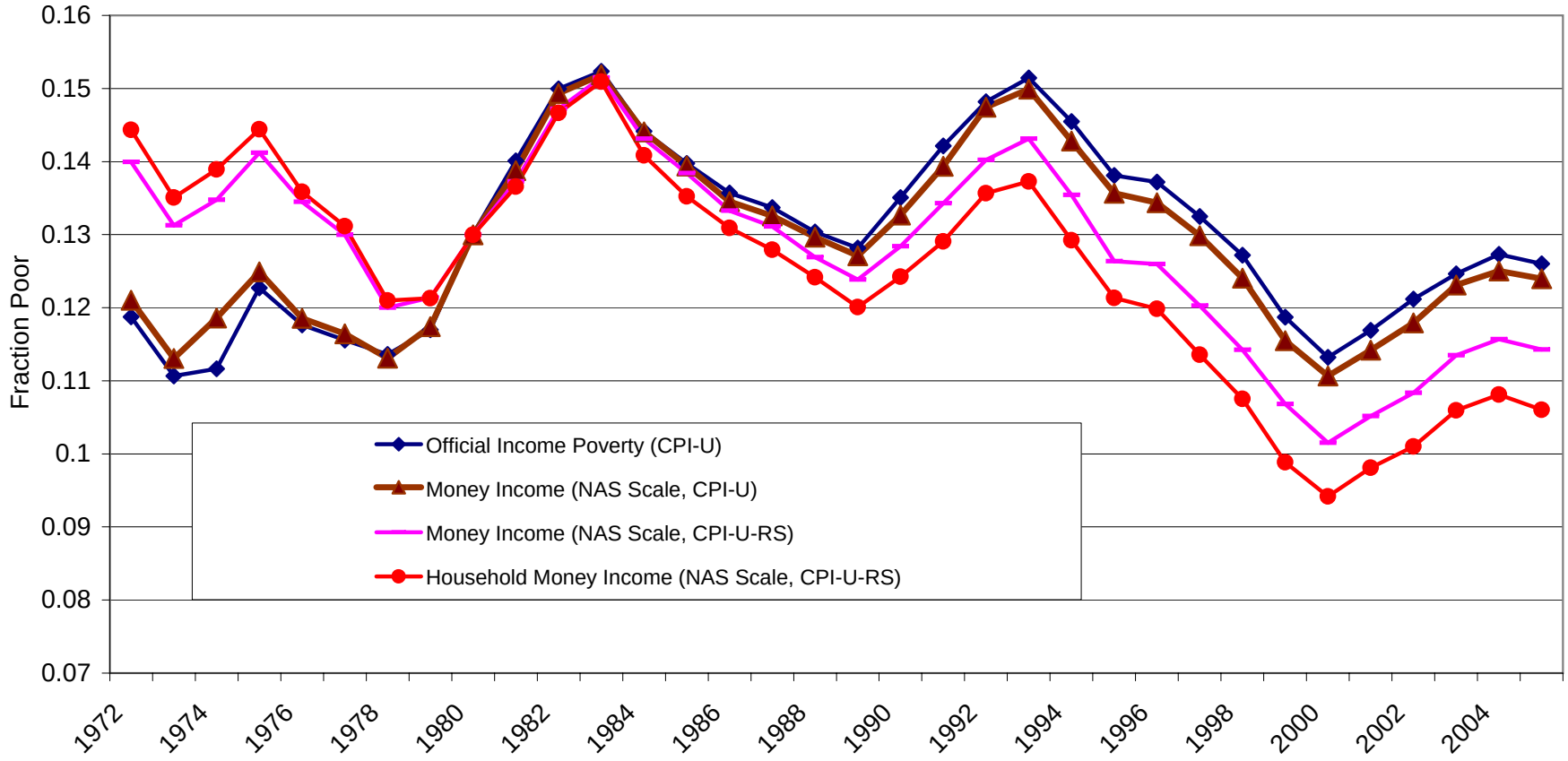
Notes: Rates Anchored at 1980. All poverty rates are at the person level. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. Official Income Poverty and After-Tax Money Income Poverty are as in Figure 1. CE Survey data are not available for the years 1974-1979 and 1982-1983. Also, consumption data are not available for the years 1984-1987 for measures that include health insurance.

Figure 3: Consumption and Income Poverty Rates using Different Price Indices, 1972-2005



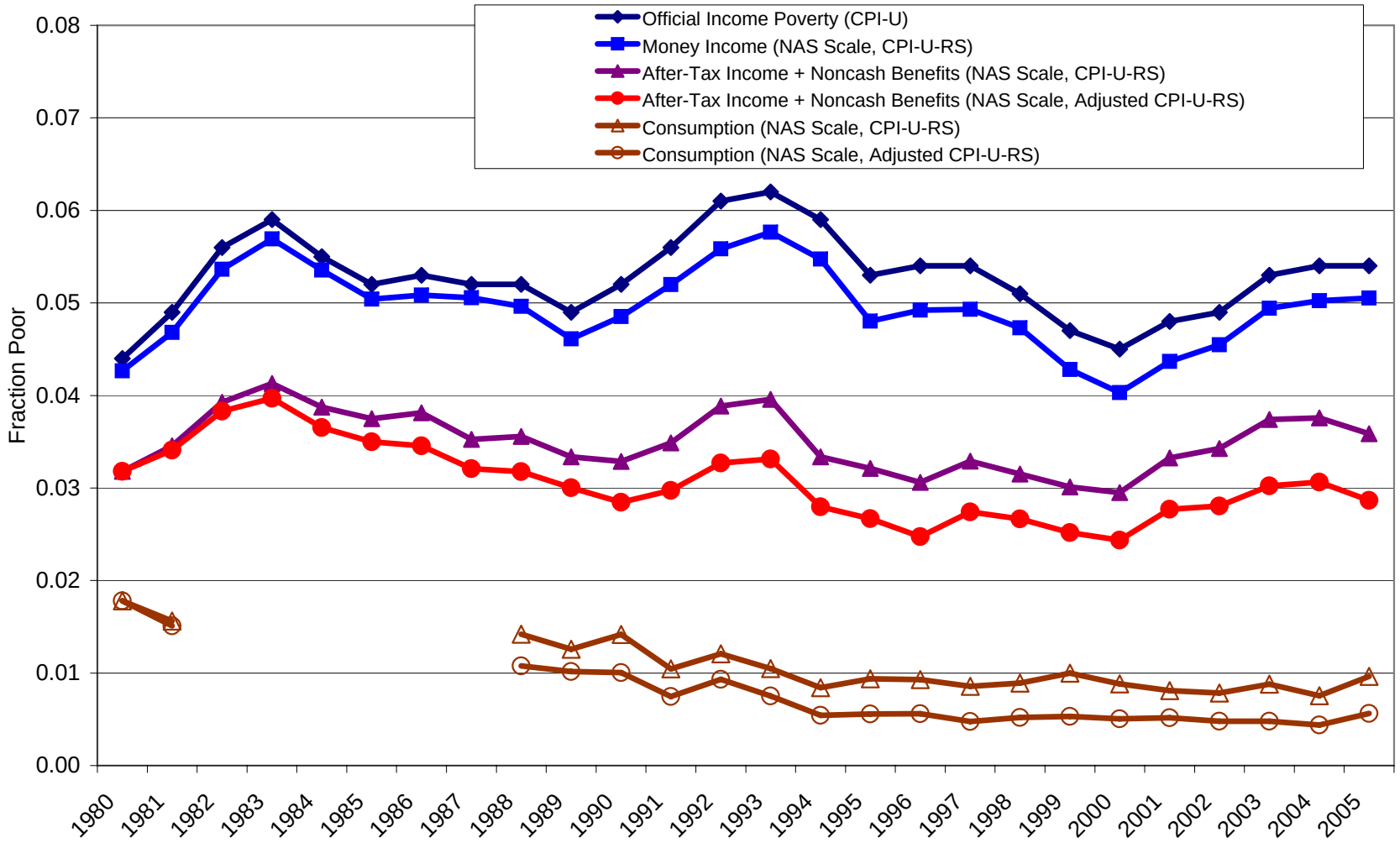
Notes: Rates Anchored at 1980. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. All poverty rates are at the person level. Adjusted CPI-U-RS subtracts 0.8 percentage points from the CPI-U-RS per year. See text for more details.

Figure 4: Official and Alternative Income Poverty Rates, Different Equivalent Scales and Resource Sharing Units, 1972-2005



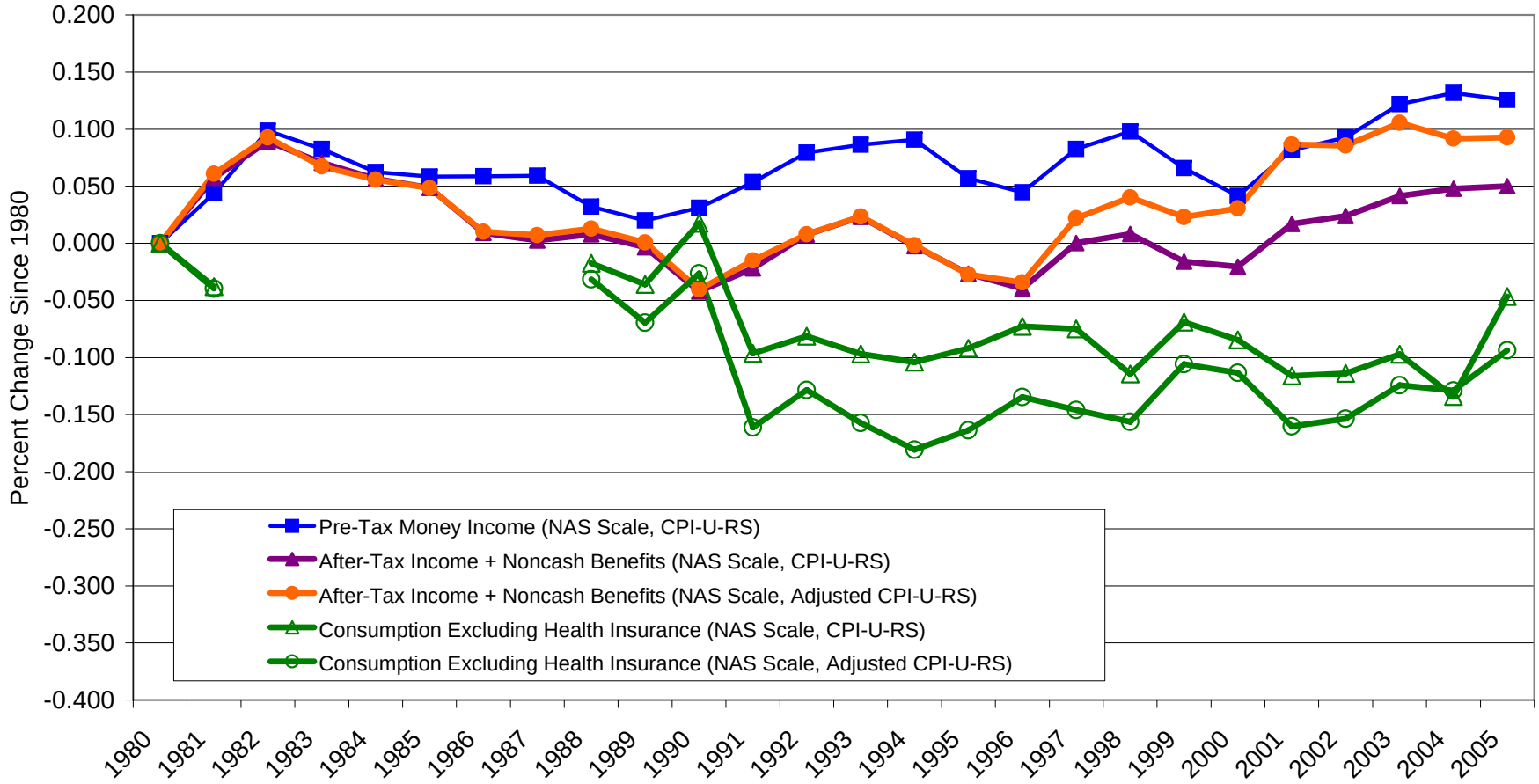
Notes: Rates Anchored at 1980. Data are from the CPS-ASEC/ADF. Household money income poverty compares the resources of all members of the household, regardless of whether they are related, to the poverty threshold. See notes to Figure 1.

Figure 5: Consumption and Income Deep Poverty Rates (50% of Threshold), 1980-2005



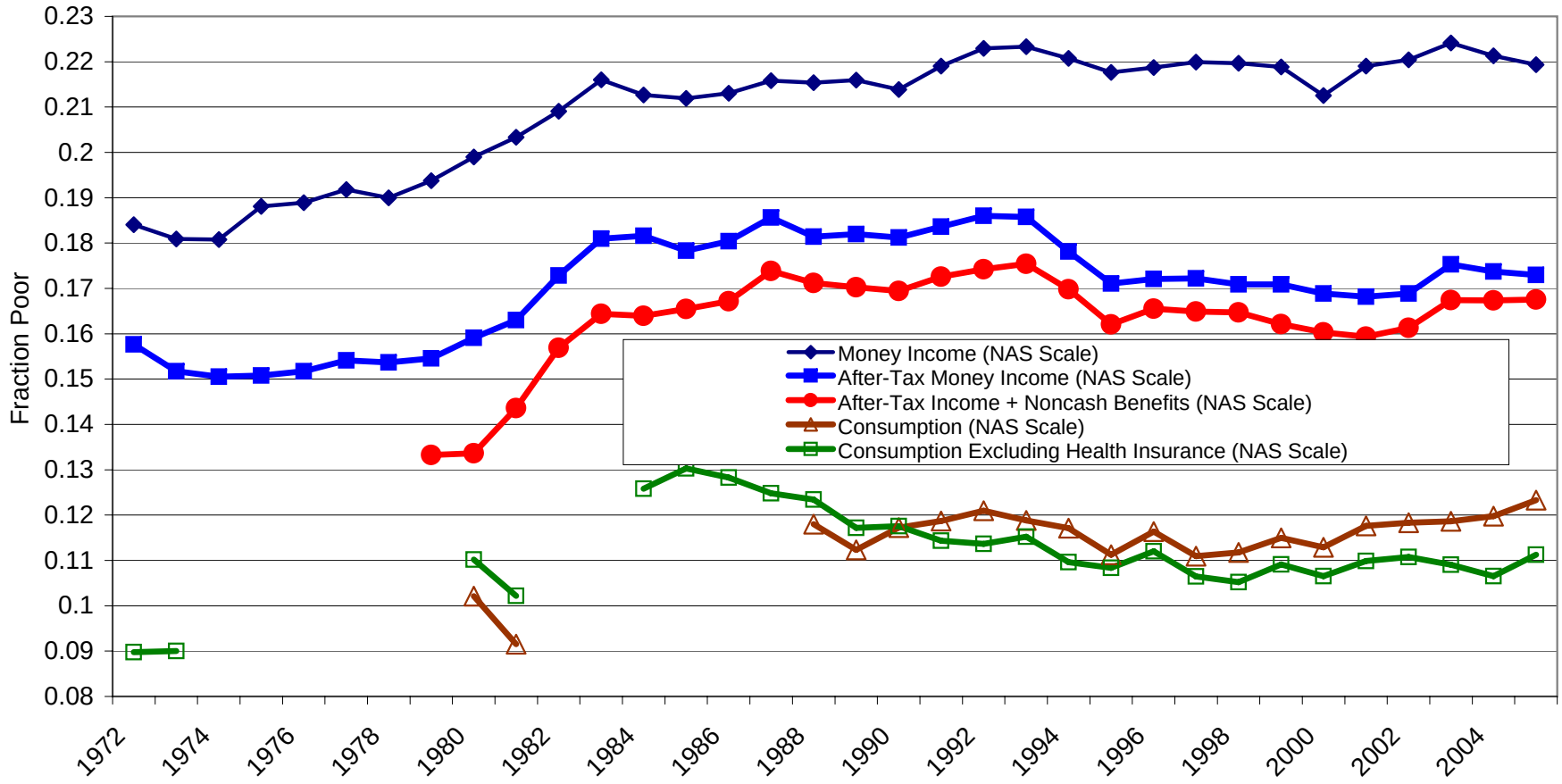
Notes: All poverty rates are at the person level. Thresholds are 50 percent of the thresholds used in Figures 1-3. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. After-Tax Income + Noncash Benefits taxes and credits (calculated using TAXSIM), food stamps, and CPS-imputed measures of housing and school lunch subsidies, the fungible value of Medicaid and Medicare, the value of employer health benefits, and the net return on home equity.

Figure 6: Percent Change in Poverty Gap Since 1980, Various Income and Consumption Measures, Poor Families, 1980-2005



Notes: Amounts are in 2005 dollars. The gaps are calculated using the same thresholds as in Figures 1-3. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF.

Figure 7: Relative Consumption and Income Poverty (50% of Median), 1972-2005



Notes: All poverty rates are at the person level. An individual is designated as in poverty if the measure of resouces falls below 50 percent of the median of the individual weighted, scale-adjusted distribution for the respective resource measure. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF.

Table 1: Consumption and Income Poverty Rates, 1972-2005

	Income Measures of Poverty					Consumption Measures of Poverty				
	Official Income Poverty	Money Income	After-Tax Money Income	After-Tax Income + Noncash Benefits Excluding Home Equity	After-Tax Income + Noncash Benefits	Consumption	Consumption Excluding Health Insurance	Core Consumption	Non-housing Consumption	Expenditures
Scale	Official Scale	NAS	NAS	NAS	NAS	NAS	NAS	NAS	NAS	NAS
Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1972	0.119	0.140	0.155				0.111			0.118
1973	0.111	0.131	0.142				0.105			0.105
1980	0.130	0.130	0.130	0.130	0.130	0.130	0.130	0.130	0.130	0.130
1981	0.140	0.137	0.142	0.144	0.134	0.126	0.125	0.124	0.125	0.126
1982	0.150	0.147	0.153	0.157	0.152					
1983	0.152	0.151	0.158	0.162	0.160					
1984	0.144	0.143	0.151	0.154	0.151		0.142			0.135
1985	0.140	0.138	0.145	0.148	0.149		0.139	0.155		0.138
1986	0.136	0.133	0.140	0.140	0.151		0.140	0.160		0.135
1987	0.134	0.131	0.130	0.130	0.139		0.132	0.151		0.130
1988	0.130	0.127	0.125	0.127	0.133	0.133	0.132	0.140	0.146	0.131
1989	0.128	0.124	0.122	0.121	0.130	0.121	0.121	0.127	0.133	0.114
1990	0.135	0.128	0.126	0.124	0.134	0.125	0.131	0.135	0.137	0.126
1991	0.142	0.134	0.131	0.129	0.136	0.129	0.134	0.135	0.142	0.126
1992	0.148	0.140	0.136	0.132	0.139	0.131	0.136	0.137	0.151	0.126
1993	0.151	0.143	0.138	0.134	0.141	0.121	0.130	0.128	0.142	0.123
1994	0.145	0.135	0.125	0.121	0.126	0.118	0.123	0.126	0.137	0.118
1995	0.138	0.126	0.113	0.110	0.117	0.117	0.124	0.121	0.147	0.124
1996	0.137	0.126	0.111	0.110	0.117	0.119	0.122	0.115	0.145	0.125
1997	0.133	0.120	0.106	0.106	0.114	0.108	0.110	0.105	0.134	0.114
1998	0.127	0.114	0.099	0.100	0.108	0.103	0.104	0.102	0.129	0.105
1999	0.119	0.107	0.093	0.092	0.101	0.104	0.106	0.106	0.135	0.113
2000	0.113	0.102	0.088	0.090	0.096	0.099	0.102	0.099	0.127	0.112
2001	0.117	0.105	0.090	0.092	0.098	0.098	0.101	0.091	0.129	0.107
2002	0.121	0.108	0.094	0.095	0.102	0.093	0.099	0.090	0.128	0.103
2003	0.125	0.114	0.096	0.098	0.107	0.098	0.104	0.089	0.138	0.108
2004	0.127	0.116	0.098	0.101	0.108	0.090	0.097	0.080	0.132	0.091
2005	0.126	0.114	0.098	0.099	0.103	0.092	0.098	0.088	0.124	0.085
Change:										
1972-1980	0.011	-0.010	-0.025				0.019			0.012
1980-1990	0.005	-0.002	-0.003	-0.006	0.004	-0.004	0.001	0.005	0.007	-0.004
1990-2000	-0.022	-0.027	-0.039	-0.034	-0.037	-0.027	-0.028	-0.036	-0.010	-0.014
2000-2005	0.013	0.013	0.010	0.009	0.006	-0.007	-0.005	-0.011	-0.002	-0.027
1980-2005	-0.004	-0.016	-0.032	-0.031	-0.027	-0.038	-0.032	-0.042	-0.006	-0.045
1972-2005	0.007	-0.026	-0.057				-0.013			-0.033

Notes: Rates are anchored at 1980, meaning that 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 (13.0 percent). The thresholds in 1980 are then adjusted overtime using the CPI-U-RS (except for Column 1). All poverty rates are at the person level. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. After-Tax Money Income includes taxes and credits (calculated using TAXSIM). After-tax Income + Noncash Benefits also includes food stamps and CPS-imputed measures of housing and school lunch subsidies, the fungible value of Medicaid and Medicare, the value of employer health benefits, and the net return on home equity. Consumption measures include the imputed value of health insurance unless noted otherwise. Core Consumption includes key components that compare more favorably to NIPA data including food at home, housing, utilities, transportation, and gasoline and motor oil. CE Survey data are not available for the years 1974-1979 and 1982-1983. Also, consumption data are not available for the years 1984-1987 for measures that include health insurance.

Table 2: Consumption and Income Poverty Rates using Different Price Indices, 1972-2005

	Income Measures of Poverty			Consumption Measures of Poverty					
	After-Tax Money Income	After-Tax Money Income	After-Tax Money Income	Consumption	Consumption Excluding Health Insurance	Consumption	Consumption Excluding Health Insurance	Consumption	Consumption Excluding Health Insurance
Price Index	CPI-U	CPI-U-RS	Adjusted CPI-U-RS	CPI-U	CPI-U	CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	Adjusted CPI-U-RS
Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1972	0.122	0.155	0.159		0.085		0.111		0.128
1973	0.114	0.142	0.148		0.082		0.105		0.121
1980	0.130	0.130	0.130	0.130	0.130	0.130	0.130	0.130	0.130
1981	0.145	0.142	0.140	0.129	0.128	0.126	0.125	0.125	0.122
1982	0.156	0.153	0.149						
1983	0.158	0.158	0.152						
1984	0.152	0.151	0.144		0.143		0.142		0.131
1985	0.146	0.145	0.136		0.142		0.139		0.129
1986	0.141	0.140	0.129		0.142		0.140		0.125
1987	0.132	0.130	0.120		0.135		0.132		0.114
1988	0.128	0.125	0.114	0.138	0.137	0.133	0.132	0.113	0.111
1989	0.126	0.122	0.108	0.127	0.129	0.121	0.121	0.099	0.101
1990	0.132	0.126	0.112	0.133	0.139	0.125	0.131	0.102	0.106
1991	0.136	0.131	0.115	0.138	0.142	0.129	0.134	0.101	0.106
1992	0.143	0.136	0.117	0.144	0.150	0.131	0.136	0.102	0.105
1993	0.146	0.138	0.119	0.136	0.144	0.121	0.130	0.093	0.098
1994	0.134	0.125	0.105	0.131	0.139	0.118	0.123	0.088	0.090
1995	0.122	0.113	0.094	0.133	0.141	0.117	0.124	0.085	0.088
1996	0.121	0.111	0.090	0.135	0.142	0.119	0.122	0.083	0.084
1997	0.115	0.106	0.085	0.124	0.128	0.108	0.110	0.075	0.075
1998	0.109	0.099	0.079	0.118	0.122	0.103	0.104	0.068	0.066
1999	0.101	0.093	0.071	0.120	0.125	0.104	0.106	0.066	0.067
2000	0.097	0.088	0.067	0.116	0.122	0.099	0.102	0.060	0.061
2001	0.099	0.090	0.070	0.113	0.120	0.098	0.101	0.058	0.059
2002	0.102	0.094	0.071	0.109	0.117	0.093	0.099	0.053	0.054
2003	0.105	0.096	0.074	0.114	0.124	0.098	0.104	0.056	0.057
2004	0.108	0.098	0.075	0.106	0.114	0.090	0.097	0.047	0.049
2005	0.106	0.098	0.074	0.108	0.113	0.092	0.098	0.052	0.055
Change:									
1972-1980	0.008	-0.025	-0.029		0.045		0.019		0.002
1980-1990	0.002	-0.003	-0.018	0.003	0.009	-0.004	0.001	-0.028	-0.024
1990-2000	-0.034	-0.039	-0.046	-0.017	-0.017	-0.027	-0.028	-0.042	-0.045
2000-2005	0.009	0.010	0.007	-0.008	-0.009	-0.007	-0.005	-0.008	-0.006
1980-2005	-0.024	-0.032	-0.056	-0.022	-0.017	-0.038	-0.032	-0.078	-0.075
1972-2005	-0.015	-0.057	-0.085		0.028		-0.013		-0.073

Notes: Rates are anchored at 1980. Each series is adjusted using the NAS recommend equivalence scale. See notes to Figure 3 and Table 1.

Table 3: Consumption and Income Deep Poverty Rates (50% of Threshold) and Near Poverty (150% of Threshold), 1972-2005

	50 % of Threshold							150 % of Threshold						
	Official Income Poverty	Money Income	After-Tax Income + Noncash Benefits	After-Tax Income + Noncash Benefits	Consumption	Consumption	Consumption Excluding Health Insurance	Official Income Poverty	Money Income	After-Tax Income + Noncash Benefits	After-Tax Income + Noncash Benefits	Consumption	Consumption	Consumption Excluding Health Insurance
Scale	Official Scale	NAS	NAS	NAS	NAS	NAS	NAS	Official Scale	NAS	NAS	NAS	NAS	NAS	NAS
Price Index	CPI-U	CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	CPI-U-RS	CPI-U	CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	CPI-U-RS
Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1972	0.038	0.042					0.013		0.260					0.315
1973	0.034	0.037					0.011		0.244					0.304
1980	0.044	0.043	0.032	0.032	0.018	0.018	0.017	0.232	0.238	0.292	0.292	0.346	0.346	0.328
1981	0.049	0.047	0.035	0.034	0.016	0.015	0.016	0.247	0.247	0.294	0.290	0.356	0.350	0.338
1982	0.056	0.054	0.039	0.038				0.255	0.257	0.307	0.299			
1983	0.059	0.057	0.041	0.040				0.256	0.261	0.315	0.303			
1984	0.055	0.054	0.039	0.037			0.016	0.243	0.246	0.300	0.285			0.339
1985	0.052	0.050	0.037	0.035			0.020	0.239	0.241	0.299	0.280			0.324
1986	0.053	0.051	0.038	0.035			0.017	0.229	0.231	0.296	0.276			0.330
1987	0.052	0.051	0.035	0.032			0.014	0.224	0.223	0.270	0.249			0.324
1988	0.052	0.050	0.036	0.032	0.014	0.011	0.012	0.222	0.221	0.269	0.244	0.324	0.288	0.317
1989	0.049	0.046	0.033	0.030	0.013	0.010	0.012	0.220	0.216	0.265	0.237	0.312	0.269	0.309
1990	0.052	0.049	0.033	0.028	0.014	0.010	0.013	0.227	0.223	0.271	0.239	0.314	0.269	0.324
1991	0.056	0.052	0.035	0.030	0.010	0.007	0.010	0.238	0.231	0.274	0.239	0.307	0.262	0.331
1992	0.061	0.056	0.039	0.033	0.012	0.009	0.012	0.245	0.238	0.278	0.240	0.319	0.265	0.345
1993	0.062	0.058	0.040	0.033	0.010	0.008	0.011	0.250	0.241	0.279	0.236	0.301	0.247	0.327
1994	0.059	0.055	0.033	0.028	0.008	0.005	0.007	0.243	0.232	0.260	0.216	0.304	0.243	0.328
1995	0.053	0.048	0.032	0.027	0.009	0.006	0.009	0.235	0.223	0.250	0.204	0.303	0.241	0.327
1996	0.054	0.049	0.031	0.025	0.009	0.006	0.009	0.234	0.220	0.248	0.200	0.302	0.232	0.321
1997	0.054	0.049	0.033	0.027	0.009	0.005	0.008	0.225	0.211	0.240	0.191	0.287	0.214	0.300
1998	0.051	0.047	0.032	0.027	0.009	0.005	0.009	0.215	0.200	0.225	0.174	0.278	0.204	0.299
1999	0.047	0.043	0.030	0.025	0.010	0.005	0.010	0.210	0.193	0.217	0.162	0.282	0.203	0.302
2000	0.045	0.040	0.029	0.024	0.009	0.005	0.008	0.202	0.187	0.208	0.154	0.270	0.192	0.292
2001	0.048	0.044	0.033	0.028	0.008	0.005	0.008	0.208	0.192	0.205	0.151	0.264	0.185	0.285
2002	0.049	0.045	0.034	0.028	0.008	0.005	0.008	0.214	0.198	0.209	0.153	0.253	0.175	0.277
2003	0.053	0.049	0.037	0.030	0.009	0.005	0.009	0.217	0.201	0.207	0.153	0.269	0.179	0.296
2004	0.054	0.050	0.038	0.031	0.008	0.004	0.008	0.216	0.202	0.207	0.150	0.257	0.168	0.281
2005	0.054	0.051	0.036	0.029	0.010	0.006	0.011	0.215	0.199	0.201	0.144	0.252	0.161	0.275
Change:														
1972-1980	0.006	0.001					0.004		-0.021					0.013
1980-1990	0.008	0.006	0.001	-0.003	-0.004	-0.008	-0.004	-0.005	-0.016	-0.022	-0.053	-0.032	-0.077	-0.004
1990-2000	-0.007	-0.008	-0.003	-0.004	-0.005	-0.005	-0.005	-0.025	-0.036	-0.063	-0.085	-0.044	-0.077	-0.032
2000-2005	0.009	0.010	0.006	0.004	0.001	0.001	0.003	0.013	0.013	-0.007	-0.010	-0.018	-0.031	-0.017
1980-2005	0.010	0.008	0.004	-0.003	-0.008	-0.012	-0.007	-0.016	-0.039	-0.092	-0.149	-0.094	-0.186	-0.053
1972-2005	0.016	0.009					-0.002		-0.061					-0.040

Notes: All poverty rates are at the person level. Thresholds are 50 percent and 150 percent of the thresholds used in Tables 1 and 2. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF.

Table 4: Average Poverty Gap, Various Income and Consumption Measures, Poor Families, 1972-2005

	Official Income Poverty	Money Income	After-Tax Money Income	After-Tax Income + Noncash Benefits	After-Tax Income + Noncash Benefits	Consumption	Consumption	Consumption Excluding Health Insurance
Scale	Official Scale	NAS	NAS	NAS	NAS	NAS	NAS	NAS
Price Index	CPI-U	CPI-U-RS	CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	CPI-U-RS
Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1972								3,810
1973								3,783
1980	11,093	5,496	5,262	6,351	5,229	2,733	2,250	3,904
1981	11,702	5,737	5,384	6,716	5,548	2,612	2,147	3,756
1982	12,454	6,037	5,710	6,918	5,714			
1983	12,155	5,950	5,610	6,799	5,581			
1984	11,862	5,838	5,527	6,710	5,520			
1985	11,572	5,817	5,472	6,660	5,482			
1986	11,519	5,818	5,451	6,409	5,281			
1987	11,431	5,821	5,515	6,367	5,267			
1988	11,182	5,672	5,424	6,402	5,296	3,131	2,629	3,836
1989	11,117	5,606	5,345	6,329	5,232	2,896	2,414	3,764
1990	11,034	5,667	5,391	6,083	5,017	3,003	2,435	3,973
1991	11,331	5,789	5,462	6,211	5,151	2,608	2,145	3,527
1992	11,599	5,933	5,618	6,399	5,270	2,438	1,969	3,586
1993	11,762	5,970	5,706	6,498	5,351	2,354	1,877	3,526
1994	11,683	5,995	5,692	6,335	5,220	2,266	1,784	3,497
1995	11,022	5,810	5,503	6,182	5,086	2,425	1,925	3,545
1996	10,801	5,741	5,503	6,098	5,050	2,534	2,051	3,620
1997	11,067	5,950	5,784	6,353	5,344	2,519	1,929	3,612
1998	10,946	6,034	5,820	6,402	5,439	2,452	1,957	3,458
1999	10,643	5,857	5,571	6,249	5,348	2,661	2,160	3,634
2000	10,271	5,723	5,542	6,220	5,389	2,638	2,251	3,573
2001	10,460	5,944	5,747	6,459	5,681	2,481	2,047	3,450
2002	10,510	6,006	5,751	6,503	5,676	2,463	2,017	3,459
2003	10,861	6,165	5,995	6,615	5,781	2,442	1,984	3,524
2004	10,958	6,220	5,958	6,654	5,708	2,455	2,160	3,381
2005	10,723	6,185	5,962	6,669	5,714	2,501	2,056	3,722
% Change								
1972-1980								2.46%
1980-1990	-0.53%	3.12%	2.46%	-4.22%	-4.05%	9.88%	8.22%	1.76%
1990-2000	-6.92%	0.99%	2.80%	2.26%	7.41%	-12.15%	-7.58%	-10.05%
2000-2005	4.40%	8.08%	7.57%	7.22%	6.04%	-5.21%	-8.67%	4.15%
1980-2005	-3.34%	12.55%	13.30%	5.01%	9.28%	-8.50%	-8.65%	-4.67%
1972-2005								-2.33%

Notes: Amounts are in 2005 dollars. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. See notes for Figure 6.

Table 5: Relative (50% of Median) Consumption and Income Poverty, 1972-2005

	Income Measures			Consumption Measures	
Year	Money Income (1)	After-Tax Money Income (2)	After-Tax Income + Noncash Benefits (3)	Consumption (4)	Consumption Excluding Health Insurance (5)
1972	0.184	0.158			0.090
1973	0.181	0.152			0.090
1980	0.199	0.159	0.134	0.102	0.110
1981	0.203	0.163	0.144	0.092	0.102
1982	0.209	0.173	0.157		
1983	0.216	0.181	0.164		
1984	0.213	0.182	0.164		0.126
1985	0.212	0.178	0.165		0.130
1986	0.213	0.180	0.167		0.128
1987	0.216	0.186	0.174		0.125
1988	0.215	0.181	0.171	0.118	0.123
1989	0.216	0.182	0.170	0.112	0.117
1990	0.214	0.181	0.169	0.117	0.118
1991	0.219	0.184	0.173	0.119	0.114
1992	0.223	0.186	0.174	0.121	0.114
1993	0.223	0.186	0.175	0.119	0.115
1994	0.221	0.178	0.170	0.117	0.110
1995	0.218	0.171	0.162	0.111	0.108
1996	0.219	0.172	0.166	0.116	0.112
1997	0.220	0.172	0.165	0.111	0.107
1998	0.220	0.171	0.165	0.112	0.105
1999	0.219	0.171	0.162	0.115	0.109
2000	0.213	0.169	0.160	0.113	0.107
2001	0.219	0.168	0.159	0.118	0.110
2002	0.220	0.169	0.161	0.118	0.111
2003	0.224	0.175	0.167	0.119	0.109
2004	0.221	0.174	0.167	0.120	0.107
2005	0.219	0.173	0.168	0.123	0.111
Change:					
1972-1980	0.015				0.020
1980-1990	0.015	0.022	0.036	0.015	0.007
1990-2000	-0.001	-0.012	-0.009	-0.004	-0.011
2000-2005	0.007	0.004	0.007	0.010	0.005
1980-2005	0.020	0.014	0.034	0.021	0.001
1972-2005	0.035				0.022

Notes: All poverty rates are at the person level. An individual is designated as in poverty if the measure of resouces falls below 50 percent of the median of the individual weighted, NAS scale-adjusted distribution for the respective resource measure. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF.

Table 6: Consumption and Income Poverty by Demographic Group, 1980-2005

	Single Parent Families		Married Parent Families		Single Individuals		Married without Children		Head 65 and Over	
Year	After-Tax Income + Noncash Benefits (1)	Consumption (2)	After-Tax Income + Noncash Benefits (3)	Consumption (4)	After-Tax Income + Noncash Benefits (5)	Consumption (6)	After-Tax Income + Noncash Benefits (7)	Consumption (8)	After-Tax Income + Noncash Benefits (9)	Consumption (10)
1980	0.390	0.378	0.104	0.106	0.156	0.150	0.041	0.047	0.124	0.147
1981	0.397	0.369	0.115	0.112	0.170	0.143	0.044	0.039	0.095	0.123
1982	0.458		0.135		0.175		0.053		0.100	
1983	0.453		0.147		0.186		0.056		0.101	
1984	0.443		0.137		0.172		0.050		0.089	
1985	0.437		0.134		0.167		0.053		0.093	
1986	0.455		0.126		0.177		0.050		0.107	
1987	0.420		0.112		0.172		0.045		0.097	
1988	0.413	0.396	0.105	0.123	0.158	0.104	0.044	0.037	0.093	0.101
1989	0.397	0.355	0.104	0.118	0.152	0.084	0.044	0.039	0.092	0.087
1990	0.398	0.336	0.109	0.119	0.157	0.116	0.044	0.038	0.090	0.090
1991	0.415	0.362	0.109	0.129	0.159	0.107	0.039	0.037	0.087	0.079
1992	0.412	0.349	0.107	0.129	0.163	0.114	0.048	0.034	0.098	0.073
1993	0.407	0.321	0.108	0.123	0.171	0.100	0.051	0.031	0.096	0.073
1994	0.363	0.302	0.092	0.115	0.167	0.100	0.044	0.043	0.084	0.066
1995	0.326	0.296	0.083	0.121	0.164	0.101	0.042	0.030	0.074	0.064
1996	0.330	0.320	0.082	0.117	0.157	0.095	0.045	0.037	0.078	0.062
1997	0.326	0.281	0.078	0.107	0.157	0.097	0.039	0.032	0.079	0.050
1998	0.299	0.260	0.072	0.109	0.153	0.097	0.038	0.030	0.082	0.047
1999	0.283	0.242	0.066	0.108	0.148	0.103	0.039	0.034	0.072	0.055
2000	0.261	0.232	0.065	0.101	0.141	0.101	0.039	0.033	0.072	0.052
2001	0.260	0.256	0.060	0.094	0.151	0.098	0.045	0.034	0.075	0.043
2002	0.258	0.227	0.064	0.089	0.158	0.100	0.044	0.030	0.085	0.049
2003	0.282	0.236	0.064	0.097	0.164	0.098	0.045	0.038	0.084	0.050
2004	0.274	0.211	0.065	0.094	0.167	0.088	0.050	0.035	0.087	0.045
2005	0.276	0.211	0.061	0.086	0.161	0.106	0.041	0.035	0.076	0.056
Change:										
1980-1990	0.008	-0.042	0.004	0.014	0.001	-0.034	0.003	-0.009	-0.034	-0.057
1990-2000	-0.137	-0.104	-0.043	-0.018	-0.016	-0.015	-0.005	-0.006	-0.018	-0.038
2000-2005	0.015	-0.022	-0.005	-0.015	0.020	0.005	0.002	0.002	0.004	0.003
1980-2005	-0.114	-0.167	-0.044	-0.019	0.005	-0.044	0.000	-0.012	-0.049	-0.091

Notes: All poverty rates are at the person level. For each measure, thresholds are the same as those used in Figures 1-3. Thus, thresholds are anchored in 1980 for the full sample, rather than for each demographic group. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. Each series is adjusted using the NAS recommend equivalence scale. See notes to Figures 1-3 for additional details.

Table 7: Average Poverty Gap by Demographic Group, Poor Families, 1980-2005

	Single Parent Families		Married Parent Families		Single Individuals		Married without Children		Head 65 and Over	
	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance
Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1980	7,573	5,179	8,922	5,040	5,052	3,319	7,711	3,183	3,899	2,944
1981	7,936	5,373	8,714	4,664	5,105	2,786	8,985	3,337	4,316	2,888
1982	8,048		8,976		5,146		8,017		4,878	
1983	8,008		8,459		5,333		7,778		4,779	
1984	7,839		8,436		5,290		7,888		4,293	
1985	7,765		8,268		5,265		7,840		4,720	
1986	8,007		8,077		5,190		7,001		4,028	
1987	7,915		8,337		5,127		7,030		4,051	
1988	8,224	5,364	8,304	4,715	5,091	2,611	6,360	2,514	4,251	2,702
1989	8,043	4,782	7,666	4,654	5,156	2,960	6,431	3,072	4,606	2,596
1990	7,835	4,777	7,800	4,861	4,841	3,032	6,540	3,076	3,869	2,529
1991	7,799	4,519	8,208	4,674	4,951	2,588	6,730	3,039	3,860	2,274
1992	8,120	4,655	8,275	4,646	5,191	2,637	6,418	2,636	4,072	2,396
1993	8,152	4,625	8,589	4,572	5,293	2,569	6,722	2,625	4,104	2,364
1994	8,033	4,359	8,593	4,446	5,098	2,652	6,354	3,226	4,228	2,342
1995	7,811	4,245	8,055	4,770	5,222	2,868	6,704	2,312	3,948	2,195
1996	7,724	4,341	7,872	4,446	5,031	2,918	6,889	3,572	4,038	2,242
1997	8,159	4,390	8,465	4,562	5,304	2,977	6,333	3,340	4,336	2,179
1998	8,092	4,146	8,659	4,323	5,362	2,774	7,130	2,463	4,455	2,585
1999	7,931	4,380	8,097	4,407	5,458	3,117	7,026	3,013	4,012	2,611
2000	7,988	4,016	8,672	4,776	5,300	3,043	7,260	2,915	3,972	2,396
2001	8,731	3,946	9,126	4,686	5,492	2,960	6,945	2,844	3,985	2,075
2002	8,541	3,742	9,280	4,450	5,629	3,075	7,254	2,941	4,008	2,554
2003	8,852	4,065	8,990	4,466	5,583	3,150	7,323	3,132	4,354	2,325
2004	8,671	3,700	9,143	4,463	5,620	3,006	7,393	2,743	4,775	2,421
2005	8,675	4,652	8,982	4,812	5,866	3,230	7,236	3,089	4,296	2,557
% Change										
1980-1990	3.45%	-7.78%	-12.58%	-3.57%	-4.17%	-8.66%	-15.19%	-3.34%	-0.78%	-14.11%
1990-2000	1.96%	-15.91%	11.18%	-1.75%	9.49%	0.38%	11.01%	-5.24%	2.67%	-5.25%
2000-2005	8.60%	15.82%	3.57%	0.76%	10.68%	6.12%	-0.33%	5.96%	8.14%	6.72%
1980-2005	14.56%	-10.18%	0.67%	-4.53%	16.12%	-2.70%	-6.16%	-2.94%	10.17%	-13.15%

Notes: Amounts are in 2005 dollars. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. Each series is adjusted using the NAS recommend equivalence scale. See notes to Figure 6.

Table 8: Relative Consumption and Income Poverty (50% of Median) by Demographic Group, 1980-2005

	Single Parent Families		Married Parent Families		Single Individuals		Married without Children		Head 65 and Over	
Year	After-Tax Income + Noncash Benefits (1)	Consumption (2)	After-Tax Income + Noncash Benefits (3)	Consumption (4)	After-Tax Income + Noncash Benefits (5)	Consumption (6)	After-Tax Income + Noncash Benefits (7)	Consumption (8)	After-Tax Income + Noncash Benefits (9)	Consumption (10)
1980	0.400	0.318	0.108	0.079	0.159	0.123	0.042	0.034	0.129	0.114
1981	0.414	0.303	0.125	0.072	0.179	0.115	0.047	0.026	0.102	0.091
1982	0.466		0.141		0.180		0.055		0.103	
1983	0.464		0.152		0.191		0.058		0.104	
1984	0.468		0.151		0.186		0.058		0.098	
1985	0.466		0.153		0.180		0.059		0.105	
1986	0.491		0.143		0.193		0.057		0.119	
1987	0.485		0.150		0.205		0.061		0.128	
1988	0.485	0.366	0.148	0.107	0.196	0.089	0.060	0.032	0.124	0.086
1989	0.473	0.339	0.150	0.107	0.190	0.079	0.060	0.035	0.124	0.081
1990	0.466	0.321	0.150	0.112	0.187	0.109	0.059	0.035	0.119	0.079
1991	0.474	0.335	0.151	0.120	0.194	0.098	0.057	0.035	0.117	0.070
1992	0.470	0.325	0.144	0.120	0.199	0.104	0.064	0.028	0.127	0.066
1993	0.466	0.316	0.145	0.120	0.205	0.099	0.066	0.029	0.122	0.072
1994	0.443	0.301	0.139	0.114	0.212	0.100	0.064	0.042	0.116	0.064
1995	0.409	0.284	0.131	0.113	0.212	0.097	0.059	0.027	0.106	0.061
1996	0.419	0.317	0.136	0.113	0.205	0.093	0.061	0.037	0.112	0.058
1997	0.420	0.285	0.132	0.111	0.212	0.099	0.061	0.033	0.116	0.051
1998	0.407	0.282	0.132	0.117	0.214	0.106	0.060	0.034	0.125	0.050
1999	0.399	0.260	0.130	0.121	0.212	0.115	0.066	0.037	0.120	0.064
2000	0.391	0.263	0.127	0.115	0.210	0.114	0.066	0.039	0.127	0.063
2001	0.373	0.298	0.121	0.112	0.217	0.117	0.072	0.041	0.130	0.059
2002	0.366	0.280	0.123	0.113	0.228	0.124	0.065	0.042	0.139	0.069
2003	0.389	0.284	0.122	0.118	0.237	0.114	0.073	0.045	0.138	0.065
2004	0.378	0.276	0.118	0.125	0.241	0.113	0.079	0.051	0.145	0.064
2005	0.391	0.269	0.120	0.120	0.242	0.134	0.074	0.049	0.136	0.079
Change:										
1980-1990	0.066	0.003	0.042	0.032	0.028	-0.014	0.016	0.001	-0.010	-0.035
1990-2000	-0.074	-0.057	-0.023	0.004	0.023	0.005	0.008	0.004	0.008	-0.016
2000-2005	-0.001	0.006	-0.007	0.005	0.032	0.021	0.007	0.010	0.009	0.016
1980-2005	-0.009	-0.049	0.012	0.041	0.083	0.012	0.031	0.015	0.007	-0.034

Notes: All poverty rates are at the person level. An individual is designated as in poverty if the measure of resouces falls below 50 percent of the median of the individual weighted, NAS scale-adjusted distribution for the respective resource measure. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF.

Table 9: Demographic Characteristics of all individuals and of the Consumption and Income Poor, 1980-2005

Sample	1980-1989					1990-1999					2000-2005				
	All	All	Poor	Poor	Poor	All	All	Poor	Poor	Poor	All	All	Poor	Poor	Poor
Resources Used to Define Poverty			Official Income Poverty	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance			Official Income Poverty	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance			Official Income Poverty	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Age															
0-17	0.267	0.273	0.396	0.406	0.389	0.265	0.272	0.397	0.398	0.412	0.254	0.260	0.356	0.345	0.373
18-64	0.617	0.610	0.494	0.520	0.495	0.615	0.607	0.504	0.528	0.505	0.625	0.621	0.543	0.579	0.558
65+	0.116	0.117	0.110	0.074	0.116	0.120	0.121	0.099	0.073	0.082	0.120	0.119	0.101	0.077	0.069
Homeowner	0.683	0.683	0.369	0.310	0.328	0.679	0.673	0.337	0.283	0.282	0.710	0.704	0.382	0.335	0.245
Race															
White, Non Hispanic	0.778	0.779	0.532	0.538	0.475	0.729	0.739	0.471	0.460	0.412	0.681	0.691	0.453	0.443	0.368
Black, Non Hispanic	0.119	0.118	0.282	0.266	0.318	0.125	0.123	0.266	0.266	0.306	0.122	0.125	0.238	0.243	0.266
Other	0.103	0.103	0.186	0.196	0.207	0.147	0.139	0.263	0.274	0.282	0.197	0.184	0.309	0.314	0.366
Region															
Northeast	0.210	0.222	0.175	0.161	0.177	0.196	0.203	0.176	0.163	0.150	0.187	0.180	0.170	0.165	0.134
Midwest	0.249	0.253	0.232	0.229	0.247	0.235	0.236	0.201	0.196	0.212	0.225	0.224	0.194	0.192	0.187
South	0.340	0.317	0.404	0.420	0.419	0.348	0.335	0.390	0.408	0.420	0.358	0.366	0.402	0.415	0.464
West	0.201	0.208	0.189	0.190	0.157	0.221	0.226	0.233	0.232	0.218	0.230	0.230	0.234	0.229	0.216
Family Type															
Single Mother Families	0.105	0.104	0.345	0.320	0.291	0.122	0.127	0.371	0.370	0.332	0.123	0.128	0.335	0.340	0.311
Married Parent Families	0.449	0.462	0.313	0.376	0.397	0.417	0.429	0.281	0.286	0.396	0.399	0.412	0.253	0.224	0.373
Single Individuals	0.124	0.113	0.157	0.149	0.101	0.143	0.126	0.183	0.190	0.113	0.161	0.146	0.234	0.261	0.168
Married without Children	0.184	0.181	0.051	0.061	0.052	0.176	0.176	0.047	0.061	0.047	0.180	0.180	0.060	0.078	0.054
Head 65 and Over	0.138	0.139	0.134	0.094	0.159	0.142	0.142	0.119	0.094	0.112	0.137	0.134	0.119	0.096	0.095
N ('000s)	1,600	161.5	227.3	221.3	16.5	1,427	221.5	202.6	150.4	14.9	1,191.9	188.6	145.2	89.9	8.7

Notes: Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. All poverty rates are determined at the person level. For columns 3, 8, and 13 the official definition of poverty is used. The other income and consumption poverty definitions are calculated using the NAS scale and the CPI-U-RS. Columns 2 and 5 only include data from the CE Survey from 1980-1981 and 1984-1989.

Appendix Table 1: Comparison of CE Expenditure Measures to National Aggregates, 1980-2004

	1980	1984	1987	1992	1994	1997	2002	2004
Food at home[a]								
CE	199.2	205.1	236.4	324.9	338.7	376.2	436.8	477.4
PCE	213.7	260.6	290.7	366.8	392.8	431.3	540.1	603.4
Ratio	0.932	0.787	0.813	0.886	0.862	0.872	0.809	0.791
Food away from home[b]								
CE	75.8	98.9	120.1	136.4	150.8	164.9	191.8	217.8
PCE	90.2	123.6	154.9	212.3	234.5	262.7	339.4	388.2
Ratio	0.841	0.801	0.775	0.643	0.643	0.628	0.565	0.561
Total food								
CE	275.0	304.1	356.4	461.4	489.5	541.1	628.6	695.2
PCE	303.9	384.2	445.6	579.1	627.3	694.0	879.5	991.6
Ratio	0.905	0.791	0.800	0.797	0.780	0.780	0.715	0.701
Rent plus Utilities[c]								
CE	132.0	202.3	235.1	306.7	334.2	380.7	438.5	485.1
PCE	144.2	209.9	250.0	315.0	347.0	387.7	469.6	504.5
Ratio	0.916	0.964	0.940	0.974	0.963	0.982	0.934	0.961
Gasoline and motor oil								
CE	98.6	95.4	83.6	97.5	100.8	115.9	138.5	185.7
PCE	86.7	94.6	85.4	112.4	116.2	134.4	164.5	231.4
Ratio	1.137	1.008	0.979	0.867	0.867	0.862	0.842	0.803
Alcoholic beverages								
CE	21.6	25.9	24.6	25.2	26.9	29.2	37.2	37.0
PCE	29.7	37.1	41.4	48.9	52.9	61.2	75.5	85.0
Ratio	0.726	0.697	0.595	0.515	0.508	0.478	0.492	0.436
Transportation								
CE					203.3	240.5	268.1	279.9
PCE					190.7	245.7	288.4	308.2
Ratio					1.066	0.979	0.930	0.908
Tobacco								
CE	14.4	20.5	21.6	27.3	26.3	27.6	35.7	33.3
PCE	20.9	29.2	34.5	48.0	47.3	53.8	89.2	87.5
Ratio	0.689	0.701	0.626	0.568	0.556	0.512	0.400	0.380
Clothing								
CE					109.9	116.2	118.6	111.3
PCE					237.8	257.8	303.1	324.6
Ratio					0.462	0.451	0.391	0.343

a Food at home is food purchased for off-premise consumption minus alcoholic beverages purchased for off-premise consumption.

b Food away from home is purchased meals and beverages minus other alcoholic beverages.

c Rent plus utilities is rent on tenant-occupied nonfarm dwellings plus utilities excluding telephone.