

## **Five Decades of Consumption and Income Poverty\***

First version: May 2006  
Current version: March 14, 2009

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### **Abstract**

This paper examines poverty in the United States from 1960 through 2005. We investigate how poverty rates and poverty gaps have changed over time, explore how these trends differ across family types, contrast these trends for several different income and consumption measures of poverty, and consider explanations for the differences in trends. 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. We show that bias in the CPI-U has a sizable effect on changes in poverty. Between the early 1960s and 2005, an income poverty measure that corrects for bias in this price index declines by 14 percentage points more than a comparable measure based on the CPI-U. The patterns are very different across family types, with consumption poverty falling much faster than income poverty for single parents and 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. While relative poverty rose in the early 1980s, changes in relative poverty have been fairly small since 1990. We examine the role that demographics, taxes, and transfers play in explaining changes in poverty over the past three decades. We also consider whether measurement error, saving and dissaving, and other explanations can account for income and consumption differences.

\*We would like to thank the Annie E. Casey Foundation, the Earhart Foundation, and the National Poverty Center for support and Cristobal Gacitua, Matt Gunden, Tom Murray, Vladimir Sokolov, Laura Wherry, and April Wu for excellent research assistance. We have also benefited from the comments of Steven Haider, Kathleen McGarry, Doug McKee, and seminar participants at Colby College, Harvard University, the Institute for Research on Poverty at the University of Wisconsin, the National Bureau of Economic Research, the University of California, Davis, the University of California, Los Angeles, the University of California, Santa Cruz, the University of Chicago, the University of Notre Dame, and the W.E. Upjohn Institute for Employment Research. A previous version of this paper circulated as “Three Decades of Consumption and Income Poverty”. Meyer: Harris School of Public Policy Studies, University of Chicago, 1155 E. 60<sup>th</sup> Street, Chicago, IL 60637 [bdmeyer@uchicago.edu](mailto:bdmeyer@uchicago.edu). Sullivan: University of Notre Dame, Department of Economics and Econometrics, 447 Flanner Hall, Notre Dame, IN 46556 [sullivan.197@nd.edu](mailto:sullivan.197@nd.edu)

## 1. Introduction

Few measures of economic well-being receive greater attention and scrutiny than poverty. Poverty rates indicate the extent of deprivation in an economy and changes in poverty are an important measure 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 in a number of income and consumption measures of poverty in the United States from the 1960s to the 2000s. In addition to the standard poverty rate, we examine changes in several other poverty measures including relative poverty, poverty gaps (the difference between family resources and the poverty line), and how these measures differ across family types. Our analyses incorporate many methodological improvements and address several critical issues related to measurement and data quality.

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 (Burtless and Smeeding 2001), or uses these measures to argue in support of or in opposition to specific government policies (Murray 1984; Sawhill 1988; Blank 1997; Scholz and Levine 2001; Joint Economic Committee Democrats 2004).<sup>1</sup> Over the past few decades, we have seen dramatic changes in policies that

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<sup>1</sup> 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

target poor families including welfare reform and expansions of the Earned Income Tax Credit (EITC). However, there is little consensus on how these reforms 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 trade and the merits of government interventions.

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.<sup>2</sup> In contrast, others provide evidence that some of these alternative measures follow distinct patterns.<sup>3</sup> 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.<sup>4</sup>

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 current 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 the consumption data provide more information than income data to impute noncash housing benefits and the service flow

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country, and the Census Bureau tells us we have lost the war.” (Congressional Record, 104th Cong., 1st sess., March 21, 1995).

<sup>2</sup> 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 (various years-b, 1995), Triest (1998), Short et al. (1999), and Dalaker (2005).

<sup>3</sup> 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.

<sup>4</sup> 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) concludes that consumption poverty fell considerably more than income poverty from 1980 through 1995. Johnson (2004) also finds differences between consumption and income based poverty trends, while Bavier (2008) concludes they are similar.

from vehicle and home ownership. Disaggregated consumption data permit the examination and possible exclusion of components of consumption such as medical or work expenses. Disaggregated consumption will also prove helpful for addressing concerns about under-reporting; an approach that is less suitable with income data.

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 reported purchase prices of over 350,000 vehicles and the predicted market price (validated using published vehicle price data) for other vehicles. Using several data sources, we impute the value of public and private health insurance coverage. Second, we address concerns about increased under-reporting of consumption in survey data by constructing 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. Third, we examine consumption and income based measures for 1960 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, 2008). Fourth, we show that bias in the price index, an issue that has received considerably less attention in the poverty literature, has a much larger effect on changes in poverty over the past three decades than other poverty measurement issues that have received greater attention, such as the equivalence scale and the resource sharing unit (e.g. the family or the household). Fifth, in addition to the poverty rate, which is just the cumulative distribution function at a single point, we also study other features of the resource distribution including deep poverty, near poverty, poverty gaps, and relative poverty. Sixth, we contrast income and consumption poverty rates and gaps for a number of family types defined by marriage, presence of children, and age. Finally, we examine potential explanations for changes in poverty over time and investigate why the trends for income and consumption poverty differ sharply for some family types.

We find sharp differences, particularly in recent years, between different income based poverty measures, and between income and consumption based poverty rates and gaps. An

income poverty measure that incorporates taxes declines by about 2 percentage points more during the 1960s, and by another 1.2 percentage points more during the 1990s, than a pre-tax money income measure. 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 family types, 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. The overstatement of inflation in official price indices has a sizeable effect on changes in poverty. Between the early 1960s and 2005, an income poverty measure that corrects for this bias declines by 14 percentage points more than a comparable measure based on the CPI-U. We find that while relative poverty rose in the early 1980s, changes in relative poverty have been fairly small since 1990. Our results show that demographic changes do a poor job of explaining the post 1980 poverty changes, except for education changes in the case of consumption poverty. Changes in tax policy explain a substantial part of the decline in income poverty particularly for families with children. We suspect that measurement error plays an important role in explaining the large differences between income and consumption measures that focus on the distribution below the poverty line such as poverty gaps and deep poverty. Given the evidence on low asset holdings, particularly for groups such as single parents, saving and dissaving are likely to explain only a small portion of the differences between income and consumption measures of poverty.

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. We describe our income data and income based measures of poverty in Section 4, and we do the same for the consumption data and consumption poverty measures in Section 5. Section 6 discusses the quality of income and consumption data. We address inflation adjustments to poverty thresholds in Section 7 and other poverty measurement issues in Section 8. 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 family types. We

consider a number of potential explanations for changes in poverty and differences across measures in Section 10. We offer conclusions in Section 11.

## **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).<sup>5</sup> 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 provided an estimate of the minimum cost for a nutritional diet for families of different sizes based on 1955 spending patterns. A poverty threshold for a family of three or more was determined as three times the cost of the economy food plan, which varied by family size and composition. 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 family size, the number of children under 18, and whether the householder is 65 or older. These thresholds are adjusted for inflation annually using the CPI-U. For a more detailed summary see Citro and Michael (1995) or Blank (2007).

A number of studies have highlighted the shortcomings of the official poverty measure and proposed alternative approaches for measuring poverty.<sup>6</sup> 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

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<sup>5</sup> 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.

<sup>6</sup> 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).

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.<sup>7</sup> 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.<sup>8</sup>

### **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 better 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.<sup>9</sup> For example, consumption captures permanent income (for further discussion see Cutler and Katz 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

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<sup>7</sup> The unattractive features include an allowance for additional people that first rises and then falls (see Section 8.B)

<sup>8</sup> 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.

<sup>9</sup> 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.

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. Furthermore, we can examine the effects of excluding categories of consumption that may not directly increase well-being, such as work expenses and out-of-pocket medical expenses.

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) 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 annually (60,000 households prior to 2002).<sup>10</sup> 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.<sup>11</sup> 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

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<sup>10</sup> 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.

<sup>11</sup> 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.



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 imputed noncash benefits. While respondents do not report income taxes, since 1980 imputed values for taxes and credits have been included in the ASEC/ADF.<sup>12</sup> 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 other income exceeds 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.<sup>13</sup>

Additional complications arise with the Census' valuation of subsidized and owner occupied housing. Rental subsidies are imputed using data on housing characteristics and gross 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 Census imputes the number of bedrooms 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) reports a ratio of about 0.7 for 1990).

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

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<sup>12</sup> 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>.

<sup>13</sup> 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.

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 Measures from the Consumer Expenditure (CE) Survey**

Our consumption data come from the Consumer Expenditure (CE) Survey, which is the most comprehensive source of consumption data in the U.S. We use the Interview component of the CE Survey for the years 1960-1961, 1972-1973, 1980-1981 and 1984-2005 (see Data Appendix for details). Because information on health insurance coverage is not available from 1984 to 1987, we do not report results for these years for consumption measures that include health insurance. The CE Survey is a rotating panel survey that includes about 5,000 families each quarter between 1980 and 1998 and about 7,500 families thereafter. 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.<sup>14</sup> The information in some of the earlier years is not as complete as that in later years, as explained in the Data Appendix. As we report below, the survey changes have only a small effect on the poverty rates that we calculate.

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

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<sup>14</sup> 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.

security.<sup>15</sup> However, given the importance of health coverage and changes over time in public and private insurance, we report alternative consumption measures that include a value for public and private health insurance. Third, to convert housing expenditures to housing consumption for homeowners, we subtract housing outlays such as mortgage interest payments, property tax payments, and spending on insurance, maintenance and repairs, and add the reported rental equivalent of the home. 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.

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 provides two important improvements upon previous work. First, 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. Second, we estimate depreciation rates by comparing the reported purchase prices for similar vehicles of different ages. We validate the predicted vehicle values for those 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. The Data Appendix provides more details on how vehicle service flows are calculated and the validation procedure.

We impute a measure of the value of public and private health insurance using the coverage information in the CE Survey and data on insurance costs.<sup>16</sup> We exclude out of pocket medical expenses because high out of pocket expenses are arguably 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

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<sup>15</sup> 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.

<sup>16</sup> Because measuring the value of public and private health insurance requires a number of strong assumptions, we also usually report alternative resource measures that exclude health insurance and medical spending.

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 estimating the cost of different types of coverage is straightforward, what should be included in consumption is less clear. The value a family places on health coverage may exceed its cost because of its insurance value. On the other hand, this in-kind transfer may be valued at 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 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, 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 measure appropriately 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<sup>th</sup> 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<sup>th</sup> percentile because public housing tends to be of lower quality than private housing in dimensions we do not directly observe. Evidence from the PSID indicates that the average reported rental equivalent of public or subsidized housing is just under the predicted 40<sup>th</sup> percentile for these units using parameters estimated from those outside public or subsidized housing.

We considered subtracting estimated monetary work expenses from consumption. However, 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 relative to total consumption.<sup>17</sup>

## **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, 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 (2008) report comparisons of weighted micro-data from the CPS to administrative

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<sup>17</sup> 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 2008).

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 (TANF) 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, 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 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 to be reported more accurately in the Diary Survey, these data appear to have greater downward bias. Between 1998 and 2003, average spending on food at home in the Interview Survey exceeded the average from the Diary Survey by more than 20 percent (BLS 2005).<sup>18</sup> 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.

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<sup>18</sup> The fact that food at home from the Interview Survey compares more favorably to PCE numbers than does food at home from the Diary Survey does not necessarily imply that the former is reported more accurately. For example, the Interview Survey numbers may include non-food items purchased at a grocery store. Battistin (2003) argues that the higher reporting of food at home for the recall questions in the Interview component is due to over-reporting, but as Browning et al. (2003) state, this is open to question.

PCE numbers differ from CE Survey data for reasons besides under-reporting. PCE coverage is wider, including purchases by nonprofits, purchases by those abroad, on military bases and in institutions, free financial services, and employer-paid insurance—all categories not included in CE Survey 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 Survey 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 Survey data that are most comparable based on concepts and comprehensiveness. In Appendix Table 1, we report CE/PCE ratios for the Interview data for ten 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 Survey. 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.<sup>19</sup> For food at home, on average the CE/PCE ratio is over 0.85 and for rent plus utilities the ratio is nearly 1.00. 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.

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<sup>19</sup> In a comprehensive study of survey data on food spending, Browning et al. (2003) conclude that, in general, respondents are “remarkably good” at reporting food at home.

Appendix Table 1 also reveals 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 in recent years. The reporting ratios for most other reported 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 Survey, under fifty percent of alcoholic beverages is obtained, while over seventy-five percent of audio, video and computers is included. This result is consistent with the general conclusion from Garner et al. (2006) 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.

Reporting ownership of houses and vehicles is very different from reporting the small, discretionary purchases that seem to be badly reported in the CE Survey, but validating the value of owner occupied housing and owned vehicles requires methods besides those of Appendix Table 1. The average value of these flows depends on the product of the ownership rate and the value of the flow conditional on ownership. Estimates of homeownership rates in the CE Survey match up very closely with those from the CPS (see Appendix Table 5). We know from past work that respondents seem to report house values fairly accurately in household surveys (Kiel and Zabel 1999; Bucks and Pence 2006). We have compared the reported rental equivalent of homes to the reported house values to confirm that the rental equivalents are reasonable.<sup>20</sup> For automobiles, we have compared ownership rates to administrative data on motor vehicle registrations. These comparisons indicate that the CE Survey captures about 90 percent of all cars and trucks and this rate does not vary substantially over time. We have also verified that the purchase price of vehicles in the CE Survey is reported fairly well. We find a high correlation between the reported purchase prices of cars and blue book prices (see the Data Appendix, Section D.3). Furthermore, Garner et al. (2006) note that there has not been deterioration in the reporting of new car purchases. Thus, these flows seem less likely to be under-reported or exhibit increased under-reporting over time than other spending components in the CE Survey.

## **6.C. Core Consumption**

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<sup>20</sup> The rental equivalent and home value are highly correlated, at around 0.7 in a typical year. The ratio of the rental equivalent to home value has been fairly stable, though it has declined in recent years, as one might expect with higher home prices.



Incorporating the lessons of the previous section, we construct a measure of core consumption that includes spending components that are primarily non-discretionary and have reporting ratios that are high and decline slowly over time. This core consumption measure consists of food at home, rent plus utilities, transportation, gasoline, the value of owner-occupied housing, rental assistance, and the value of owned vehicles. This measure arguably approximates essential consumption spending. Food away from home is omitted, but that is largely a discretionary expenditure. Other omitted categories include clothing and personal care items 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 73 percent of total consumption, but is on average 80 percent of consumption for those near the poverty line.<sup>21</sup> The results in Appendix Table 1 indicate that the components of core consumption are reported well. For food at home, rent plus utilities, transportation, and gasoline and motor oil, the reporting rates are high and there is only a slow decline in these ratios over time except for gasoline and motor oil. The average reporting ratio for the sum of these four components is 0.944 with a range between 1.03 and 0.867 (see Core consumption excluding flows in Appendix Table 1).

## **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.<sup>22</sup> 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.<sup>23</sup> As we will show, these two price indices yield very different patterns for poverty changes over longer

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<sup>21</sup> Non-medical core consumption is on average 80 percent of total non-medical consumption in the early 1980s, and a higher share in recent years due to the decline in reporting of other components of consumption.

<sup>22</sup> A recent exception is Broda and Weinstein (2007).

<sup>23</sup> The CPI-U-RS does not incorporate all of the methodological improvements to the CPI-U. See Stewart and Reed (1999) for more details.

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 2005 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 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.

In the analyses that follow, we use the CPI-U-RS as our base price adjustment.<sup>24</sup> 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 points from the growth in the CPI-U-RS index each year. 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

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<sup>24</sup> We use the CPI-U-RS index released by the BLS in 2006. We also compare our results to those using the PCE deflator.

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 than that in the CPI-U.

Broda and Romalis (2008) find that much of the rise in income inequality between 1994 and 2005 was offset by a relative decline in prices faced by the poor. In particular, they find that inflation for the lowest ten percent of households was 6 percentage points lower than inflation for the highest ten percent. Applied to poverty measures, this correction would likely amplify the types of reductions in poverty that we find. However, what is relevant for poverty measures is the difference between the poor and the average household rather than the bottom decile versus top decile difference that the authors report. These former differences appear to be much smaller. In addition, it is unclear what the patterns were over earlier years. In particular, Broda and Romalis' findings on Chinese imports are unique to their period. For these reasons, we have not incorporated an adjustment based on their results.

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

### **8.A Unit of Analysis**

Although official poverty is a count of individuals, whether an individual is poor is determined by income measured at the family level. The unit of analysis 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 cohabitators 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 cohabitators that share responsibility for housing, food, or other living expenses, but excludes cohabitators 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 (2006) 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.<sup>25</sup> The NAS panel recommends 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 recommends that the child proportion of an adult, P, be equal to 0.7 and that the economies of 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 thresholds that equate poverty in the baseline year (1980). Specifically, for each alternative poverty measure we find thresholds such that the poverty rate for that scale-adjusted measure is equal to that of the official poverty rate in 1980 (13.0 percent).<sup>26</sup> 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

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<sup>25</sup> 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).

<sup>26</sup> 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 thresholds 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, 1.09 or 0.97 excluding health insurance.

changes at different points in the distribution.<sup>27</sup> 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 deep poverty, near poverty, poverty gaps, relative poverty, and poverty by family type.

### **9.A Different Resources**

Figure 1 reports changes in poverty since 1972 for various income measures. These measures are also presented in the first five columns of Table 1, which includes poverty rates for the 1960s. 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 columns 1 through 5 of Table 1. First, how resources are measured has an important effect on income poverty measures.<sup>28</sup> A comparison of columns 2 and 3 or the corresponding series in Figure 1 shows the effects of accounting for taxes and tax credits. In the early 1980s, after-tax income poverty increases relative to pre-tax income poverty. However, in the 1960s and between 1986 and 1996, the reverse is true: after-tax money income poverty falls quite a bit faster than pre-tax income poverty. Between 1963 and 1972, and then again between 1986 and 1996, the decline in after-tax income poverty exceeds that of pre-tax poverty by at least two percentage points. After 1996, the relative movements of the two measures are small.

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

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<sup>27</sup> Triest (1998) and Joint Economic Committee Democrats (2004) use a similar approach.

<sup>28</sup> Standard errors for changes in some of the key poverty measures and the differences between them are reported in Appendix Table 2. Changes and differences between poverty measures between 1980 and 2005 are typically significantly different from zero if they exceed 0.6 percentage points. If one groups years, much smaller changes are significant.

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.<sup>29</sup> 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.

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. These and other consumption based measures are presented in columns 6-10 of Table 1, which also includes poverty rates for the 1960s.<sup>30</sup> We also show changes in official income poverty and an after-tax income poverty measure from Figure 1 for comparison. Again, we anchor all the poverty series to equal the official measure in 1980. As with measures of after-tax money income, consumption poverty falls by more than the pre-tax money income poverty measure. For some periods, the change in consumption poverty is similar to that of after-tax money income poverty. For example, between 1980 and 2000, consumption (column 6) and after-tax money income (column 3) 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 (Baviera, 2008). However, the results in Figure 2 and Table 1 reveal important differences between the changes in consumption and income based poverty. 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 these measures diverge with income based poverty rising about one percentage point while consumption based poverty falls.<sup>31</sup>

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<sup>29</sup> Dalaker (2005) suggests that the similarity in trends between a poverty measure based on pre-tax money income and one based on after-tax money income plus noncash benefits and the annuitized value of home equity indicates that poverty trends are similar for different measures of resources. However, if the return on home equity is excluded from resources, one can see that taxes do have an important effect on changes in poverty, particularly for certain periods, as shown in Figure 1.

<sup>30</sup> Consumption poverty rates for 1984-1987 are not provided because information on health insurance coverage is not available in the CE Survey for these years.

<sup>31</sup> Given the standard errors of these estimates, differences of this magnitude between income and consumption poverty changes are strongly statistically significant.

Differences between the changes in after-tax money income poverty and consumption poverty are also evident for earlier years. After-tax money income poverty falls 5.2 percentage points more than consumption poverty during the 1960s (columns 3 and 7). Between 1973 and 1980 after-tax money income poverty falls 0.5 percentage points, while poverty based on consumption excluding health insurance rises 0.2 percentage points.<sup>32</sup> 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 family type below.

The 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 0.8 percentage points more than poverty based on total consumption over the period between 1980 and 2005. One notable exception is the period between 1973 and 1980 when core consumption poverty falls while consumption poverty rises. In column 9 we see that non-housing consumption poverty falls much less than measures that include housing. We do not emphasize this measure for several reasons. First, housing is the largest component of consumption for the poor, so excluding it could give a distorted picture of well-being for those with few resources. Second, non-housing consumption over-weights the components of consumption that are measured poorly and have seen declining reporting in recent years, i.e. it does the opposite of core consumption. We should note that the discrepancy between total consumption and non-housing consumption appears in the late 1980s and grows steadily, implying that it is not due to recent house price increases. 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 except between 1973 and 1980 when expenditure poverty rises while consumption poverty falls slightly.

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<sup>32</sup> Cutler and Katz (1991) do not examine after-tax income poverty or a measure that incorporates noncash benefits, but, similar to our results, they do find (Table 13) that both pre-tax income and consumption poverty fall during the 1960s (also see Slesnick (2001)). They report that consumption poverty rises between 1972-73 and 1980, while our results indicate consumption poverty declined slightly during this time. This difference is mainly accounted for by differences in how we construct our measures of consumption, but also because they use different thresholds.



However, as discussed in Section 10, who is consumption poor differs significantly from who is expenditure poor. For example, the share of those 65 and older that are poor is twice as high when poverty is measured using expenditures than when it is measured using consumption.

## **9.B. Different Price Adjustments**

Changes in poverty differ noticeably depending on the price index used to adjust the thresholds. 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.<sup>33</sup> 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 the early 1960s and 2005, moving from the CPI-U to the CPI-U-RS increases the decline in income poverty by 5.3 percentage points, and moving from the CPI-U to the adjusted CPI-U-RS increases the decline by a full 14 percentage points. As shown in Figure 3, the effect of the move to the CPI-U-RS is most evident in the late 1970s. Between 1976 and 1980 income poverty increases by nearly a percentage point when thresholds are adjusted by the CPI-U, while poverty falls by more than one percentage point when adjusted by the CPI-U-RS.<sup>34</sup> 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 on changes in consumption poverty. Using the measure excluding health insurance, between 1972 and 2005, moving from the CPI-U to the CPI-U-RS leads to a 4.8 percentage point difference in the change in poverty, while the adjusted CPI-U-RS leads to a 11.4 percentage point difference relative to the rate 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. In terms of percentage changes, between 1972

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<sup>33</sup> Results using the PCE deflator 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.

<sup>34</sup> These results are similar to those reported in Burtless and Smeeding (2001).

and 2005, CPI-U consumption poverty falls 2.8 percent, while adjusted CPI-U-RS consumption poverty falls by 71 percent.

### **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 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.<sup>35</sup> These patterns are not sensitive to small changes in F or P, nor do they change appreciably using a common 3-parameter equivalence scale.<sup>36</sup>

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 the narrow, but ubiquitous head count measures of poverty. In statistical terms, this measure summarizes the bottom tail of the

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<sup>35</sup> 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.

<sup>36</sup> 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.  $F = 0.25$ ).

distribution using the cumulative distribution function at a single point. We now consider other cutoff points as well as the poverty gap. We examine the share of individuals below 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 for our main income and consumption based measures of poverty. The deep poverty results are displayed in Figure 5 as well. Sharply distinct differences are evident between the income and consumption based measures of deep poverty, particularly in recent years. Between 1980 and 2005, deep poverty based on after-tax income plus noncash benefits changes very little (see column 3 where it increases by 0.4 percentage points).<sup>37</sup> By contrast, the consumption based deep poverty rate in column 5 falls by a 1.1 percentage points—a drop of sixty percent. At 150 percent of our original thresholds (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.<sup>38</sup> 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.

We also examine poverty gaps for the resource measures discussed above. The poverty gap provides evidence on the depth of poverty and is often thought to be a better measure of deprivation than head count measures (Dasgupta 1993, Deaton 1997). The total gap for a given poverty measure is the sum of the difference between the poverty threshold and family resources across all families in poverty. For each poverty measure we divide this gap by the number of poor families to calculate average gaps. These average gaps are reported in Table 4 (in 2005 dollars). In the 1960s both income and consumption based measures of the gap drop sharply, by about 15 percent. However, between 1972 and 2005 income and consumption based gaps move in opposite directions (also see Figure 6). The average gap based on after-tax money income (column 3) rises by 16.8 percent between 1972 and 2005. During this same period the consumption based gap falls by 10.8 percent. Including noncash benefits in an income based

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<sup>37</sup> Unlike the results reported in Table 1, incorporating taxes in an income based poverty measure (not reported) does not have a noticeable effect on changes in deep poverty. This is not surprising given that for those with income near 50 percent of the poverty line tax liabilities and credits are typically small.

<sup>38</sup> 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.

measure dampens the rise in the gap somewhat, but the pattern still diverges sharply from that based on consumption during the 1990s and 2000s (compare columns 4 and 6 or 5 and 7).

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 falls between 1972 and 2005, those that remain in poverty are more likely to be severely deprived. By contrast, the pattern for consumption based gaps suggests that as overall poverty falls during this period the degree to which families are severely deprived also falls.

### **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).

Table 5 presents relative poverty trends for several income and consumption measures. In general, the level of consumption relative poverty is much lower than that of income relative poverty due to the lower dispersion of consumption. Unlike absolute poverty, which falls noticeably during the 1960s, relative poverty remained flat for both income and consumption based measures. Relative poverty also changed very little in the 1970s. Since then the trends are not pronounced (Table 5 and Figure 7): 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 slowly since 2000. While the fall in consumption reporting may be less important at the bottom, the poorly reported items are a higher share at the median, which might lead to substantial bias at that point. Thus, core consumption relative poverty may be the most appropriate relative measure and it has fallen since the mid-1980s. The pattern for core consumption relative poverty (not reported) mirrors the patterns for consumption relative poverty reported in column 5 of Table 5.

## 9.F Demographics and Poverty

Some of the most striking differences in trends across measures of poverty are evident within family types. 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.<sup>39</sup> We report poverty rates for these groups in Table 6.<sup>40</sup>

As emphasized earlier, income poverty falls more than consumption poverty during the 1960s. The results in Table 6 show that this is true within each family type except single parents, where the decline is similar for income and consumption (in percentage terms). After the 1960s, these measures diverge considerably for single parents. In the 1970s and 1990s, income poverty falls more than consumption poverty, while the reverse is true in the 1980s, and the measures move sharply in opposite directions in the 2000s. The difference between changes in 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 parents increases modestly after 1997 while consumption poverty appears to fall slightly.

Quite strikingly, for married couples with children—the largest of our family types, accounting for about 40 percent of the entire sample and between 25 and 40 percent of poor individuals in recent years—a very different pattern is evident. For these families income poverty falls more than consumption poverty. Between 1980 and 2005, income poverty falls by 4.1 percentage points, while consumption poverty only falls 1.3 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 a decline in income poverty of more than 60 percent during the 1960s as compared to a 33 percent decline for consumption poverty. In more recent years, this group has seen little change in their (low) poverty rates measured with either income or consumption.

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<sup>39</sup> Those households with a head 65 or older are included in this last category regardless of marriage or the presence of children.

<sup>40</sup> Standard errors for changes in some of the key poverty measures and differences between them can be seen in Appendix Table 3. In Table 6 we report poverty rates based on after-tax income and consumption excluding health insurance because these measures are available for the 1960s and 1970s. The patterns for measures based on after-tax income plus noncash benefits and consumption including health insurance reported in Appendix Table 3 are qualitatively similar to the patterns presented in Table 6.

Income and consumption poverty also diverge for those with a head 65 or older. In the 1960s and 1970s income poverty falls considerably more than consumption poverty. Between 1980 and 2005, consumption poverty falls by 11.7 percentage points (61 percent), while income poverty falls by 7.1 percentage points (45 percent).

The sharp contrast between changes in income and consumption based poverty gaps is even more evident within family types (Table 7). In the 1960s, the income based gap falls much more than the consumption based gap for families with a head 65 or older, while the reverse is true for married parent families. Income and consumption gaps continue to diverge sharply within group in more recent years. For single parent families, we see large increases in income based gaps and large decreases in consumption based gaps between 1980 and 2005. For families with a head 65 or older, we see an increase in the income based poverty gap of 43 percent between 1980 and 2005, while the consumption based poverty gap falls by 19 percent.<sup>41</sup> During this period the income poverty gap for single individuals rises considerably (27.5 percent) while the consumption poverty gap falls slightly (3.23 percent).

The small movements in overall income and consumption relative poverty over the last three decades hide some striking changes within family types and differences between income and consumption. In Table 8 we report relative poverty for our five family types. Between 1972 and 2005 relative poverty declined sharply for those living in single parent families or with a head 65 or older, but remained flat or even rose slightly for those in married parent families. Comparing income and consumption based measures within groups reveals some noticeably different patterns. Between 1980 and 2005, for those in single parent families, consumption relative poverty falls by twice as much as income relative poverty in percentage terms. For single childless individuals, relative income poverty rises significantly between 1980 and 2005 while relative consumption poverty falls slightly. For those in families with a head 65 and over, income relative poverty falls noticeably more than consumption relative poverty in the 1970s, but the reverse is true between 1980 and 2005.

A comparison of the demographic characteristics of the income poor and the consumption poor also reveals some important differences. Based on a number of observable characteristics, the consumption poor appear to be worse off than the income poor. For example,

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<sup>41</sup> When noncash benefits are included in income (not reported), the rise in the gap is less pronounced for all groups, but the distinct differences from the patterns for consumption based gaps remain.

the consumption poor are less educated (Table 9), are less likely to own a home, are more likely to live in a mobile home if they do own their home, are less likely to own a car, and have smaller living units that are less likely to be air conditioned or include durables such as a washer and dryer (Appendix Table 4). For the 1980-2005 period, we also examine the demographic characteristics of the income poor using the measure that includes noncash benefits (not reported). The characteristics of this group are very similar to those of the after-tax income poor reported in Table 9 with a few notable exceptions. The after-tax income plus noncash benefit poor are less likely to own a home and to live in a single parent family or a family with a head 65 or older, and they are more likely to live in a married parent family. In some cases this implies that those defined as poor using an income measure that includes noncash benefits look more like the consumption poor (i.e. homeownership), but in other cases the reverse is true (i.e. the fraction with a head 65 or older in the 1980s and 1990s).

The characteristics of the income and consumption poor—in particular, race, homeownership, and family type—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 2000s are more educated and more likely to be neither black nor white than the poor in earlier years. Also, the poor in the 2000s are more 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. The differences between the characteristics of the consumption and income poor do not appear to be the result of differences between the surveys, as the demographic characteristics of the full samples (Appendix Table 5) are very similar across surveys.

## **10. Explanations for Poverty Trends and Differences between Income and Consumption**

### **A. Explaining Trends**

We have concentrated so far on establishing the facts about changes in poverty over time. In this section we focus on possible explanations for the changes over time and for the differences between changes in income and consumption poverty measures. In explaining the changes over time, we start with what we know based on past work. Hoynes et al. (2006)

provides a perceptive recent summary of the evidence on explanations for changes in official poverty. The paper examines the role of four factors in explaining changes in non-elderly pre-tax money income poverty: macroeconomic conditions and the employment of women, family structure changes, government tax and transfer programs, and immigration. The authors estimate the effect of macroeconomic variables and the employment of women on poverty using region by year regressions. They then use these coefficient estimates to predict the aggregate poverty rate. They find that macroeconomic conditions and employment are predicted to decrease the official poverty rate (for the nonelderly) by only 1.0 percentage point between 1980 and 2003.<sup>42</sup> Even this small magnitude would be approximately halved if the estimated relationship between macroeconomic changes after 1980 were used for the predictions rather than the much stronger relationship of the 1970s. If the changing employment of women is incorporated, Hoynes et al. predict that poverty will rise slightly over the period, rather than fall. Their results indicate that demographic changes, such as the falling share of married couple families, predict a substantial increase in poverty. Anti-poverty programs and immigration are found to play an unimportant role in changes over time.

While Hoynes et al. focus on explaining changes in official poverty, we will examine changes for alternative income measures that will allow us to consider the role of taxes and noncash benefits over time (rather than the point in time analysis in Hoynes et al.). We also examine the entire population, rather than the non-elderly. Most importantly, we analyze these issues for consumption as well as income poverty.

We analyze the role of demographics including family type, employment, race, region and education, on the changes in income and consumption poverty rates over time. We might expect that the decline in overall employment, the increase in single parent families and single individuals, and the changes in the population by region and race, might lead to higher poverty over time. On the other hand, we might expect the increase in education over time, particularly the decline in the share of those without a high school degree, would lead to lower poverty rates. We calculate the predicted changes in poverty over time if poverty rates within demographic

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<sup>42</sup> There is a large literature examining the relationship between macroeconomic conditions and income poverty. In general, this literature finds that poverty and the macroeconomy are correlated, but that this relationship is quite weak for some periods such as the 1980s. For more recent discussions see Blank (2000) and Gundersen and Ziliak (2004). We do not reexamine the effects of macroeconomic conditions.



groups remained fixed at the level in a base year, but only the shares of family types and other demographics changed. These results are reported in Table 10, using the five mutually exclusive and exhaustive family types discussed in Section 9.F. We perform these calculations using the poverty rates in several alternative base years (1972, 1980 and 2005). We have divided the full time period into three parts: the early 1960s-1972, 1972-1980 and 1980-2005. We examine the effect of demographics on both consumption poverty (panel A) and income poverty (panel B).<sup>43</sup>

Table 10 indicates several patterns. Changes in family type typically predict increasing poverty regardless of which rates are used as the base, although the predicted rise is smaller using the 2005 rates. Thus, family type changes cannot explain declines in income or consumption poverty. Changes in employment, race and region are predicted to have small effects on poverty rates in all periods.

Education is predicted to have a large poverty reduction effect for consumption, but little for income. Between 1980 and 2005, consumption poverty falls 3.9 percentage points, while education changes predict a 2.8 percentage point fall when combined with family type and employment using the 2005 poverty rates as the base (1.8 percentage points with 1980 base poverty rates). On the other hand, income poverty falls 3.2 percentage points, but education combined with family type and employment predicts a 0.2 percentage point fall using 2005 base rates (0.9 percentage points with 1980 base rates). This difference reflects the fact that low education is more closely associated with consumption poverty than income poverty, reflecting the more permanent, long-term nature of consumption poverty. In general, demographic changes do a poor job of explaining changes in poverty since the 1960s, except for education changes in the case of consumption poverty.

As discussed in Section 9.A, taxes and tax-credits play a substantial role in changes in improved measures of poverty (though they do not enter the official poverty measure). The effect of taxes can be seen by comparing money income to after-tax money income in Figure 1 and Table 1. Subtracting taxes and adding tax credits to money income adds to the increase in poverty in the early 1980s, but substantially accelerates the decline in poverty in the 1960s and between 1986 and 1996, adding at least two percentage points to the decline in these latter two periods.

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<sup>43</sup> We also examined the effect of demographics on a measure of income poverty that includes noncash benefits for the years 1980 to 2005. These results are very similar to those reported in Panel B of Table 10.

It is clear what changes in tax provisions led to these after-tax poverty changes. In 1964 and 1965, marginal tax rates for the lowest tax bracket fell, while in 1970 the standard deduction was sharply increased for those with incomes near the poverty line. In the early 1970s the personal exemption was also increased, but the increases do not quite make up for inflation over our period. As a result, after-tax income poverty declined more than pre-tax income poverty during the 1960s. While the Economic Recovery Tax Act of 1981 (ERTA) cut rates and indexed tax brackets for the vast majority of people, the standard deduction and personal exemption (that together determine the zero tax bracket amount) were not indexed until after 1984. The high inflation of this period moved more and more low-income families into the range where their income was taxable. Thus, poverty accounting for taxes increased relative to pre-tax money income over this period. After 1986, the situation reversed with the Tax Reform Act of 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 (and the personal exemption and standard deduction were increased). The effect of the EITC is even more noticeable between 1990 and 1996, when after-tax money income poverty fell by 1.3 percentage points more than the rate for money income. This growing gap coincides with the period of greatest expansion of the EITC under the 1990 and 1993 budget acts. Since 1996, the end of the EITC expansions, there has been little change in the difference between these two measures of poverty.<sup>44</sup> Thus, tax policy has had a substantial impact on poverty rates. Lack of indexing of the zero bracket amount combined with inflation increased after-tax poverty in the early 1980s. The rate cuts of the 1960s and the standard deduction increase of 1970, as well as the later EITC expansions and increases in the personal exemption and standard deduction had the opposite effect.

The pattern of changes in poverty by family type reinforces this conclusion (results not reported). Single parents are by far the most likely group to receive the EITC, followed by married parents. Bearing this out, the post-1986 difference between money income and post-tax money income is most pronounced for single parents and to a lesser extent married parents. The

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<sup>44</sup> 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. However, the imputation does not overstate dollars received since the imputed amounts fall far short of those actually received (Meyer, Mok and Sullivan 2008).

changes in the two measures over time are almost the same for single individuals and families headed by someone 65 or older.

In interpreting changes in poverty due to tax and transfer programs, one must keep in mind that changes in taxes and transfers may alter pre-tax and transfer incomes. A full analysis of the behavioral effects of these programs is beyond the scope of this paper. However, one would expect that the mechanical effects of the tax changes on poverty indicated here understate the effects of the tax changes (principally the EITC) on employment and earnings given the evidence in the literature (for summaries see Hotz and Scholz 2003, Eissa and Hoynes 2006, Meyer 2007). On the other hand, transfer programs likely reduce pre-transfer earnings, suggesting that any direct poverty reducing effects of these programs overstate the effects incorporating behavioral responses.

The effects of non-cash transfers (food stamps, housing and school lunch subsidies, Medicaid, and Medicare) on changes in poverty rates over time can be seen by comparing after-tax money income to after-tax money income plus non-cash transfers, as reported in Figure 1 and Table 1. For the full population, the role of non-cash transfers is not pronounced as the two series align closely. However, non-cash transfers have a large effect for single parents and a noticeable effect for aged households, but much smaller effects for the changes over time for other groups (see Table 6 and Appendix Table 3). The role of noncash benefits is odd for single parents in that accounting for them reduces the fall in income poverty, making it less similar to the consumption poverty change over the full period. Over the 1990s when food stamp receipt fell, accounting for non-cash transfers makes income closer to consumption. For the aged as well, accounting for non-cash transfers reduces the fall in income poverty over time, making it less similar to the pattern for consumption.

Income poverty rates that include the return on home equity as calculated by the Census Bureau have a peculiar time pattern. Including home equity reduces the increase in poverty by nearly a percentage point in 1981 as compared to poverty calculated excluding home equity (column 4 versus column 5 in Table 1). Then, between 1981 and 1986, the measure including home equity rises by two percentage points more than the measure excluding home equity. These differences are due to the Census calculation of the value of the return on home equity as the product of the Standard & Poor's bond rate times home value. The bond rate sharply

increased in 1981 and then fell over time, causing poverty rate to move in the opposite direction in both cases. The effect of this odd way of calculating the value of home ownership is especially pronounced for those 65 and older in the early 1980s. Poverty for this group (not reported) falls 2.9 percentage points in 1981 due to the largest one year increase in interest rates (over our sample period) occurring in that year. Poverty for those 65 and older then rises by more than a percentage point by 1986 as the bond rate falls, while poverty excluding home equity falls by 2.5 percentage points. Because Census income measures including the return on home equity are sensitive to interest rate fluctuations, changes in these measures may not accurately reflect changes in well-being.

## **B. Explaining Consumption Income Differences**

The two most plausible explanations for the differences between the changes in income and consumption poverty are measurement error and saving or dissaving. There is considerable evidence that changes in measurement error are important for families with few resources. First, transfer income, which is particularly relevant for those with few resources, is significantly under-reported in surveys and the extent of under-reporting has grown over time. Meyer, Mok and Sullivan (2008) find that nearly half of food stamp benefits and TANF dollars are not reported in the CPS in recent years. Second, reported expenditures exceed reported income at the bottom (Meyer and Sullivan 2007). For all families, the 5<sup>th</sup> percentile of the CE Survey expenditures distribution is 44 percent higher than the 5<sup>th</sup> percentile of the CPS income distribution. For single mothers, expenditures exceed income by 50 percent when comparing the 5<sup>th</sup> percentiles and by 25 percent at the 20<sup>th</sup> percentiles.<sup>45</sup> Given that the extent of under-reporting seems to be especially pronounced at the very bottom, we suspect that measurement error is a likely candidate for the large differences in poverty measures that focus on the distribution below the poverty line: the poverty gap and deep poverty. For these measures we saw particularly sharp differences between income and consumption based measures, with the two often moving in opposite directions.

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<sup>45</sup> In Meyer and Sullivan (2006), we find that, after accounting for the under-reporting of Food Stamp and TANF dollars, changes in income and consumption distributions between 1993 and 2000 are similar for single mothers. We consider alternative ways of allocating under-reported dollars, but, without knowing explicitly who is not reporting, the evidence is inconclusive.

A second explanation for differences between income and consumption is that consuming out of past saving or borrowing against future income allows some groups to spend more than their income, and this saving or borrowing has changed over time. To address this possibility, we examine changes over time in various percentiles of the financial asset and non-mortgage, non-vehicle debt distributions in the CE survey for the entire population as well as for the income poor, the consumption poor, and for different family types. We also examine various percentiles of the one year change in financial assets for these same groups.<sup>46</sup> A summary of these numbers is reported in Appendix Table 4. The 85<sup>th</sup> percentile of the asset distribution for the income poor is always under \$1,500 and has only changed by a few hundred dollars over time, which is not sufficient to support much consumption in excess of income.<sup>47</sup> Looking at the bottom of the distribution of the change in assets for the income poor (to focus on those who may be dissaving), there is some evidence of dissaving for a small fraction of the income poor in the 1960s and 1970s, but the 10 percentile is zero in more recent years, providing little evidence of overall dissaving. Moreover, the decline in the change in financial assets suggests less dissaving over time, which is contrary to the pattern we would expect if dissaving were to explain differences between income and consumption poverty trends. Similarly, the fraction of the income poor with substantial debt is small and there is no evidence of increased borrowing over time for this group. Even if under-reporting leads the levels and changes in assets to be truly two or three times the reported amounts, the role of dissaving overall must be small.

While dissaving does not seem to be the dominant explanation for differences between income and consumption poverty, for some family types a small but important part of the difference between consumption and income is likely dissaving. Appendix Table 6 provides asset and debt information for the income poor by family type. Financial assets are substantial at

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<sup>46</sup> There is evidence that assets are under-reported in the CE Survey. For example, a comparison of the distribution of financial assets for the PSID and CE Survey for 1994 and 1999 indicate that the median and 75<sup>th</sup> percentiles for the distribution in the CE Survey are 30 to 50 percent lower than the respective percentiles in the PSID. However, the fraction of families with positive financial assets is very similar across surveys.

<sup>47</sup> To examine assets for the income poor (Appendix Tables 4, 6 and 7) we use data from the CE Survey because asset information is not available in the CPS. For these tables we restrict the CE Survey sample to those designated as complete income respondents, and exclude families whose head or spouse responds “don’t know” to questions on wage and salary income or refuses to respond to these questions. Because the CE Survey did not impute missing values for income prior to 2004, the level of income is lower (and consequently the level of poverty is higher) than that from the CPS, even after restricting the sample to complete income respondents. However, changes in income poverty based on CE Survey data are very similar to changes in income poverty based on CPS data for the years 1980-2005.

the 85<sup>th</sup> and 90<sup>th</sup> percentiles for income poor families with a head 65 or older. After 1990, more than ten percent of the aged income poor have financial assets over \$30,000, and more than five percent have assets over \$120,000. For those aged income poor who are not consumption poor (Appendix Table 7, panel A), which is most of the aged income poor in recent years, assets are even higher—\$40,000 at the 85<sup>th</sup> percentile after 1990. Dissaving is also suggested by the change in asset distribution, which shows that at least five percent of the aged income poor, but not consumption poor have drawn down their assets by more than \$3000 over the year. In contrast, the aged who are both income poor and consumption poor (Appendix Table 7, panel B) have assets under a couple thousand dollars at the 90<sup>th</sup> percentile, and the change in assets at the 5<sup>th</sup> percentile is zero. Married couple families, especially those without children, also have substantial assets if they are income poor, but not consumption poor.

On the other hand, for income poor single parents (Appendix Table 6), the 95<sup>th</sup> percentile of assets is below \$1400 for all time periods and the 5<sup>th</sup> percentile of the change in assets is essentially zero for the 1990s and 2000s. Even for single parent families that are income poor, but not consumption poor (Appendix Table 7, panel A), assets are about one thousand dollars at the 90<sup>th</sup> percentile and the change in assets at the 5<sup>th</sup> percentile is only a fall of a few hundred dollars. Non-mortgage, non-vehicle debt for single parents and the aged who are income, but not consumption poor is under a few thousand dollars at the 90<sup>th</sup> percentile, but is much higher at the 90<sup>th</sup> percentile for the other family types. These patterns indicate essentially no consumption out of wealth or borrowing by some groups (single parents) and suggest dissaving for a small share in some other groups (the aged, and married couples without children).

Several studies, summarized in Hurd (1990) have found that the elderly as a whole dissaved even back in the 1970s. However, this literature does not show how the distribution of dissaving rates or amounts for the elderly has changed over time. Nor does it specifically examine the poor. There is also the possibility that the aged in recent years may be more able to consume housing wealth by borrowing against their homes. Venti and Wise (2004) find that it is uncommon for the aged to draw down housing equity to support consumption, although they find that housing equity is consumed in the case of negative shocks, such as nursing home entry or the death of a spouse. These studies do not provide evidence on whether those near the bottom of the income distribution are more likely to draw down equity than in the past.

Another possible source of the differences between income and consumption is the ownership of houses and cars that provide a flow of consumption services to their owners. If ownership rates have changed over time, they could explain some of the differences between income and consumption changes. We find substantial changes in house and car ownership for single parents and families with a head 65 or older who are income poor. Between the 1980s and the 2000s, home ownership by single parents rises by about four percentage points, while car ownership rises by nearly 17 percentage points (see Appendix Table 6). Car ownership also rises for the aged poor, but homeownership does not change noticeably. It is unclear whether these changes are big enough to explain much of the income consumption difference. Focusing on the difference between expenditure based poverty and consumption based poverty provides evidence on the effects of excluding consumption flows from houses and cars. In Table 1, we see that consumption and expenditure based poverty measures follow a similar pattern. Changes between 1980 and 2005 are very comparable, although expenditure poverty rises while consumption poverty falls between 1973 and 1980. By family type (not shown), the main difference between consumption and expenditure poverty is that the latter is about fifty percent higher than the former in a typical year for those with a head 65 and over, making comparing changes in the two difficult. Although the percentage point fall in expenditure poverty exceeds that for consumption poverty for this group, in percentage terms the declines are comparable. Overall, it appears that changes in the flow of services from houses and cars are not a large part of the difference between income and consumption poverty changes.

One possible explanation for why consumption poverty falls less than income poverty for couples with children is that educational spending (which is excluded from consumption) might be increasing for this group. To test this possibility, we examined poverty trends for a measure of consumption that includes educational spending. Patterns for this measure do not differ from the patterns of consumption poverty reported earlier, which is not surprising given that educational spending is very small relative to total consumption, even for married parents.

## **11. Conclusions**

This paper examines poverty in the United States from 1960 through 2005. While the official poverty rate in 2005 is the same as in 1970, we show that improved measures of poverty

decline noticeably. We find that sensible changes from the CPI-U, the official price index, lead to substantial declines in measured income poverty rates. Between the early 1960s and 2005, an income poverty measure that corrects for bias in the price index declines by 14 percentage points more than a comparable measure based on the CPI-U. We document sharp differences, particularly in recent years, between different income based poverty measures, and between income and consumption based poverty rates and gaps. An income poverty measure that incorporates taxes declines by about 3.9 percentage points more between the early 1960s and 2005 than a pre-tax money income measure. 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 family types, with consumption poverty falling much faster than income poverty for the elderly, but more slowly for married couples with children.

We also document patterns for other measures of deprivation. Relative poverty increased in the early 1980s, but did not have a clear trend in other periods. In particular, relative poverty changed little over the 1960s while absolute poverty fell sharply. 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.

Our results show that demographic changes do a poor job of explaining poverty changes over the past 45 years, except for education changes in the case of consumption poverty. Changes in tax policy explain a substantial part of the decline in income poverty particularly for families with children.

The differences between income and consumption measures that we document renew the question as to why these measures differ. We consider two primary explanations: measurement error and saving/dissaving. Increased under-reporting of income is likely to play a critical role, particularly for some groups. Given that the extent of income under-reporting seems to be especially pronounced at the very bottom, measurement error is likely to play an important role



in explaining the large differences between income and consumption measures that focus on the distribution below the poverty line such as poverty gaps and deep poverty. For these measures, those based on consumption often move in the opposite direction from those based on income. Given the evidence on low asset holdings among the income poor, particularly for groups such as single parents, saving and dissaving are likely to explain only a small portion of the differences between income and consumption measures of poverty. Further evidence on the importance of measurement error, saving, and dissaving in explaining the differences would be especially valuable.

The results from this paper have a number of important implications for poverty measurement. Bias in the CPI-U means that official poverty, while described as an absolute measure, is far from it. Although the CPI-U-RS incorporates the latest improvements the BLS has made, it still overstates inflation. The bias is substantial for estimates of changes in poverty over a long time period. Adjustments for these biases are critical for constructing a poverty measure that reflects an unchanging living standard.

A disposable income based poverty measure better reflects the resources available for consumption than the official poverty measure. However, there are important limitations to the Census valuations of nonmonetary resources including health insurance, housing subsidies, and owner occupied housing. Given these limitations and the fact that consumption better captures well-being, rather than measuring the resources available for consumption, it may be preferable to measure consumption directly. A consumption based poverty measure would more accurately capture changes in well-being and the effects of anti-poverty government policies. Going forward, consumption measures will reflect the loss of housing service flows if home ownership falls or the decline in consumption that might be required to repay debts, both of which would be missed by an income measure.

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. CE Survey and CPS ASEC/ADF Samples

Income data primarily come from the ASEC/ADF Supplement to the Current Population Survey (CPS), which is the source for official measures of poverty in the U.S. We use data from the 1964-2006 surveys which provide data on income for the previous calendar year. Our samples exclude individuals under the age of 15 who are not related to any other member in the household, because these “secondary individuals” are not included in the official poverty count.

All expenditure and consumption data come from the Interview component of the Consumer Expenditure (CE) Survey. We use data from the 1960-1961 and 1972-1973 surveys and all quarterly waves from the first quarter of 1980 through the third quarter of 1981 and from 1984 through 2005 (some of the fourth quarter of 2005 data comes from surveys conducted in the first quarter of 2006). We do not use the data from the fourth quarter of 1981 through the fourth quarter of 1983 because the surveys for these quarters only include respondents from urban areas.<sup>48</sup> We report a single poverty rate for the 1960-1961 period because the data are only representative of the full population when the samples from these two years are combined. The CE Survey data include 13,728 observations from 1960-1961, 19,975 from 1972-1973, and 569,425 from 1980-2005. For this latter period we drop 116 observations due to missing member file information, 198 observations due to missing information on the rental equivalent value of owned homes, and 1,591 observations due to missing information on public or private health insurance enrollment, yielding a final sample of 567,520 for the years from 1980-2005. For analyses using income from the CE Survey (Appendix Tables 4, 6, and 7) we restrict the sample to those designated as complete income respondents, and exclude families whose head or spouse responds “don’t know” to questions on wage and salary income or refuses to respond to these questions. This yields a sample of 13,728 observations from 1960-1961, 18,903 from 1972-1973, and 440,040 from 1980-2005. The 1980-2005 quarterly surveys collect expenditure data for the three months prior to the interview month. To obtain annual measures we multiply these quarterly measures of expenditures and consumption by four. In the 1960-1961 and 1972-1973 surveys only annual expenditures are available.

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<sup>48</sup> By excluding observations from the fourth quarter of 1981, and the first quarter of 1982 if the reference period falls in 1981, our poverty statistics for 1981 will be biased due to seasonal spending patterns. To determine the extent of this bias, we calculate an alternative poverty rate for 1981 that uses the urban families from the fourth quarter of 1981. This sample while non-representative captures the bulk of the population since in the first three quarters of 1981 about 88 percent of the sample was designated as “urban”. We calculate this alternative poverty rate as the weighted average of the poverty rates of the fully representative sample from the first three quarters of 1981 and the non-representative sample from the fourth quarter. The poverty rate for the non-representative sample is scaled up by the ratio of overall poverty to urban poverty in the first three quarters of 1981, and the weight for the non-representative sample is scaled up by the ratio of the sum of the weights for the full sample to the sum for the urban sample in the first three quarters of 1981. Note that this approach assumes that the poverty rate of urban families relative to rural families does not change between the first three quarters and the final quarter of 1981. Using this approach, the poverty rate for 1981 is 12.90 percent, which is 0.09 percentage points below the rate calculated by simply excluding observations from the fourth quarter of 1981, suggesting a small downward bias in the poverty rate we report for 1981. Based on this result, we suspect that the bias in other poverty measures for this year is small.

## **B. Measures of Consumption in the CE Survey**

**Expenditures:** This summary measure includes all expenditures reported in the CE Interview Survey except miscellaneous expenditures and cash contributions because some of these expenditures are not collected in all interviews. Since 1980 a subset of miscellaneous expenditures has been collected only in the fifth interview, and cash contributions are only collected in the fifth interview for surveys conducted from the first quarter of 1980 through the first quarter of 2001.

**Consumption:** Consumption includes all spending in our measure of total expenditures less spending on out of pocket health care expenses, education, and payments to retirement accounts, pension plans, and social security. In addition, housing and vehicle expenditures are converted to service flows. For homeowners we subtract spending on mortgage interest, property taxes, maintenance, repairs, insurance, and other expenses, and add the reported rental equivalent of the home. For those in public or subsidized housing, we impute a rental value using the procedure outlined in the text. For vehicle owners we subtract spending on recent purchases of new and used vehicles as well vehicle finance charges. We then added the service flow value of all vehicles owned by the family, as described in part D of this appendix.

### **Comparability over Time:**

We make two minor adjustments to the measure of total expenditures provided in the CE Survey to maintain a comparable definition of expenditures across our sample period. First, we add in insurance payments and retirement contributions for the 1960-1961 and 1972-1973 surveys because these categories were not treated as expenditures in these years. Second, the wording for the question regarding spending on food at home in surveys conducted between 1982 and 1987 differed from other years. Several studies have noted that this wording change resulted in a decrease in reported spending on food at home (Battistin 2003; Browning et al. 2003). To correct for the effect of this change in the questionnaire, for the years 1984-1987 we multiply spending on food at home by an adjustment factor which is equal to the ratio of average spending on food at home from 1988 through 1990 to average spending on food at home from 1984 through 1987. These adjustment factors, which we estimate separately for different family types, range from 1.12 to 1.30.

Additional adjustments are necessary to maintain a consistent definition of consumption across our sample period. Because a rental equivalent is not reported in the 1960-1961 and 1980-1981 surveys, we impute a rental equivalent for these years. Using data from the 1984 survey, we regress log reported rental equivalent on the log market value of the home, log total non-housing expenditures, family size, and the sex and marital status of the family head. Estimates from these regressions are used to impute a value of the rental equivalent for respondents in the 1980-1981 surveys. A similar approach is used to impute a rental equivalent value for the 1960-1961 surveys using data from the 1972-1973 surveys. In addition, the reported rental equivalent is top coded, and the threshold value of this top code changes over time. In each year, we top code the reported rental equivalent at the real value of the most restrictive of these top code thresholds (\$1000 per month in 1988). Also, we do not observe whether a consumer unit resides in public or subsidized housing prior to 1982, so a rental equivalent value for those in such housing is not

included in consumption prior to 1982. Estimates of the rental equivalent for those in public or subsidized housing in the mid 1980s are small relative to total consumption, suggesting that this exclusion is not likely to significantly bias our estimates for changes in poverty. Finally, the availability of information on vehicles also changes during our sample period. See Section D below for more details.

### **C. Measures of Income in the CPS ASEC/ADF**

ASEC/ADF respondents report annual measures of money income for the previous calendar year. Respondents also report 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 Census also provides imputed values for these and other noncash benefits. For more details see U.S. Census (various years-a,b), Appendices B and C.

**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. Federal income tax liabilities and credits and FICA taxes are calculated for all years using TAXSIM (Feenberg and Coutts 1993). State taxes and credits are also calculated using TAXSIM for the years 1977-2005. Prior to 1977 we calculate state taxes using IncTaxCalc (Bakija, 2008). We confirm that in 1977 net state tax liabilities generated using IncTaxCalc match very closely those generated using TAXSIM.

**After-tax Money Income Plus Noncash Benefits:** this adds to After-Tax Money Income the cash value of food stamps, and imputed values for housing subsidies, school lunch programs, Medicaid and Medicare, employer health benefits, and the net return on housing equity.

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

**Income Value of School Lunch Program:** The Census 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 Census imputes a “fungible” value of Medicaid or Medicare for families that include an individual who is reported to be covered by Medicaid or 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” (U.S. Census various years-b). 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 Census 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 in the AHS. The subsidy for those in subsidized housing in the AHS sample 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 ASEC/ADF, 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 housing subsidies in the ASEC/ADF were imputed using the 1979 or 1981 Annual Housing Survey.

**Employer Contributions to Health Insurance:** The Census 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 1985 or 1989 AHS, a value of home equity is imputed for each ASEC/ADF household by statistically matching the two surveys on observable characteristics including geographic location, income, household size, number of living quarters, and the age, race, sex, and education of the household head. The equity value of the home and property taxes for homeowners in the ASEC/ADF are determined by using these values from a household with similar characteristics in the AHS. This equity is converted to an annuity using a rate of return based on high grade municipal bonds from the Standard & Poor's series. The value of home equity is net of imputed property taxes.

## **D. Estimating Vehicle Service Flows**

Our measure of consumption replaces the purchase price of vehicles and vehicle maintenance costs with the service flow value from owned vehicles. We improve upon previous studies in how we calculate a flow that reflects the value that a consumer receives from owning a car during the period. These studies have imputed flows based only on recent spending on vehicles and descriptive characteristics of the family (Cutler and Katz 1991), recent spending on vehicles, vehicle age, and descriptive characteristics of the family (Meyer and Sullivan 2003, 2004), or reported purchase prices and vehicle age (Slesnick 1993). Our approach provides two important improvements upon previous work. First, in addition to vehicle age, our approach uses detailed information for each vehicle (such as make, model, year, automatic transmission, and other characteristics) to determine the market price. Second, we estimate depreciation rates by comparing the reported purchase prices for similar vehicles of different ages. We use the detailed expenditure data for owned vehicles from the 1980-2005 CE Surveys. A detailed explanation of the procedure used to estimate these service flows along with the data are available at [www.nd.edu/~jsulliv4/vehicles](http://www.nd.edu/~jsulliv4/vehicles).

### **D.1 Calculating the Market Price of a Vehicle**

We determine a current market price for each of the 1.1 million vehicles in the data from 1980-2005 in one of three ways. First, for vehicles that were purchased within twelve months of the interview and that have a reported purchase price (the estimation sample), we take the current market price to be the reported purchase price. This estimation sample accounts for about 15 percent of all vehicles in the 1980-2005 surveys. Second, for vehicles that were purchased more than twelve months prior to the interview and that have a reported purchase price (also about 15 percent of all vehicles), we specify the current market price as a function of the reported purchase price and an estimated depreciation rate as explained below.

Finally, for the remaining 70 percent of vehicles, we impute a current market price because the purchase price is not reported. Using the estimation sample, we regress the log real purchase price on a cubic in vehicle age, vehicle characteristics, family characteristics, and make-model-year fixed effects.<sup>49</sup> The vehicle characteristics include indicators for whether the vehicle has automatic transmission, power brakes, power steering, air conditioning, a diesel engine, a sunroof, four-wheel drive, or is turbo charged. Family characteristics include log real expenditures (excluding vehicles and health), family size, region, and the age and education of the family head. Coefficient estimates from this regression are then used to calculate a predicted log real purchase price for the  $i^{\text{th}}$  vehicle ( $x_i\hat{\beta}$ ). The predicted current market value for each

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<sup>49</sup> 76 percent of the vehicles without a reported purchase price can be matched to at least one vehicle in the estimation sample with the same make, model, and year. Four-fifths of the remaining 24 percent do not have a match because they are not a car, truck, or van so make and model are not observed. For those vehicles without a reported purchase price that do not have the same make, model, and year as at least one vehicle in the estimation sample, but do have the same make and year as a vehicle in the estimation sample (about 3 percent of all vehicles), a separate regression is estimated that includes make-year fixed effects instead of make-model-year fixed effects.

vehicle without a reported purchase price is then equal to  $\hat{\alpha} * \exp(x_i \hat{\beta})$ , where  $\hat{\alpha}$  is the coefficient on  $\exp(x_i \hat{\beta})$  in a regression of  $y_i$  on  $\exp(x_i \hat{\beta})$  without a constant term.<sup>50</sup>

## D.2 Estimating a Depreciation Rate and Service Flows

To estimate a depreciation rate for vehicles, we compare prices across vehicles of different age, but with the same make, model, and year. In particular, from the estimation sample we construct a subsample of vehicles that are in a make-model-year cell with at least two vehicles that are not the same age. Using this sample, we regress the log real purchase price of the vehicle on vehicle age and make-model-year fixed effects.<sup>51</sup> From the coefficient on vehicle age ( $\beta$ ), we calculate the depreciation rate ( $\delta$ ):  $\delta = 1 - EXP(\beta)$ . The service flow is then the product of this depreciation rate and the current market price. If the vehicle has a reported purchase price but was not purchased within 12 months of the interview we calculate the service flow as: (real reported purchase price)\* $\delta(1 - \delta)^t$ , where  $t$  is the number of years since the car was purchased.

Although the 1972-1973 CE Survey data files include an inventory of vehicles owned, we do not use these data to calculate service flows from vehicles for several reasons. First, we do not observe the year the car was manufactured, only whether it was manufactured before or after 1967. Second, we do not observe the model for vehicles manufactured during or before 1967, and for those manufactured after 1967 we only observe a broadly defined model group: subcompact domestic, compact domestic, etc. Thus, rather than using the vehicle inventory data, we impute service flows for owned automobiles using data on reported spending on new and used automobile purchases during the survey year and the reported number of automobiles owned during the year. Specifically, for a sample with positive spending on automobiles, we regress annual spending for new and used automobiles on a quadratic in total (non-automobile) spending and observable characteristics of the family including family income, family size, and the age, sex, and education of the family head. Parameter estimates from these regressions are used to predict spending on new and used car purchases for all families that own automobiles. We calculate the service flow from automobiles as the product of predicted automobile spending, the number of owned automobiles and a depreciate rate. This approach will understate total automobile flows for some families because the number of automobiles is topcoded at 2. This approach will overstate vehicle flows for families that dispose of an automobile during the survey year if this automobile is included in the total count of automobiles owned. This approach will also overstate vehicle flows for families that have owned their vehicles for an extended time, because we are predicting the value based on recent automobile purchases. Note that unlike our approach for 1980-2005, we calculate service flows only for automobiles, not for other vehicles such as trucks, motorcycles, campers, etc., because we do not have reliable information on the total number of each of these types of vehicles owned.

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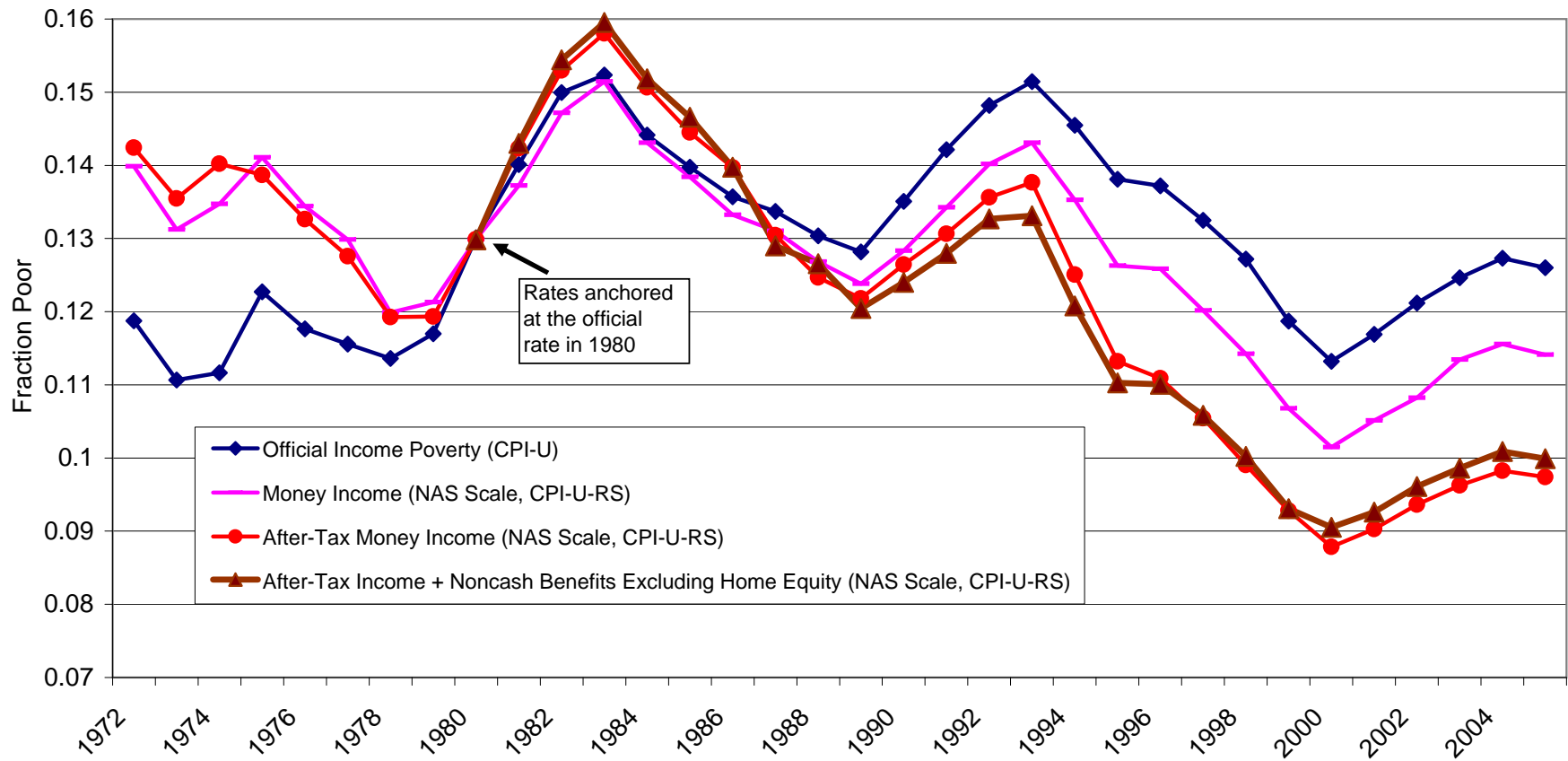
<sup>50</sup> This adjustment is made because  $\exp(x_i \hat{\beta})$  will tend to underestimate  $y_i$ .

<sup>51</sup> The distribution of service flows does not differ noticeably when alternative specifications for depreciation are estimated. For example, specifications that allow the depreciation rate to vary by age of the vehicle (by including a cubic in vehicle age in the regression) yield similar results.

### **D.3 Validation**

We validate our procedure for predicting the current market value of vehicles for those observations where we do not have a purchase price by comparing the predicted values to published values in National Automobile Dealers Association (NADA) guides. For a given year of the CE Survey we take a random sample of 100 vehicles for which a purchase price was not observed. We then find the average retail price of the vehicle reported in the NADA Official Used Car Guide, using observable vehicle characteristics including make, model, year, number of cylinders, and number of doors. In cases where a unique match is not found in the NADA guide (for example, there might be multiple sub-models listed in the NADA guide), we use the midpoint of the range of prices for the vehicles that match the description of the vehicle from the CE Survey. For the sample of vehicles randomly drawn from the 2000 CE Survey, the correlation between our imputed price and the 2000 NADA price was 0.88. Similarly, for a sample of 100 cars with a reported purchase price, the correlation between the reported price and the NADA price was 0.91.

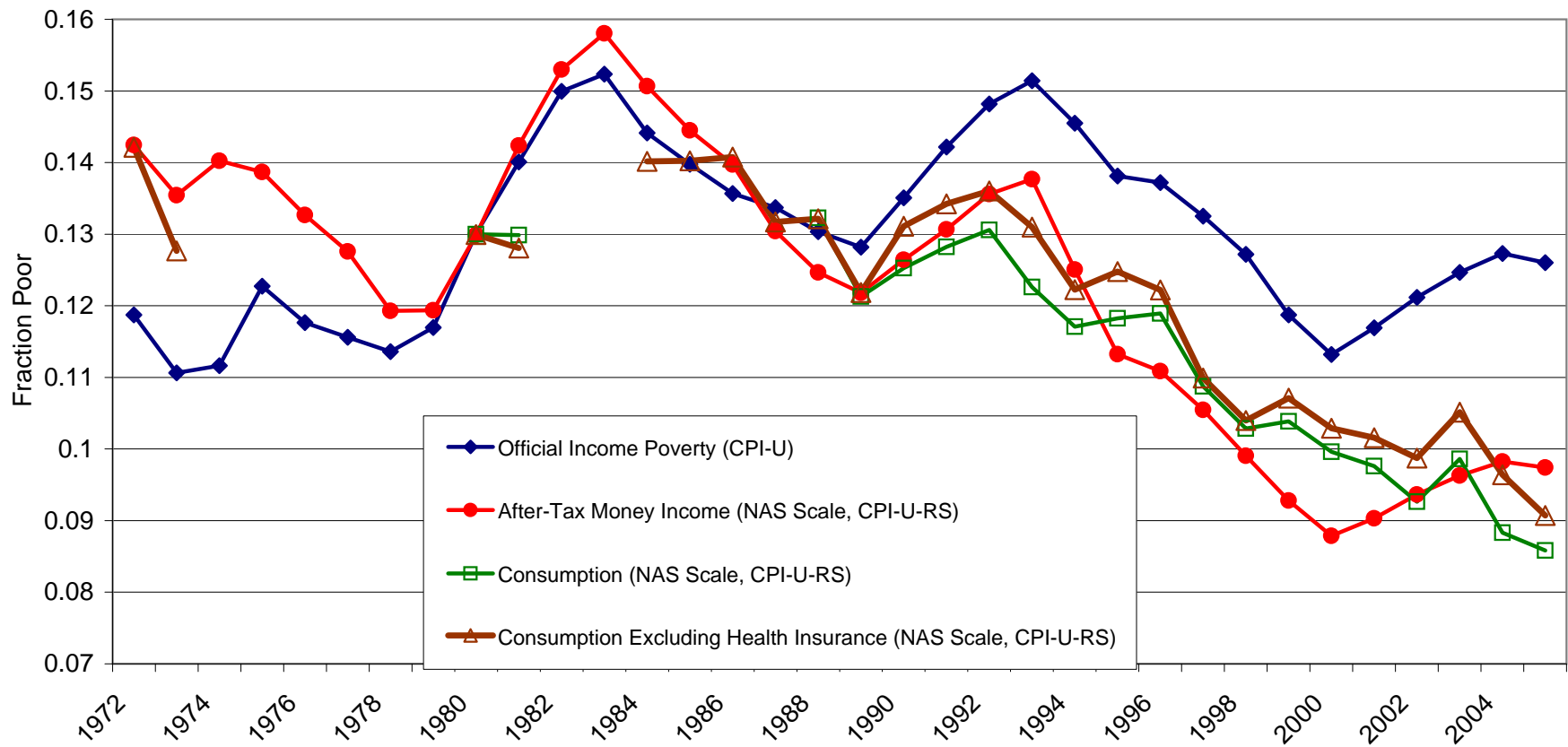
Figure 1: Official and Alternative Income Poverty Rates, 1972-2005



Notes: The rates are anchored at the official rate in 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. Poverty status is determined at the family level and then person weighted. 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.

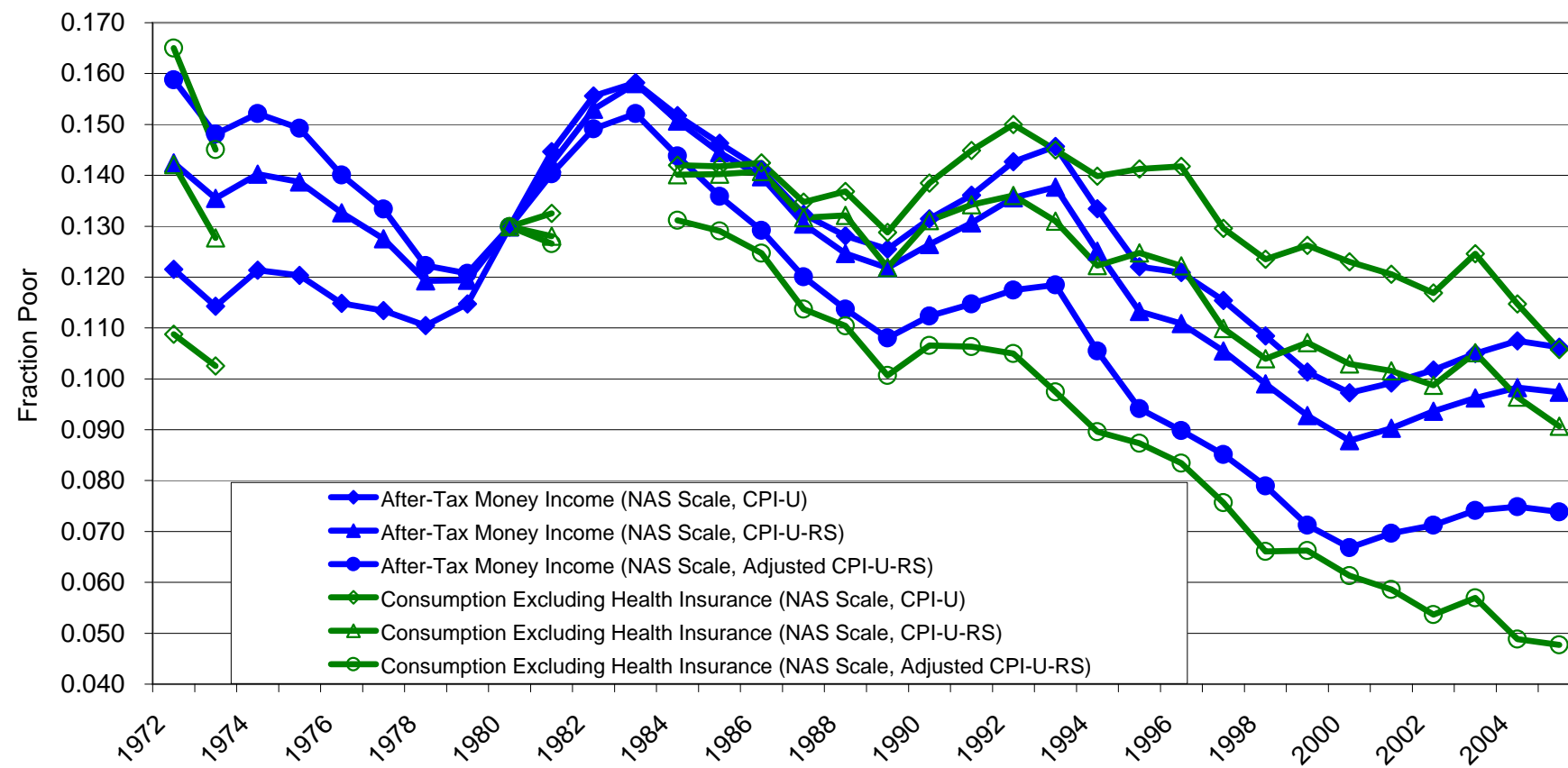


Figure 2: Consumption and Income Poverty Rates, 1972-2005



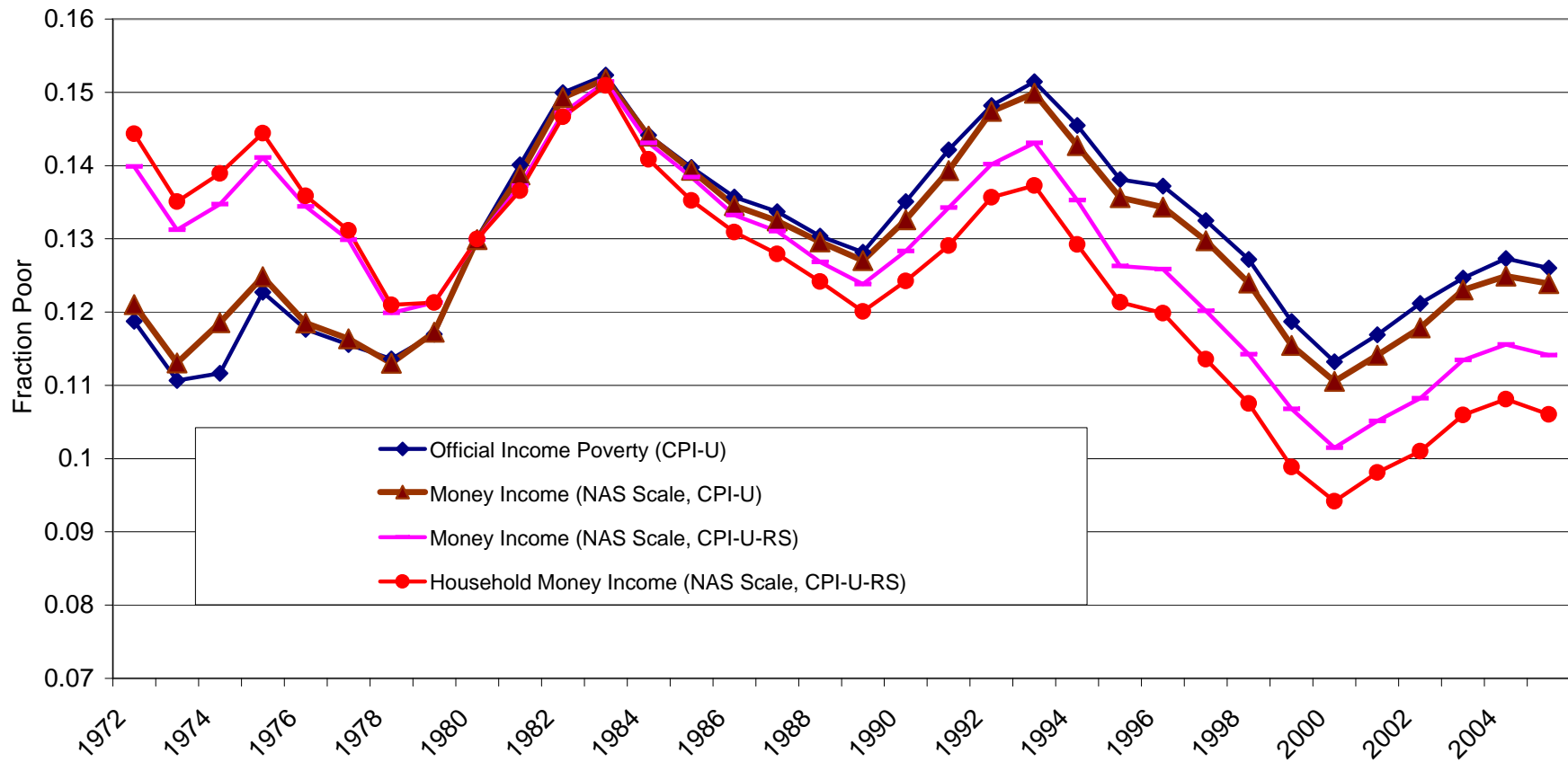
Notes: The rates are anchored at the official rate in 1980. Poverty status is determined at the family level and then person weighted. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. Official Income Poverty and After-Tax Money Income Poverty are as in Figure 1. CE Survey 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



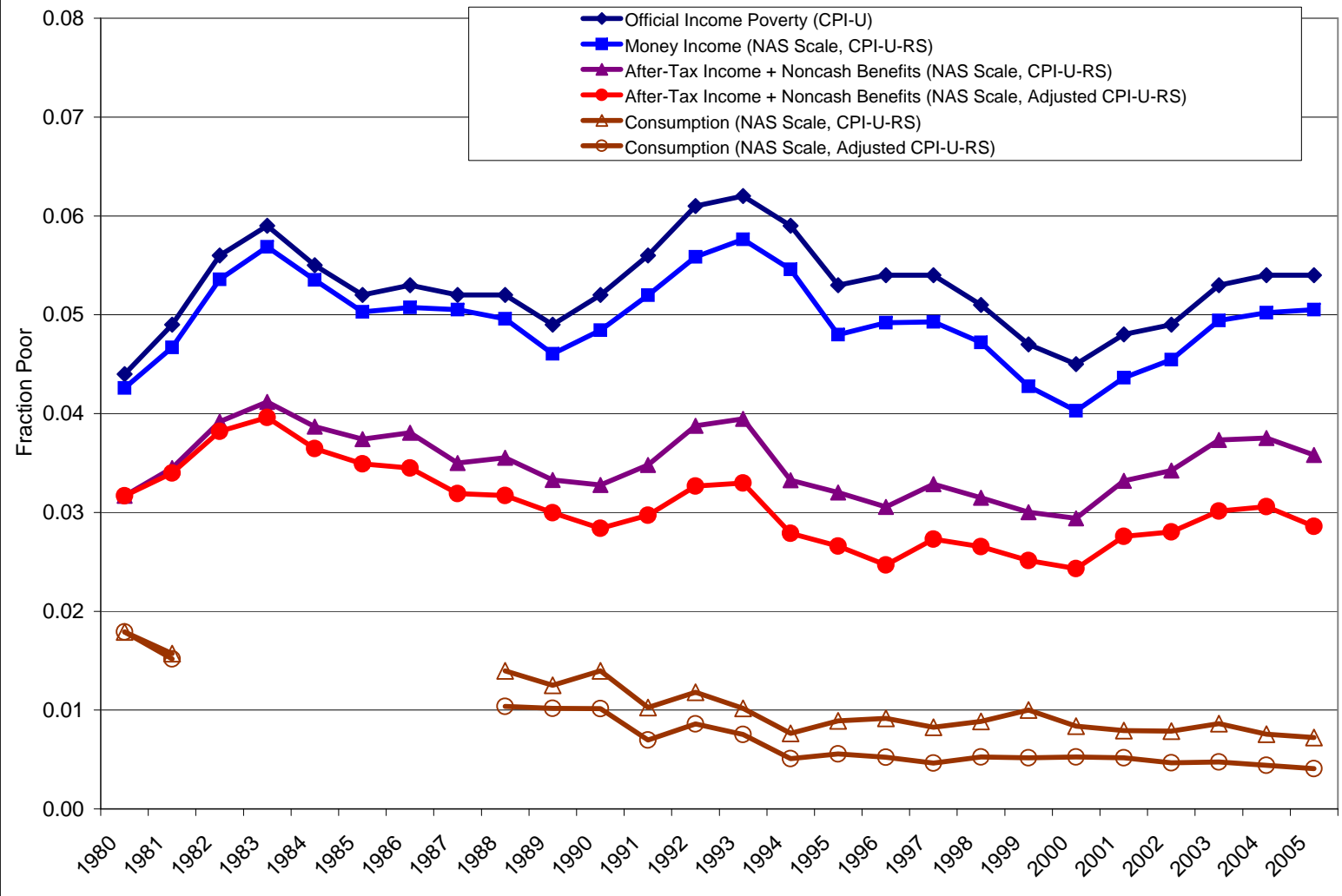
Notes: The rates are anchored at the official rate in 1980. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. Poverty status is determined at the family level and then person weighted. Adjusted CPI-U-RS subtracts 0.8 percentage points from the CPI-U-RS per year. See text for more details.

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



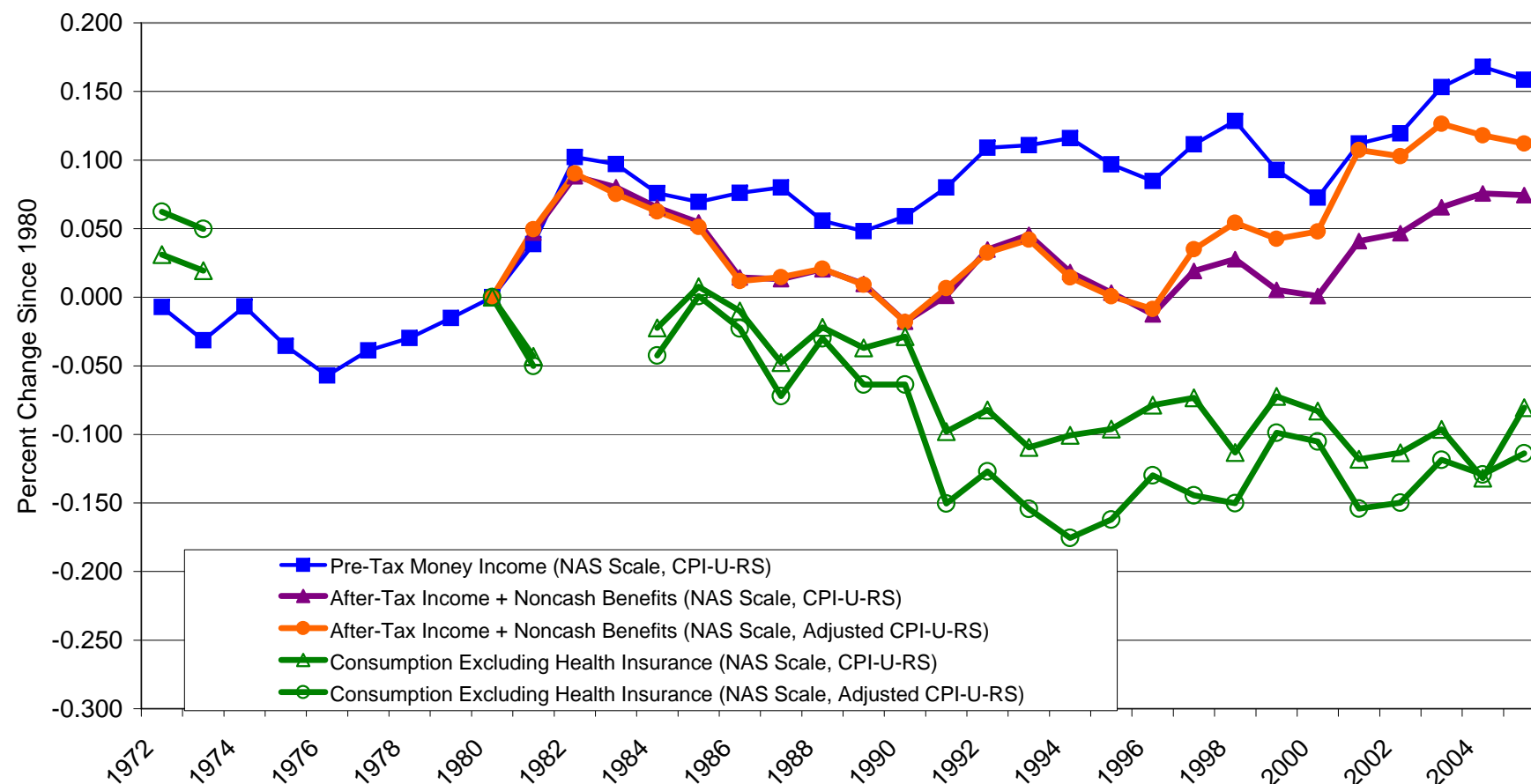
Notes: The rates are anchored at the official rate in 1980. Data are from the CPS-ASEC/ADF. Household level poverty is determined using the resources of all members of the household, regardless of whether they are related. See notes to Figure 1.

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



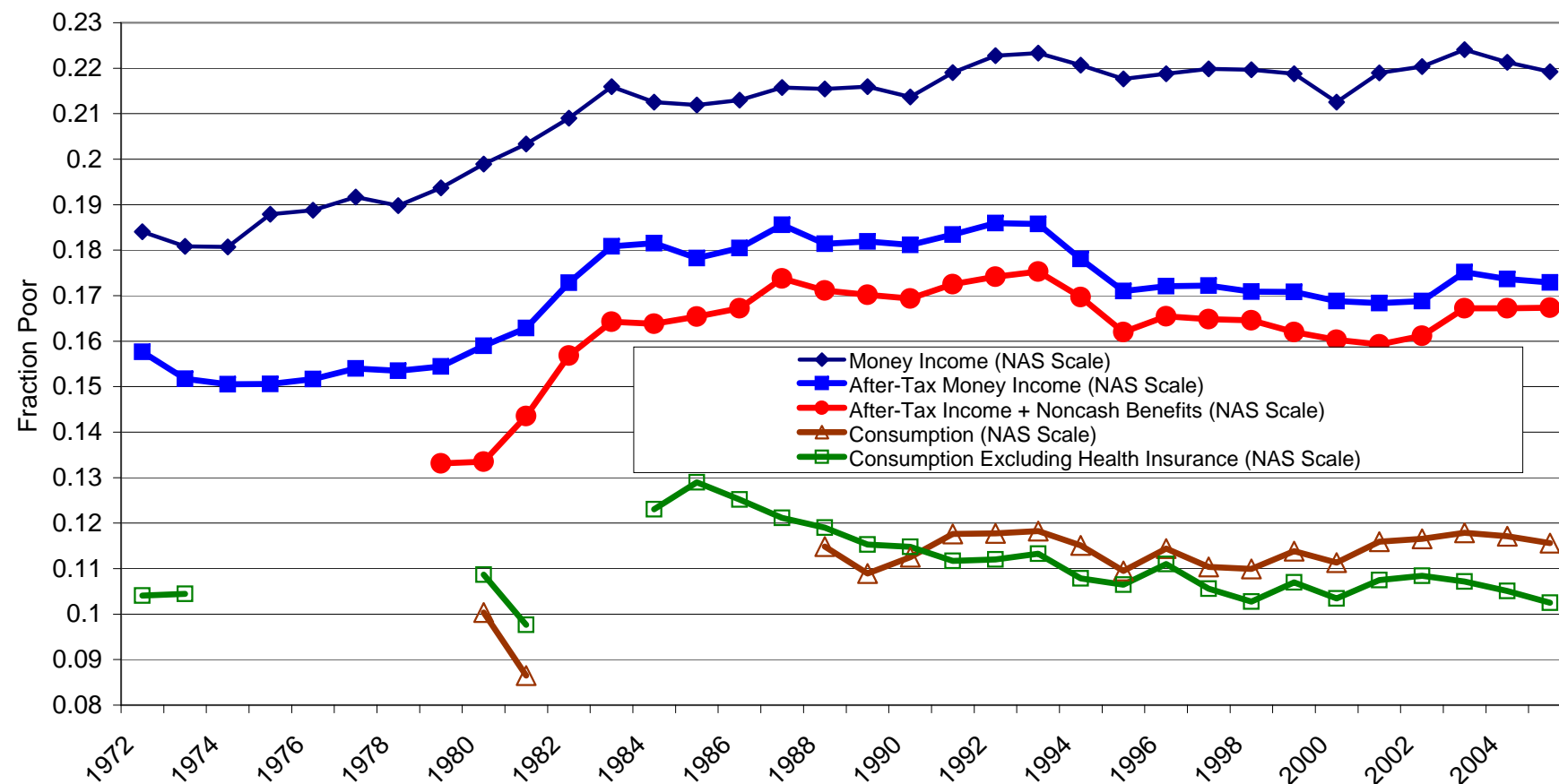
Notes: Poverty status is determined at the family level and then person weighted. Thresholds are 50 percent of the thresholds used in Figures 1-3. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. After-Tax Income + Noncash Benefits includes taxes and credits (calculated 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 Average Poverty Gap Since 1980, Various Income and Consumption Measures, Poor Families, 1972-2005



Notes: The average gap (reported in Table 4) is calculated as the sum of the gap for each family in poverty divided by the total number of poor families. 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: Consumption and Income Relative Poverty (Fraction below 50% of Median), 1972-2005



Notes: Poverty status is determined at the family level and then person weighted. An individual is designated as poor if the measure of resources 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, 1960-2005

Scale Year	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 Excluding Health Insurance				
	Official	NAS	NAS	NAS	NAS	Consumption	Insurance	Core Consumption	Non-housing Consumption	Expenditures
	(1)	(2)	(3)	(4)	(5)	NAS	NAS	NAS	NAS	NAS
1960-61/1963	0.195	0.236	0.258				0.206			0.181
1972	0.119	0.140	0.142				0.142	0.190		0.122
1973	0.111	0.131	0.135				0.128	0.171		0.110
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	0.143	0.134	0.130	0.128	0.128	0.125	0.131
1982	0.150	0.147	0.153	0.154	0.152					
1983	0.152	0.151	0.158	0.160	0.159					
1984	0.144	0.143	0.151	0.152	0.150		0.140	0.147		0.135
1985	0.140	0.138	0.144	0.147	0.149		0.140	0.144		0.138
1986	0.136	0.133	0.140	0.140	0.151		0.141	0.146		0.135
1987	0.134	0.131	0.130	0.129	0.138		0.132	0.140		0.130
1988	0.130	0.127	0.125	0.127	0.132	0.132	0.132	0.140	0.145	0.131
1989	0.128	0.124	0.122	0.120	0.130	0.121	0.122	0.128	0.133	0.114
1990	0.135	0.128	0.126	0.124	0.133	0.125	0.131	0.135	0.138	0.126
1991	0.142	0.134	0.131	0.128	0.136	0.128	0.134	0.136	0.142	0.126
1992	0.148	0.140	0.136	0.133	0.139	0.131	0.136	0.138	0.151	0.126
1993	0.151	0.143	0.138	0.133	0.141	0.123	0.131	0.128	0.141	0.123
1994	0.145	0.135	0.125	0.121	0.126	0.117	0.122	0.125	0.135	0.118
1995	0.138	0.126	0.113	0.110	0.117	0.118	0.125	0.122	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	0.105	0.106	0.114	0.109	0.110	0.105	0.133	0.114
1998	0.127	0.114	0.099	0.100	0.108	0.103	0.104	0.102	0.128	0.105
1999	0.119	0.107	0.093	0.093	0.100	0.104	0.107	0.107	0.134	0.113
2000	0.113	0.101	0.088	0.091	0.096	0.100	0.103	0.100	0.127	0.112
2001	0.117	0.105	0.090	0.093	0.098	0.098	0.102	0.092	0.130	0.107
2002	0.121	0.108	0.094	0.096	0.102	0.093	0.099	0.090	0.127	0.103
2003	0.125	0.113	0.096	0.099	0.107	0.099	0.105	0.089	0.137	0.108
2004	0.127	0.116	0.098	0.101	0.108	0.088	0.096	0.080	0.131	0.091
2005	0.126	0.114	0.097	0.100	0.102	0.086	0.091	0.078	0.123	0.085
Change:										
1961-1972	-0.076	-0.096	-0.116				-0.064			-0.059
1972-1980	0.011	-0.010	-0.013				-0.012	-0.060		0.008
1980-1990	0.005	-0.002	-0.003	-0.006	0.004	-0.005	0.001	0.005	0.008	-0.004
1990-2000	-0.022	-0.027	-0.039	-0.033	-0.037	-0.026	-0.028	-0.035	-0.011	-0.014
2000-2005	0.013	0.013	0.010	0.009	0.006	-0.014	-0.012	-0.022	-0.004	-0.027
1980-2005	-0.004	-0.016	-0.032	-0.030	-0.027	-0.044	-0.039	-0.052	-0.007	-0.045
1972-2005	0.007	-0.026	-0.045				-0.051	-0.112		-0.037

Notes: The rates are anchored at the official rate in 1980, meaning that the thresholds for each resource measure in 1980 are adjusted proportionately to yield a poverty rate equal to the official poverty rate in 1980 (13.0 percent). The 1980 thresholds are then adjusted over time using the CPI-U-RS (except for Column 1). Poverty status is determined at the family level and then person weighted. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. 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 totals including food at home, housing, utilities, transportation, and gasoline and motor oil. Data from the 1960s are for 1960-1961 (CE Survey) or 1963 (CPS). CE Survey data are not available for the years 1962-1971, 1974-1979 and 1982-1983. Also, consumption measures that include health insurance are not available for 1984-1987.

Table 2: Consumption and Income Poverty Rates using Different Price Indices, 1960-2005

Price Index Year	Income Measures of Poverty			Consumption Measures of Poverty					
	After-Tax Money Income	After-Tax Money Income	After-Tax Money Income	Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance	
	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
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1960-61/1963	0.214	0.258	0.323		0.158		0.206		0.287
1972	0.122	0.142	0.159		0.109		0.142		0.165
1973	0.114	0.135	0.148		0.103		0.128		0.145
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	0.132	0.133	0.130	0.128	0.127	0.127
1982	0.156	0.153	0.149						
1983	0.158	0.158	0.152						
1984	0.152	0.151	0.144		0.142		0.140		0.131
1985	0.146	0.144	0.136		0.142		0.140		0.129
1986	0.141	0.140	0.129		0.142		0.141		0.125
1987	0.132	0.130	0.120		0.135		0.132		0.114
1988	0.128	0.125	0.114	0.136	0.137	0.132	0.132	0.112	0.110
1989	0.126	0.122	0.108	0.127	0.129	0.121	0.122	0.098	0.101
1990	0.131	0.126	0.112	0.134	0.138	0.125	0.131	0.102	0.107
1991	0.136	0.131	0.115	0.138	0.145	0.128	0.134	0.102	0.106
1992	0.143	0.136	0.117	0.145	0.150	0.131	0.136	0.102	0.105
1993	0.146	0.138	0.118	0.136	0.145	0.123	0.131	0.091	0.097
1994	0.133	0.125	0.105	0.130	0.140	0.117	0.122	0.086	0.090
1995	0.122	0.113	0.094	0.133	0.141	0.118	0.125	0.085	0.087
1996	0.121	0.111	0.090	0.137	0.142	0.119	0.122	0.083	0.083
1997	0.115	0.105	0.085	0.124	0.130	0.109	0.110	0.074	0.076
1998	0.108	0.099	0.079	0.117	0.124	0.103	0.104	0.067	0.066
1999	0.101	0.093	0.071	0.121	0.126	0.104	0.107	0.065	0.066
2000	0.097	0.088	0.067	0.116	0.123	0.100	0.103	0.060	0.061
2001	0.099	0.090	0.070	0.114	0.121	0.098	0.102	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	0.115	0.125	0.099	0.105	0.055	0.057
2004	0.107	0.098	0.075	0.106	0.115	0.088	0.096	0.047	0.049
2005	0.106	0.097	0.074	0.102	0.106	0.086	0.091	0.046	0.048
Change:									
1961-1972	-0.092	-0.116	-0.164		-0.050		-0.064		-0.122
1972-1980	0.008	-0.013	-0.029		0.021		-0.012		-0.035
1980-1990	0.002	-0.003	-0.018	0.004	0.009	-0.005	0.001	-0.028	-0.023
1990-2000	-0.034	-0.039	-0.045	-0.018	-0.015	-0.026	-0.028	-0.042	-0.045
2000-2005	0.009	0.010	0.007	-0.014	-0.017	-0.014	-0.012	-0.014	-0.014
1980-2005	-0.024	-0.032	-0.056	-0.028	-0.024	-0.044	-0.039	-0.084	-0.082
1972-2005	-0.015	-0.045	-0.085		-0.003		-0.051		-0.117

Notes: The rates are anchored at the official rate in 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 (Fraction below 50% of Threshold) and Near Poverty Rates (Fraction below 150% of Threshold), 1960-2005

Scale	50 % of Threshold							150 % of Threshold						
	Official	Money	After-Tax	After-Tax	Consumption		Consumption	Official	Money	After-Tax	After-Tax	Consumption		Consumption
	Income	Income	Income +	Income +	Excluding	Excluding	Excluding	Income	Income	Income +	Income +	Excluding	Excluding	Excluding
	Poverty	Benefits	Noncash	Noncash	Health	Health	Health	Poverty	Benefits	Noncash	Noncash	Health	Health	Health
Price Index	Official	NAS	NAS	NAS	NAS	NAS	NAS	Official	NAS	NAS	NAS	NAS	NAS	NAS
Year	CPI-U	CPI-U-RS	CPI-U-RS	Adjusted	CPI-U-RS	Adjusted	CPI-U-RS	CPI-U	CPI-U-RS	CPI-U-RS	Adjusted	CPI-U-RS	Adjusted	CPI-U-RS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1960-61/1963	0.078	0.086					0.034	0.339	0.422					0.487
1972	0.038	0.041					0.018	0.221	0.260					0.358
1973	0.034	0.037					0.013	0.207	0.244					0.333
1980	0.044	0.043	0.032	0.032	0.018	0.018	0.017	0.232	0.238	0.292	0.292	0.348	0.348	0.331
1981	0.049	0.047	0.035	0.034	0.016	0.015	0.016	0.247	0.247	0.294	0.290	0.365	0.361	0.349
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	0.036			0.015	0.243	0.245	0.300	0.285			0.340
1985	0.052	0.050	0.037	0.035			0.020	0.239	0.241	0.299	0.280			0.325
1986	0.053	0.051	0.038	0.034			0.017	0.229	0.231	0.296	0.276			0.334
1987	0.052	0.051	0.035	0.032			0.013	0.224	0.223	0.270	0.248			0.326
1988	0.052	0.050	0.036	0.032	0.014	0.010	0.012	0.222	0.221	0.269	0.244	0.326	0.290	0.321
1989	0.049	0.046	0.033	0.030	0.013	0.010	0.013	0.220	0.216	0.265	0.237	0.315	0.272	0.315
1990	0.052	0.048	0.033	0.028	0.014	0.010	0.013	0.227	0.223	0.271	0.239	0.316	0.271	0.328
1991	0.056	0.052	0.035	0.030	0.010	0.007	0.010	0.238	0.231	0.274	0.239	0.310	0.263	0.336
1992	0.061	0.056	0.039	0.033	0.012	0.009	0.012	0.245	0.238	0.278	0.240	0.321	0.266	0.348
1993	0.062	0.058	0.039	0.033	0.010	0.008	0.011	0.250	0.241	0.279	0.236	0.302	0.247	0.329
1994	0.059	0.055	0.033	0.028	0.008	0.005	0.007	0.243	0.232	0.260	0.216	0.302	0.243	0.331
1995	0.053	0.048	0.032	0.027	0.009	0.006	0.009	0.235	0.223	0.250	0.204	0.306	0.243	0.332
1996	0.054	0.049	0.031	0.025	0.009	0.005	0.009	0.234	0.220	0.248	0.199	0.305	0.234	0.324
1997	0.054	0.049	0.033	0.027	0.008	0.005	0.008	0.225	0.211	0.240	0.190	0.289	0.214	0.304
1998	0.051	0.047	0.031	0.027	0.009	0.005	0.009	0.215	0.200	0.225	0.174	0.280	0.205	0.304
1999	0.047	0.043	0.030	0.025	0.010	0.005	0.010	0.210	0.193	0.216	0.162	0.283	0.204	0.307
2000	0.045	0.040	0.029	0.024	0.008	0.005	0.008	0.202	0.187	0.208	0.154	0.273	0.193	0.297
2001	0.048	0.044	0.033	0.028	0.008	0.005	0.008	0.208	0.192	0.205	0.151	0.266	0.186	0.290
2002	0.049	0.045	0.034	0.028	0.008	0.005	0.007	0.214	0.198	0.209	0.153	0.256	0.176	0.281
2003	0.053	0.049	0.037	0.030	0.009	0.005	0.009	0.217	0.201	0.207	0.152	0.270	0.180	0.299
2004	0.054	0.050	0.038	0.031	0.008	0.004	0.008	0.216	0.202	0.206	0.149	0.257	0.168	0.282
2005	0.054	0.051	0.036	0.029	0.007	0.004	0.007	0.215	0.199	0.200	0.143	0.249	0.155	0.273
Change:														
1961-1972	-0.040	-0.044					-0.017	-0.118	-0.163					-0.129
1972-1980	0.006	0.001					0.000	0.011	-0.021					-0.027
1980-1990	0.008	0.006	0.001	-0.003	-0.004	-0.008	-0.004	-0.005	-0.016	-0.021	-0.053	-0.032	-0.078	-0.003
1990-2000	-0.007	-0.008	-0.003	-0.004	-0.006	-0.005	-0.005	-0.025	-0.036	-0.063	-0.085	-0.043	-0.077	-0.031
2000-2005	0.009	0.010	0.006	0.004	-0.001	-0.001	-0.001	0.013	0.013	-0.007	-0.011	-0.024	-0.038	-0.024
1980-2005	0.010	0.008	0.004	-0.003	-0.011	-0.014	-0.010	-0.016	-0.039	-0.092	-0.149	-0.100	-0.193	-0.058
1972-2005	0.016	0.009					-0.010		-0.061					-0.085

Notes: Poverty status is determined at the family level and then person weighted. 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, 1960-2005

Scale	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
	Official	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)
1960-61/1963	13,757	6,383	5,920					4,697
1972	10,777	5,227	5,022					3,986
1973	10,515	5,100	4,916					3,941
1980	10,628	5,265	5,024	6,125	5,043	3,901	3,212	3,866
1981	11,200	5,469	5,120	6,414	5,293	3,710	3,047	3,699
1982	11,998	5,803	5,474	6,666	5,499			
1983	11,836	5,776	5,437	6,617	5,423			
1984	11,541	5,665	5,356	6,526	5,359			3,779
1985	11,271	5,631	5,290	6,460	5,301			3,895
1986	11,283	5,665	5,293	6,214	5,102			3,827
1987	11,373	5,686	5,379	6,206	5,117			3,681
1988	11,160	5,559	5,306	6,250	5,148	3,967	3,219	3,781
1989	11,093	5,519	5,256	6,184	5,089	3,839	3,185	3,723
1990	11,012	5,576	5,296	6,017	4,953	3,849	3,104	3,754
1991	11,306	5,686	5,359	6,132	5,076	3,604	2,862	3,487
1992	11,577	5,839	5,522	6,338	5,208	3,491	2,739	3,548
1993	11,738	5,848	5,578	6,404	5,255	3,366	2,709	3,442
1994	11,658	5,876	5,563	6,238	5,116	3,362	2,585	3,477
1995	10,990	5,775	5,467	6,145	5,047	3,422	2,669	3,494
1996	10,769	5,711	5,437	6,049	5,000	3,539	2,773	3,562
1997	11,033	5,852	5,622	6,242	5,219	3,565	2,737	3,582
1998	10,918	5,941	5,663	6,296	5,317	3,403	2,695	3,428
1999	10,515	5,754	5,457	6,159	5,257	3,620	2,922	3,587
2000	10,157	5,647	5,401	6,130	5,284	3,552	2,936	3,545
2001	10,345	5,854	5,639	6,376	5,584	3,442	2,728	3,409
2002	10,367	5,894	5,616	6,412	5,562	3,439	2,722	3,427
2003	10,742	6,071	5,893	6,527	5,680	3,432	2,742	3,494
2004	10,859	6,149	5,883	6,589	5,638	3,420	2,830	3,356
2005	10,617	6,100	5,867	6,581	5,609	3,474	2,763	3,555
% Change								
1961-1972	-21.66%	-18.11%	-15.17%					-15.14%
1972-1980	-1.38%	0.73%	0.04%					-3.01%
1980-1990	3.61%	5.90%	5.40%	-1.78%	-1.79%	-1.31%	-3.35%	-2.88%
1990-2000	-7.76%	1.28%	2.00%	1.89%	6.70%	-7.73%	-5.41%	-5.57%
2000-2005	4.53%	8.02%	8.62%	7.36%	6.13%	-2.19%	-5.90%	0.27%
1980-2005	-0.10%	15.86%	16.78%	7.44%	11.21%	-10.94%	-13.98%	-8.04%
1972-2005	-1.48%	16.70%	16.82%					-10.81%

Notes: The amounts are in 2005 dollars. The average gap is calculated as the sum of the gap for each family in poverty divided by the total number of poor families. Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. See notes for Figure 6.

Table 5: Consumption and Income Relative Poverty (Fraction below 50% of Median), 1960-2005

Year	Income Measures			Consumption Measures	
	Money Income	After-Tax Money Income	After-Tax Income + Noncash Benefits	Consumption	Consumption Excluding Health Insurance
	(1)	(2)	(3)	(4)	(5)
1960-1961/1963	0.191	0.164			0.107
1972	0.184	0.158			0.104
1973	0.181	0.152			0.104
1980	0.199	0.159	0.134	0.100	0.109
1981	0.203	0.163	0.144	0.087	0.098
1982	0.209	0.173	0.157		
1983	0.216	0.181	0.164		
1984	0.213	0.182	0.164		0.123
1985	0.212	0.178	0.165		0.129
1986	0.213	0.180	0.167		0.125
1987	0.216	0.186	0.174		0.121
1988	0.215	0.181	0.171	0.115	0.119
1989	0.216	0.182	0.170	0.109	0.115
1990	0.214	0.181	0.169	0.113	0.115
1991	0.219	0.183	0.173	0.118	0.112
1992	0.223	0.186	0.174	0.118	0.112
1993	0.223	0.186	0.175	0.118	0.113
1994	0.221	0.178	0.170	0.115	0.108
1995	0.218	0.171	0.162	0.110	0.106
1996	0.219	0.172	0.165	0.114	0.111
1997	0.220	0.172	0.165	0.110	0.106
1998	0.220	0.171	0.165	0.110	0.103
1999	0.219	0.171	0.162	0.114	0.107
2000	0.213	0.169	0.160	0.111	0.103
2001	0.219	0.168	0.159	0.116	0.107
2002	0.220	0.169	0.161	0.117	0.108
2003	0.224	0.175	0.167	0.118	0.107
2004	0.221	0.174	0.167	0.117	0.105
2005	0.219	0.173	0.167	0.116	0.102
Change:					
1961-1972	-0.007	-0.006			-0.003
1972-1980	0.015	0.001			0.005
1980-1990	0.015	0.022	0.036	0.012	0.006
1990-2000	-0.001	-0.012	-0.009	-0.001	-0.011
2000-2005	0.007	0.004	0.007	0.004	-0.001
1980-2005	0.020	0.014	0.034	0.015	-0.006
1972-2005	0.035	0.015			-0.002

Notes: An individual is designated as poor if family resources fall 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 Family Type, 1960-2005

Year	Single Parent Families		Married Parent Families		Single Individuals		Married without Children		Head 65 and Over	
	Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance	
	After-Tax Income	Health Insurance	After-Tax Income	Health Insurance	After-Tax Income	Health Insurance	After-Tax Income	Health Insurance	After-Tax Income	Health Insurance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960-61/1963	0.602	0.466	0.223	0.192	0.304	0.147	0.135	0.087	0.429	0.343
1972	0.484	0.380	0.097	0.124	0.188	0.119	0.052	0.059	0.244	0.231
1973	0.471	0.378	0.089	0.102	0.172	0.110	0.050	0.040	0.223	0.225
1980	0.421	0.369	0.093	0.100	0.143	0.136	0.039	0.041	0.157	0.191
1981	0.435	0.353	0.107	0.104	0.163	0.130	0.049	0.041	0.152	0.180
1982	0.479		0.122		0.163		0.055		0.143	
1983	0.478		0.129		0.174		0.056		0.141	
1984	0.455	0.356	0.123	0.132	0.160	0.138	0.055	0.040	0.127	0.148
1985	0.450	0.332	0.113	0.123	0.156	0.140	0.053	0.050	0.124	0.173
1986	0.462	0.380	0.101	0.124	0.157	0.124	0.046	0.047	0.125	0.146
1987	0.434	0.371	0.091	0.114	0.141	0.111	0.041	0.041	0.123	0.133
1988	0.426	0.380	0.083	0.116	0.141	0.094	0.041	0.035	0.112	0.137
1989	0.408	0.339	0.084	0.113	0.135	0.080	0.040	0.036	0.107	0.125
1990	0.415	0.329	0.090	0.121	0.136	0.115	0.040	0.039	0.108	0.131
1991	0.429	0.348	0.091	0.130	0.144	0.115	0.039	0.040	0.107	0.117
1992	0.428	0.334	0.093	0.129	0.150	0.114	0.042	0.037	0.116	0.115
1993	0.423	0.329	0.096	0.123	0.155	0.107	0.046	0.038	0.112	0.116
1994	0.387	0.300	0.083	0.112	0.149	0.101	0.042	0.047	0.100	0.101
1995	0.341	0.299	0.072	0.125	0.142	0.100	0.041	0.031	0.086	0.101
1996	0.335	0.315	0.069	0.115	0.135	0.096	0.041	0.037	0.093	0.092
1997	0.323	0.278	0.063	0.102	0.138	0.094	0.035	0.034	0.089	0.082
1998	0.289	0.254	0.059	0.104	0.134	0.095	0.036	0.033	0.086	0.070
1999	0.272	0.245	0.053	0.105	0.132	0.105	0.038	0.033	0.081	0.083
2000	0.242	0.233	0.052	0.100	0.126	0.100	0.038	0.034	0.082	0.084
2001	0.249	0.258	0.050	0.091	0.132	0.103	0.042	0.031	0.081	0.074
2002	0.246	0.238	0.053	0.089	0.142	0.106	0.040	0.030	0.090	0.075
2003	0.266	0.249	0.052	0.099	0.144	0.102	0.041	0.039	0.086	0.078
2004	0.260	0.222	0.052	0.095	0.148	0.092	0.046	0.040	0.090	0.068
2005	0.267	0.192	0.052	0.087	0.150	0.097	0.040	0.033	0.086	0.075
Change:										
1961-1972	-0.118	-0.086	-0.126	-0.068	-0.117	-0.028	-0.083	-0.029	-0.185	-0.113
1972-1980	-0.063	-0.011	-0.004	-0.024	-0.045	0.017	-0.013	-0.017	-0.088	-0.039
1980-1990	-0.006	-0.039	-0.003	0.021	-0.007	-0.020	0.001	-0.002	-0.049	-0.060
1990-2000	-0.173	-0.096	-0.038	-0.020	-0.010	-0.016	-0.002	-0.005	-0.027	-0.047
2000-2005	0.025	-0.041	-0.001	-0.013	0.024	-0.002	0.002	-0.001	0.004	-0.010
1980-2005	-0.154	-0.177	-0.041	-0.013	0.007	-0.038	0.001	-0.008	-0.071	-0.117
1972-2005	-0.217	-0.188	-0.045	-0.037	-0.038	-0.022	-0.012	-0.026	-0.159	-0.156

Notes: Poverty status is determined at the family level and then person weighted. 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 Family Type, Poor Families, 1960-2005

Year	Single Parent Families		Married Parent Families		Single Individuals		Married without Children		Head 65 and Over	
	Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance	
	After-Tax Income		After-Tax Income		After-Tax Income		After-Tax Income		After-Tax Income	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960-61/1963	9,097	5,645	7,850	6,343	4,394	2,499	5,414	3,877	4,182	3,417
1972	6,834	5,323	7,259	5,174	4,061	2,614	5,555	3,589	3,199	3,079
1973	6,799	5,444	7,081	5,083	3,855	2,637	5,354	3,261	3,113	3,150
1980	6,720	5,093	7,459	4,968	3,919	3,258	5,496	3,080	2,695	2,956
1981	6,998	5,141	6,958	4,636	4,083	2,738	5,869	3,404	2,688	2,880
1982	7,202		7,393		4,152		5,836		3,088	
1983	7,265		7,145		4,193		6,063		3,000	
1984	7,174	4,791	7,099	5,011	4,144	3,012	5,552	3,278	2,736	2,543
1985	7,080	4,834	7,108	5,583	3,983	3,087	5,738	3,274	2,876	2,696
1986	7,161	4,816	6,911	4,877	4,143	2,964	5,861	3,489	2,807	2,766
1987	7,322	4,643	7,352	4,612	4,172	2,740	5,738	2,731	2,805	2,856
1988	7,424	5,251	7,406	4,587	4,089	2,607	5,341	2,395	2,759	2,712
1989	7,380	4,701	6,829	4,567	4,127	2,904	5,445	3,122	2,828	2,589
1990	7,378	4,692	6,873	4,806	4,088	3,002	5,877	3,172	2,874	2,500
1991	7,358	4,429	7,410	4,608	4,065	2,555	5,397	2,977	2,896	2,264
1992	7,657	4,589	7,234	4,553	4,242	2,605	5,551	2,616	3,103	2,395
1993	7,489	4,518	7,425	4,467	4,352	2,511	5,793	2,437	3,132	2,323
1994	7,365	4,357	7,373	4,372	4,376	2,646	5,634	3,180	3,501	2,328
1995	7,289	4,203	6,835	4,557	4,513	2,884	5,773	2,433	3,329	2,144
1996	7,228	4,276	7,033	4,305	4,363	2,903	5,972	3,450	3,371	2,221
1997	7,660	4,282	7,500	4,598	4,513	2,972	5,779	3,209	3,567	2,134
1998	7,517	4,103	7,641	4,270	4,656	2,747	6,039	2,518	3,788	2,554
1999	7,337	4,278	7,297	4,346	4,610	3,080	6,143	3,051	3,325	2,565
2000	7,427	3,992	7,358	4,715	4,511	3,024	6,486	2,825	3,433	2,386
2001	7,921	3,903	7,805	4,639	4,730	2,912	6,102	2,835	3,389	2,027
2002	7,859	3,720	7,682	4,397	4,751	3,028	6,490	2,905	3,455	2,536
2003	8,108	3,981	8,002	4,419	4,906	3,125	6,543	3,076	3,820	2,338
2004	8,071	3,653	7,828	4,457	4,882	2,984	6,442	2,695	4,141	2,400
2005	8,055	4,106	7,873	4,638	4,997	3,153	6,380	2,961	3,851	2,399
% Change										
1961-1972	-24.88%	-5.70%	-7.52%	-18.43%	-7.59%	4.60%	2.61%	-7.41%	-23.50%	-9.90%
1972-1980	-1.66%	-4.33%	2.75%	-3.98%	-3.48%	24.65%	-1.06%	-14.19%	-15.75%	-4.00%
1980-1990	9.78%	-7.87%	-7.86%	-3.26%	4.31%	-7.86%	6.93%	2.97%	6.64%	-15.42%
1990-2000	0.66%	-14.91%	7.06%	-1.89%	10.35%	0.73%	10.37%	-10.91%	19.43%	-4.55%
2000-2005	8.46%	2.85%	7.00%	-1.64%	10.77%	4.26%	-1.65%	4.81%	12.18%	0.55%
1980-2005	19.86%	-19.37%	5.56%	-6.65%	27.51%	-3.23%	16.07%	-3.85%	42.88%	-18.81%
1972-2005	17.88%	-22.86%	8.45%	-10.36%	23.07%	20.62%	14.85%	-17.50%	20.37%	-22.06%

Notes: The 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: Consumption and Income Relative Poverty (Fraction below 50% of Median) by Family Type, 1960-2005

Year	Single Parent Families		Married Parent Families		Single Individuals		Married without Children		Head 65 and Over	
	Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance		Consumption Excluding Health Insurance	
	After-Tax Income	After-Tax Income	After-Tax Income	After-Tax Income	After-Tax Income	After-Tax Income	After-Tax Income	After-Tax Income	After-Tax Income	After-Tax Income
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1960-61/1963	0.490	0.267	0.128	0.097	0.229	0.069	0.086	0.042	0.280	0.188
1972	0.518	0.292	0.110	0.087	0.201	0.094	0.057	0.043	0.270	0.177
1973	0.504	0.331	0.104	0.081	0.189	0.091	0.056	0.029	0.251	0.189
1980	0.471	0.320	0.119	0.081	0.169	0.121	0.049	0.033	0.210	0.159
1981	0.469	0.289	0.127	0.076	0.178	0.101	0.057	0.029	0.185	0.139
1982	0.507		0.142		0.179		0.065		0.173	
1983	0.511		0.153		0.196		0.065		0.173	
1984	0.506	0.322	0.152	0.116	0.190	0.123	0.069	0.034	0.171	0.121
1985	0.505	0.314	0.145	0.116	0.185	0.124	0.069	0.044	0.175	0.151
1986	0.527	0.347	0.142	0.109	0.193	0.110	0.062	0.040	0.184	0.131
1987	0.520	0.348	0.145	0.104	0.197	0.104	0.064	0.034	0.203	0.123
1988	0.507	0.361	0.141	0.103	0.191	0.086	0.063	0.025	0.200	0.122
1989	0.500	0.325	0.145	0.106	0.185	0.076	0.063	0.033	0.197	0.119
1990	0.499	0.294	0.145	0.104	0.185	0.104	0.062	0.033	0.184	0.114
1991	0.511	0.305	0.145	0.106	0.187	0.094	0.060	0.031	0.180	0.094
1992	0.509	0.287	0.143	0.106	0.193	0.094	0.062	0.027	0.188	0.089
1993	0.492	0.294	0.144	0.107	0.201	0.089	0.067	0.027	0.177	0.099
1994	0.470	0.269	0.133	0.097	0.204	0.091	0.067	0.042	0.171	0.088
1995	0.437	0.260	0.126	0.105	0.200	0.088	0.063	0.025	0.164	0.088
1996	0.432	0.293	0.128	0.102	0.198	0.087	0.065	0.036	0.171	0.081
1997	0.439	0.265	0.124	0.099	0.206	0.091	0.064	0.033	0.175	0.076
1998	0.419	0.250	0.123	0.103	0.209	0.094	0.062	0.033	0.185	0.069
1999	0.409	0.244	0.123	0.105	0.210	0.105	0.075	0.033	0.183	0.083
2000	0.394	0.234	0.122	0.101	0.200	0.100	0.071	0.034	0.201	0.085
2001	0.384	0.272	0.117	0.096	0.211	0.106	0.077	0.034	0.196	0.078
2002	0.376	0.258	0.120	0.098	0.215	0.113	0.071	0.036	0.201	0.083
2003	0.396	0.252	0.120	0.101	0.226	0.104	0.075	0.040	0.205	0.081
2004	0.390	0.237	0.115	0.106	0.229	0.099	0.079	0.042	0.203	0.075
2005	0.397	0.218	0.114	0.098	0.230	0.108	0.074	0.039	0.199	0.084
Change:										
1961-1972	0.028	0.024	-0.018	-0.010	-0.028	0.025	-0.029	0.000	-0.010	-0.011
1972-1980	-0.047	0.028	0.008	-0.006	-0.032	0.027	-0.008	-0.010	-0.060	-0.019
1980-1990	0.028	-0.026	0.026	0.023	0.016	-0.017	0.013	0.001	-0.025	-0.045
1990-2000	-0.104	-0.060	-0.023	-0.003	0.015	-0.003	0.010	0.000	0.017	-0.029
2000-2005	0.003	-0.016	-0.009	-0.003	0.030	0.008	0.002	0.005	-0.002	-0.001
1980-2005	-0.074	-0.101	-0.005	-0.017	0.061	-0.013	0.025	0.006	-0.011	-0.075
1972-2005	-0.121	-0.073	0.003	0.011	0.029	0.014	0.016	-0.004	-0.071	-0.093

Notes: An individual is designated as poor if family resources fall 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 the Consumption and Income Poor, 1960-2005

Resources Used to Define Poverty Survey	1960-1961/1963			1972-1973			1980-1989			1990-1999			2000-2005		
	Consumption			Consumption			Consumption			Consumption			Consumption		
	Official Income	After-Tax Income	Excluding Health Insurance	Official Income	After-Tax Income	Excluding Health Insurance	Official Income	After-Tax Income	Excluding Health Insurance	Official Income	After-Tax Income	Excluding Health Insurance	Official Income	After-Tax Income	Excluding Health Insurance
	Poverty	Income	CE	Poverty	Income	CE	Poverty	Income	CE	Poverty	Income	CE	Poverty	Income	CE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Family Type															
Single Mother Families	0.151	0.122	0.117	0.303	0.266	0.205	0.350	0.339	0.282	0.377	0.378	0.313	0.342	0.337	0.300
Married Parent Families	0.515	0.548	0.611	0.343	0.377	0.488	0.314	0.335	0.403	0.281	0.273	0.409	0.253	0.220	0.389
Single Individuals	0.077	0.066	0.032	0.116	0.096	0.052	0.152	0.136	0.100	0.177	0.171	0.107	0.227	0.239	0.147
Married without Children	0.061	0.076	0.058	0.053	0.062	0.062	0.051	0.062	0.056	0.047	0.060	0.053	0.060	0.079	0.062
Head 65 and Over	0.195	0.190	0.181	0.185	0.200	0.194	0.134	0.129	0.159	0.119	0.118	0.117	0.119	0.126	0.102
Age															
0-17	0.440	0.423	0.463	0.421	0.409	0.427	0.396	0.397	0.385	0.397	0.396	0.403	0.356	0.337	0.371
18-64	0.408	0.429	0.387	0.430	0.433	0.419	0.494	0.500	0.499	0.504	0.511	0.510	0.543	0.561	0.554
65+	0.152	0.149	0.150	0.150	0.157	0.154	0.110	0.102	0.116	0.099	0.093	0.087	0.101	0.102	0.076
Education of Head															
Less than HS	0.765	0.741	0.832	0.673	0.673	0.752	0.528	0.528	0.604	0.450	0.461	0.494	0.380	0.385	0.435
HS	0.164	0.183	0.125	0.208	0.208	0.187	0.298	0.299	0.249	0.326	0.321	0.317	0.336	0.331	0.309
Some College	0.043	0.046	0.030	0.082	0.082	0.042	0.127	0.125	0.111	0.168	0.161	0.151	0.205	0.199	0.204
College +	0.027	0.030	0.012	0.036	0.038	0.019	0.048	0.048	0.036	0.056	0.057	0.038	0.080	0.085	0.052
Race															
White, Non Hispanic	0.687	0.725		0.564	0.579		0.532	0.533	0.488	0.471	0.465	0.439	0.453	0.457	0.397
Black, Non Hispanic	0.299	0.263		0.317	0.298		0.282	0.279	0.308	0.266	0.273	0.285	0.238	0.246	0.250
Other	0.014	0.013		0.119	0.123		0.186	0.187	0.205	0.263	0.262	0.276	0.309	0.298	0.353
Region															
Northeast	0.165	0.169	0.115	0.217	0.217	0.157	0.175	0.171	0.177	0.176	0.176	0.154	0.170	0.169	0.129
Midwest	0.214	0.237	0.257	0.175	0.176	0.212	0.232	0.231	0.245	0.201	0.200	0.213	0.194	0.193	0.198
South	0.492	0.467	0.535	0.442	0.444	0.505	0.404	0.412	0.414	0.390	0.396	0.414	0.402	0.410	0.460
West	0.129	0.126	0.093	0.165	0.162	0.126	0.189	0.185	0.165	0.233	0.228	0.219	0.234	0.228	0.213
Homeowner			0.382			0.370	0.369	0.383	0.342	0.337	0.340	0.312	0.382	0.390	0.308
Single family home						0.339			0.269			0.224			0.224
Mobile home or trailer						0.017			0.054			0.068			0.059
Own an automobile			0.595			0.575			0.619			0.649			0.675
N ('000s)	8.9	12.9	2.7	30.6	37.1	2.5	227.3	229.6	17.7	202.6	173.0	20.9	145.2	110.9	14.8
Total Financial Assets															
Median						0			0			0			0
85th Percentile						2,284			803			607			446
N (asset sample)						2,525			2,713			3,659			2,597
Debt															
Median									0			0			0
85th Percentile									1,517			1,106			331
N (debt sample)									8,755			10,334			7,351

Notes: Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. Poverty status is determined at the family level and then person weighted. For columns labeled "Official Income Poverty" poverty status is determined using the official thresholds. The other income and consumption poverty definitions are calculated using the NAS scale and the CPI-U-RS. Column 9 only includes data from the CE Survey from 1980-1981 and 1984-1989. Debt includes all non-mortgage, non-vehicle debt. Financial asset statistics come from samples of families in their fifth CE Survey interview, while debt statistics come from families in either their second or fifth interview.

Table 10: The Effect of Changes in Demographic Characteristics on Changes in Poverty, 1960-2005

	1960-61/ 1963	1972	1980	1990	2000	2005	Change 1963-1972	Change 1972-1980	Change 1980-2005
<b>A. Consumption Poverty (Excluding health insurance)</b>									
Actual Poverty	0.206	0.142	0.130	0.131	0.103	0.091	-0.064	-0.012	-0.039
Predicted poverty holding within group poverty at 1972 rate									
Changes in family type	0.139	0.142	0.150	0.156	0.158	0.159	0.003	0.007	0.009
Changes in family type and employment	0.140	0.142	0.148	0.152	0.153	0.155	0.002	0.005	0.008
Changes in family type and race	-	-	-	-	-	-	-	-	-
Changes in family type and region	0.145	0.142	0.154	0.155	0.157	0.159	-0.003	0.012	0.005
Changes in family type, education, and employment	0.161	0.142	0.126	0.113	0.097	0.096	-0.019	-0.016	-0.029
Predicted poverty holding within group poverty at 1980 rate									
Changes in family type	0.117	0.121	0.130	0.138	0.141	0.142	0.004	0.009	0.012
Changes in family type and employment	0.126	0.124	0.130	0.135	0.135	0.139	-0.002	0.006	0.009
Changes in family type and race	-	-	0.130	0.140	0.152	0.161	-	-	0.031
Changes in family type and region	0.119	0.119	0.130	0.134	0.136	0.136	0.000	0.011	0.006
Changes in family type, education, and employment	0.163	0.141	0.130	0.122	0.110	0.112	-0.022	-0.011	-0.018
Predicted poverty holding within group poverty at 2005 rate									
Changes in family type	0.084	0.084	0.086	0.089	0.090	0.091	0.000	0.002	0.004
Changes in family type and employment	0.110	0.092	0.088	0.088	0.088	0.091	-0.018	-0.004	0.002
Changes in family type and race	-	-	0.075	0.080	0.086	0.091	-	-	0.016
Changes in family type and region	0.088	0.086	0.090	0.090	0.090	0.091	-0.003	0.004	0.001
Changes in family type, education, and employment	0.183	0.141	0.118	0.103	0.090	0.091	-0.042	-0.023	-0.028
<b>B. Income Poverty (After-tax money income)</b>									
Actual Poverty	0.258	0.142	0.130	0.126	0.088	0.097	-0.116	-0.013	-0.032
Predicted poverty holding within group poverty at 1972 rate									
Changes in family type	0.132	0.142	0.157	0.166	0.169	0.173	0.010	0.014	0.016
Changes in family type and employment	0.139	0.142	0.158	0.165	0.169	0.180	0.004	0.016	0.022
Changes in family type and race	0.123	0.142	0.159	0.174	0.183	0.190	0.019	0.017	0.031
Changes in family type and region	0.132	0.142	0.159	0.169	0.174	0.178	0.010	0.017	0.018
Changes in family type, education, and employment	0.154	0.142	0.146	0.141	0.134	0.140	-0.011	0.003	-0.006
Predicted poverty holding within group poverty at 1980 rate									
Changes in family type	0.112	0.120	0.130	0.136	0.139	0.141	0.008	0.010	0.011
Changes in family type and employment	0.117	0.118	0.130	0.133	0.137	0.148	0.001	0.012	0.018
Changes in family type and race	0.102	0.118	0.130	0.141	0.149	0.156	0.015	0.012	0.026
Changes in family type and region	0.110	0.118	0.130	0.136	0.139	0.142	0.008	0.012	0.012
Changes in family type, education, and employment	0.144	0.131	0.130	0.122	0.115	0.120	-0.013	-0.001	-0.009
Predicted poverty holding within group poverty at 2005 rate									
Changes in family type	0.070	0.077	0.086	0.092	0.095	0.097	0.007	0.009	0.011
Changes in family type and employment	0.068	0.072	0.083	0.086	0.088	0.097	0.004	0.011	0.015
Changes in family type and race	0.056	0.067	0.078	0.087	0.093	0.097	0.011	0.011	0.019
Changes in family type and region	0.068	0.075	0.085	0.092	0.095	0.097	0.007	0.010	0.012
Changes in family type, education, and employment	0.103	0.096	0.100	0.096	0.091	0.097	-0.007	0.003	-0.002

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



Appendix Table 1: Comparison of CE Expenditure Measures to National Aggregates, 1972-2004

	1972	1973	1980	1984	1987	1992	1994	1997	2002	2004
Food at home <sup>a</sup>										
CE	87.5	98.1	199.2	211.9	236.4	324.9	338.7	376.2	436.8	477.4
PCE	100.7	112.1	213.7	260.6	290.7	366.8	392.8	431.3	540.1	603.4
Ratio	0.869	0.875	0.932	0.813	0.813	0.886	0.862	0.872	0.809	0.791
Food away from home <sup>b</sup>										
CE	24.3	26.9	75.8	104.0	120.1	136.4	150.8	164.9	191.8	217.8
PCE	35.7	40.2	90.2	123.6	154.9	212.3	234.5	262.7	339.4	388.2
Ratio	0.680	0.668	0.841	0.842	0.775	0.643	0.643	0.628	0.565	0.561
Total food										
CE	111.8	124.9	275.0	315.9	356.4	461.4	489.5	541.1	628.6	695.2
PCE	136.4	152.3	303.9	384.2	445.6	579.1	627.3	694.0	879.5	991.6
Ratio	0.819	0.820	0.905	0.822	0.800	0.797	0.780	0.780	0.715	0.701
Rent plus utilities <sup>c</sup>										
CE	66.7	73.6	132.0	202.3	235.1	306.7	334.2	380.7	438.5	485.1
PCE	58.6	64.8	144.2	209.9	250.0	315.0	347.0	387.7	469.6	504.5
Ratio	1.139	1.135	0.916	0.964	0.940	0.974	0.963	0.982	0.934	0.961
Gasoline and motor oil										
CE	27.4	31.1	98.6	95.4	83.6	97.5	100.8	115.9	138.5	185.7
PCE	24.4	28.1	86.7	94.6	85.4	112.4	116.2	134.4	164.5	231.4
Ratio	1.125	1.107	1.137	1.008	0.979	0.867	0.867	0.862	0.842	0.803
Alcoholic beverages										
CE	2.2	2.3	12.4	14.6	13.6	13.1	13.9	15.3	19.8	19.7
PCE	14.8	15.9	29.7	37.1	41.4	48.9	52.9	61.2	75.5	85.0
Ratio	0.149	0.147	0.417	0.393	0.329	0.267	0.263	0.250	0.262	0.232
Transportation <sup>d</sup>										
CE	38.0	39.3	72.3	106.0	128.0	177.4	203.3	240.5	268.1	279.9
PCE	29.6	31.6	65.3	93.2	120.8	157.6	190.7	245.7	288.4	308.2
Ratio	1.283	1.245	1.107	1.138	1.059	1.125	1.066	0.979	0.930	0.908
Tobacco										
CE	9.0	9.3	14.4	20.5	21.6	27.3	26.3	27.6	35.7	33.3
PCE	12.2	13.2	20.9	29.2	34.5	48.0	47.3	53.8	89.2	87.5
Ratio	0.734	0.708	0.689	0.701	0.626	0.568	0.556	0.512	0.400	0.380
Clothing										
CE	37.4	41.2	55.7	81.5	92.1	105.6	110.7	117.2	119.3	112.1
PCE	56.3	62.4	107.2	142.4	174.2	221.6	237.8	257.8	303.1	324.6
Ratio	0.663	0.660	0.520	0.572	0.529	0.477	0.465	0.455	0.394	0.345
Audio, video, and computers										
CE	8.1	8.4	15.1	26.5	32.8	49.6	62.6	74.4	90.1	102.7
PCE	10.1	11.3	20.6	32.0	46.2	57.0	73.7	92.3	120.0	133.3
Ratio	0.797	0.743	0.733	0.829	0.709	0.869	0.849	0.806	0.750	0.771
Core consumption (excluding flows) <sup>e</sup>										
CE core	219.7	242.1	502.1	615.6	683.1	906.5	977.0	1113.3	1281.8	1428.1
PCE core	213.3	236.6	509.9	658.3	746.9	951.8	1046.7	1199.1	1462.6	1647.5
Ratio	1.030	1.023	0.985	0.935	0.915	0.952	0.933	0.928	0.876	0.867
Non-core consumption										
CE non-core	72.8	79.8	158.4	220.6	247.5	282.4	301.7	325.0	366.6	382.9
PCE non-core	119.0	131.7	248.0	332.3	405.0	530.8	572.5	635.5	807.2	885.3
Ratio	0.612	0.606	0.639	0.664	0.611	0.532	0.527	0.511	0.454	0.433
Total										
CE total expenditures <sup>f</sup>	584.9	653.5	1,260.2	1,821.0	2,094.0	2,663.1	2,923.6	3,306.5	4,090.7	4,486.1
PCE	770.6	852.4	1,757.1	2,503.3	3,100.2	4,235.3	4,743.3	5,547.4	7,350.7	8,195.9
Ratio (CE/PCE)	0.759	0.767	0.717	0.727	0.675	0.629	0.616	0.596	0.557	0.547

Notes: All survey data come from the CE Interview Survey. The expenditure components reported here are those that align most closely with PCE categories.

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

CE Survey numbers in 1984 and 1987 are not adjusted for the change in survey question during this period (see Data Appendix).

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.

d Transportation includes spending on public transportation, vehicle maintenance and repairs, insurance, rentals and leases.

e Core consumption is the sum of the categories: food at home, rent plus utilities, gasoline and motor oil, and transportation.

f Total expenditures excludes miscellaneous expenditures and cash contributions which are not asked in all interviews.

Appendix Table 2: Poverty Rates and Changes in Poverty with Standard Errors, 1980-2005

Resources Used to Define Poverty	Pre-tax Money Income	After-Tax Income + Noncash Benefits	After-Tax Income + Noncash Benefits	Consumption Excluding Health Insurance	Consumption Excluding Health Expenditures	Consumption Excluding Health Insurance	Consumption Excluding Health Expenditures	Consumption Excluding Health Insurance	Consumption Excluding Health Expenditures					
Price Index	CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	CPI-U-RS	CPI-U-RS	CPI-U-RS	Adjusted CPI-U-RS	Adjusted CPI-U-RS	Adjusted CPI-U-RS					
Survey	CPS	CPS	CPS	CE	CE	CE	CE	CE	CE	(4) - (1)	(4) - (2)	(5) - (2)	(6) - (2)	(7) - (3)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
<b>Year</b>														
1980	0.1300	0.1300	0.1300	0.1300	0.1300	0.1300	0.1300	0.1300	0.1300					
1990	0.1282 (0.0013)	0.1332 (0.0013)	0.1152 (0.0013)	0.1253 (0.0049)	0.1311 (0.0050)	0.1259 (0.0050)	0.1020 (0.0046)	0.1066 (0.0047)	0.1043 (0.0046)	-0.0029 (0.0050)	-0.0079 (0.0050)	-0.0021 (0.0052)	-0.0073 (0.0052)	-0.0132 (0.0048)
2000	0.1013 (0.0013)	0.0963 (0.0013)	0.0716 (0.0011)	0.0996 (0.0033)	0.1029 (0.0034)	0.1119 (0.0034)	0.0601 (0.0026)	0.0613 (0.0026)	0.0727 (0.0028)	-0.0017 (0.0035)	0.0033 (0.0035)	0.0066 (0.0036)	0.0156 (0.0036)	-0.0116 (0.0028)
2005	0.1140 (0.0011)	0.1024 (0.0010)	0.0759 (0.0009)	0.0858 (0.0029)	0.0907 (0.0029)	0.0846 (0.0025)	0.0459 (0.0021)	0.0477 (0.0022)	0.0469 (0.0018)	-0.0282 (0.0031)	-0.0166 (0.0031)	-0.0117 (0.0031)	-0.0178 (0.0027)	-0.0300 (0.0023)
<b>Change</b>														
1980 -	-0.0018	0.0032	-0.0148	-0.0047	0.0011	-0.0041	-0.0280	-0.0234	-0.0257	-0.0029	-0.0079	-0.0021	-0.0073	-0.0132
1990	(0.0013)	(0.0013)	(0.0013)	(0.0049)	(0.0050)	(0.0050)	(0.0046)	(0.0047)	(0.0046)	(0.0050)	(0.0050)	(0.0052)	(0.0052)	(0.0048)
1990 -	-0.0269	-0.0369	-0.0436	-0.0257	-0.0282	-0.0140	-0.0419	-0.0453	-0.0315	0.0012	0.0112	0.0087	0.0229	0.0017
2000	(0.0018)	(0.0018)	(0.0017)	(0.0059)	(0.0061)	(0.0060)	(0.0053)	(0.0054)	(0.0053)	(0.0062)	(0.0062)	(0.0063)	(0.0063)	(0.0056)
2000 -	0.0127	0.0062	0.0043	-0.0138	-0.0122	-0.0273	-0.0142	-0.0136	-0.0258	-0.0265	-0.0199	-0.0184	-0.0335	-0.0185
2005	(0.0017)	(0.0016)	(0.0014)	(0.0044)	(0.0045)	(0.0042)	(0.0034)	(0.0034)	(0.0033)	(0.0047)	(0.0047)	(0.0047)	(0.0045)	(0.0036)
1980 -	-0.0160	-0.0276	-0.0541	-0.0442	-0.0393	-0.0454	-0.0841	-0.0823	-0.0831	-0.0282	-0.0166	-0.0117	-0.0178	-0.0300
2005	(0.0011)	(0.0010)	(0.0009)	(0.0029)	(0.0029)	(0.0025)	(0.0021)	(0.0022)	(0.0018)	(0.0031)	(0.0031)	(0.0031)	(0.0027)	(0.0023)

Notes: Poverty status is determined at the family level and then person weighted. Standard errors for estimates from the CE Survey are bootstrapped and corrected for family correlation over time.

Appendix Table 3: Poverty Rates and Changes in Poverty with Standard Errors by Family Type, 1980-2005

Resources Used to Define Poverty Price Index Survey	Single Parent Families			Married Parent Families			Single Individuals			Married without Children			Head 65 and Over		
	After-Tax Income + Noncash			After-Tax Income + Noncash			After-Tax Income + Noncash			After-Tax Income + Noncash			After-Tax Income + Noncash		
	Benefits	Consumption		Benefits	Consumption		Benefits	Consumption		Benefits	Consumption		Benefits	Consumption	
	CPS	CE	(2) - (1)	CPS	CE	(5) - (4)	CPS	CE	(8) - (7)	CPS	CE	(11) - (10)	CPS	CE	(14) - (13)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<b>Year</b>															
1980	0.3925 (0.0065)	0.3751 (0.0243)	-0.0175 (0.0251)	0.1044 (0.0021)	0.1074 (0.0081)	0.0030 (0.0084)	0.1517 (0.0028)	0.1485 (0.0096)	-0.0032 (0.0100)	0.0404 (0.0017)	0.0446 (0.0057)	0.0042 (0.0059)	0.1245 (0.0029)	0.1463 (0.0101)	0.0218 (0.0104)
1990	0.3981 (0.0065)	0.3348 (0.0211)	-0.0633 (0.0221)	0.1085 (0.0024)	0.1194 (0.0085)	0.0109 (0.0088)	0.1538 (0.0027)	0.1160 (0.0092)	-0.0378 (0.0096)	0.0439 (0.0019)	0.0385 (0.0060)	-0.0054 (0.0063)	0.0901 (0.0025)	0.0887 (0.0094)	-0.0014 (0.0097)
2000	0.2622 (0.0062)	0.2318 (0.0120)	-0.0304 (0.0135)	0.0653 (0.0022)	0.1035 (0.0055)	0.0381 (0.0059)	0.1373 (0.0027)	0.1001 (0.0051)	-0.0373 (0.0058)	0.0390 (0.0019)	0.0324 (0.0039)	-0.0066 (0.0044)	0.0716 (0.0025)	0.0539 (0.0058)	-0.0177 (0.0063)
2005	0.2786 (0.0046)	0.1878 (0.0110)	-0.0908 (0.0119)	0.0606 (0.0016)	0.0858 (0.0047)	0.0252 (0.0049)	0.1575 (0.0023)	0.0946 (0.0054)	-0.0629 (0.0059)	0.0408 (0.0017)	0.0344 (0.0039)	-0.0064 (0.0043)	0.0756 (0.0023)	0.0466 (0.0050)	-0.0290 (0.0055)
<b>Change</b>															
1980 -	0.0056	-0.0403	-0.0458	0.0041	0.0121	0.0079	0.0021	-0.0325	-0.0346	0.0035	-0.0061	-0.0096	-0.0344	-0.0576	-0.0232
1990	(0.0092)	(0.0322)	(0.0335)	(0.0032)	(0.0117)	(0.0122)	(0.0039)	(0.0133)	(0.0138)	(0.0025)	(0.0083)	(0.0086)	(0.0038)	(0.0138)	(0.0143)
1990 -	-0.1358	-0.1030	0.0329	-0.0432	-0.0160	0.0272	-0.0165	-0.0160	0.0005	-0.0049	-0.0061	-0.0012	-0.0185	-0.0348	-0.0164
2000	(0.0090)	(0.0243)	(0.0259)	(0.0033)	(0.0101)	(0.0107)	(0.0038)	(0.0105)	(0.0112)	(0.0027)	(0.0072)	(0.0077)	(0.0035)	(0.0110)	(0.0116)
2000 -	0.0164	-0.0439	-0.0603	-0.0047	-0.0176	-0.0130	0.0202	-0.0055	-0.0257	0.0018	0.0020	0.0002	0.0040	-0.0073	-0.0113
2005	(0.0077)	(0.0163)	(0.0180)	(0.0027)	(0.0072)	(0.0077)	(0.0036)	(0.0075)	(0.0083)	(0.0026)	(0.0055)	(0.0061)	(0.0034)	(0.0076)	(0.0083)
1980 -	-0.1139	-0.1872	-0.0733	-0.0437	-0.0215	0.0222	0.0058	-0.0539	-0.0597	0.0004	-0.0101	-0.0106	-0.0488	-0.0997	-0.0509
2005	(0.0080)	(0.0266)	(0.0278)	(0.0026)	(0.0093)	(0.0097)	(0.0037)	(0.0110)	(0.0116)	(0.0024)	(0.0069)	(0.0073)	(0.0036)	(0.0112)	(0.0118)

Notes: See notes to Appendix Table 2.

Appendix Table 4: Demographic Characteristics of All Individuals and by Poverty Status, CE Survey, 1972-2005

	All Individuals					Consumption Poor					Income poor					Income Poor but Not Consumption Poor				
	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Head Employed	0.894	0.846	0.780	0.761	0.738	0.763	0.638	0.560	0.572	0.590	0.701	0.607	0.532	0.520	0.507	0.719	0.634	0.605	0.560	0.518
Number of Earners	.	.	1.694	1.635	1.613	.	.	1.273	1.277	1.413	.	.	1.130	1.062	0.994	.	.	1.230	1.112	0.989
Homeowner	0.627	0.653	0.672	0.663	0.697	0.382	0.368	0.330	0.297	0.301	0.409	0.393	0.399	0.361	0.385	0.715	0.499	0.543	0.479	0.497
Single family home	.	0.607	0.581	0.570	0.604	.	0.339	0.260	0.216	0.217	.	0.360	0.330	0.282	0.297	.	0.456	0.454	0.390	0.397
Mobile home or trailer	.	0.019	0.043	0.044	0.039	.	0.018	0.054	0.064	0.062	.	0.023	0.043	0.055	0.046	.	0.021	0.047	0.053	0.046
Own a car	0.822	0.860	0.891	0.894	0.900	0.595	0.572	0.609	0.653	0.679	0.545	0.602	0.645	0.671	0.687	0.718	0.736	0.797	0.783	0.769
Service flows from vehicles	245	651	963	1,080	1,272	76	151	156	180	219	80	225	333	385	463	201	418	575	620	687
Service flows from owned	1,955	2,680	3,193	3,661	4,454	614	469	598	584	655	805	1,086	1,383	1,447	1,878	2,246	2,335	2,337	2,354	2,848
Total service flows	2,200	3,331	4,156	4,741	5,727	691	620	754	764	874	885	1,311	1,716	1,832	2,342	2,447	2,753	2,912	2,974	3,534
Family size	4.291	4.160	3.485	3.374	3.314	5.408	5.040	4.372	4.338	4.286	5.205	5.086	3.894	3.841	3.605	3.567	4.103	3.334	3.293	3.177
# of children	2.076	1.839	1.278	1.232	1.156	3.146	2.787	2.087	2.105	1.939	3.016	2.838	1.795	1.815	1.617	1.584	1.940	1.307	1.337	1.278
# over 64	0.215	0.200	0.239	0.245	0.255	0.322	0.306	0.264	0.208	0.205	0.353	0.264	0.240	0.204	0.232	0.397	0.271	0.284	0.252	0.284
# of rooms	.	5.669	5.911	5.952	6.107	.	4.964	5.043	4.949	4.910	.	5.077	5.255	5.160	5.156	.	5.328	5.541	5.386	5.389
# of Bedrooms	.	.	2.806	2.839	2.918	.	.	2.511	2.487	2.528	.	.	2.571	2.567	2.608	.	.	2.651	2.631	2.675
# of Bathrooms	.	.	1.488	1.479	1.615	.	.	1.337	1.150	1.220	.	.	1.419	1.235	1.336	.	.	1.488	1.320	1.438
Appliances																				
Stove	.	.	0.995	0.992	0.992	.	.	0.979	0.971	0.958	.	.	0.976	0.970	0.959	.	.	0.983	0.982	0.979
Microwave	.	.	0.533	0.846	0.942	.	.	0.196	0.594	0.821	.	.	0.253	0.639	0.845	.	.	0.370	0.736	0.889
Refrigerator	.	.	0.991	0.995	0.995	.	.	0.983	0.984	0.982	.	.	0.982	0.985	0.983	.	.	0.983	0.991	0.989
Freezer	.	.	0.393	0.358	0.354	.	.	0.300	0.240	0.217	.	.	0.298	0.257	0.236	.	.	0.332	0.291	0.275
Disposal	.	.	0.347	0.401	0.459	.	.	0.093	0.153	0.189	.	.	0.158	0.226	0.271	.	.	0.236	0.302	0.342
Dishwasher	.	.	0.473	0.534	0.616	.	.	0.113	0.146	0.213	.	.	0.194	0.237	0.314	.	.	0.305	0.342	0.417
Window Air Conditioning	.	0.278	0.242	0.226	0.212	.	0.130	0.213	0.269	0.309	.	0.156	0.216	0.243	0.272	.	0.252	0.255	0.251	0.252
Central Air Conditioning	.	0.150	0.324	0.438	0.575	.	0.028	0.106	0.196	0.339	.	0.053	0.156	0.258	0.382	.	0.094	0.223	0.330	0.440
Washer	.	.	0.792	0.810	0.841	.	.	0.584	0.574	0.611	.	.	0.597	0.603	0.635	.	.	0.674	0.676	0.702
Dryer	.	.	0.692	0.750	0.807	.	.	0.336	0.401	0.492	.	.	0.394	0.463	0.538	.	.	0.537	0.576	0.630
Television	.	.	0.706	0.973	0.986	.	.	0.607	0.920	0.950	.	.	0.623	0.923	0.957	.	.	0.685	0.944	0.971
Computer	.	.	0.122	0.309	0.666	.	.	0.024	0.084	0.304	.	.	0.043	0.140	0.392	.	.	0.071	0.198	0.484
Stereo	.	.	0.447	0.672	0.763	.	.	0.274	0.455	0.601	.	.	0.307	0.508	0.639	.	.	0.352	0.566	0.682
VCR	.	.	0.473	0.810	0.907	.	.	0.221	0.557	0.740	.	.	0.265	0.592	0.770	.	.	0.356	0.683	0.824
Race																				
White, Non Hispanic	.	.	0.777	0.738	0.690	.	.	0.485	0.434	0.387	0.681	0.695	0.539	0.485	0.457	.	.	0.672	0.592	0.535
Black, Non Hispanic	.	.	0.118	0.117	0.119	.	.	0.310	0.268	0.242	0.299	0.305	0.277	0.256	0.243	.	.	0.180	0.193	0.212
Other	.	.	0.105	0.145	0.191	.	.	0.205	0.297	0.370	0.020	0.000	0.184	0.259	0.299	.	.	0.148	0.214	0.253
Expenditures > Income	0.435	0.368	0.445	0.429	0.359	0.459	0.314	0.413	0.428	0.362	0.672	0.734	0.823	0.853	0.868	0.952	0.968	0.976	0.977	0.972
N	13,728	18,903	129,249	173,869	136,922	2,728	2,422	14,586	16,015	10,462	2,180	1,365	17,638	20,555	13,442	464	584	9,758	12,488	8,831
Total Financial Assets																				
Median	.	2,467	2,290	2,046	1,793	.	0	0	0	0	.	0	0	0	0	.	8	152	68	33
75th Percentile	.	15,224	14,367	13,720	12,928	.	666	200	205	138	.	285	383	280	310	.	1,541	1,643	1,398	1,100
85th Percentile	.	33,161	33,660	36,336	41,278	.	2,362	860	718	543	.	1,415	1,359	1,228	1,178	.	5,047	5,421	5,320	3,448
90th Percentile	.	53,381	55,427	68,181	85,277	.	5,459	1,748	1,433	1,134	.	3,806	2,983	3,128	2,546	.	9,290	12,487	13,993	9,297
95th Percentile	.	103,514	117,237	142,862	226,582	.	17,508	5,586	3,588	2,583	.	10,514	11,972	14,098	11,030	.	22,836	30,451	43,934	52,731
Change in Total Financial Assets																				
5th Percentile	-8,297	-8,754	-7,930	-6,650	-10,610	-2,107	-2,022	-793	-341	-200	-5,531	-3,616	-1,699	-724	-849	-19,631	-7,279	-5,437	-2,606	-2,206
10th Percentile	-3,540	-4,044	-2,888	-2,097	-3,000	-774	-761	-34	0	0	-1,798	-913	-170	0	0	-12,846	-3,806	-1,529	-409	-340
15th Percentile	-1,751	-1,998	-1,038	-620	-826	-274	-247	0	0	0	-691	-381	0	0	0	-8,297	-1,237	-340	0	0
Percent Change in Total Financial Assets																				
5th Percentile	.	-0.99	-0.50	-0.39	-0.33	.	-1.00	-0.43	-0.31	-0.20	.	-1.00	-0.62	-0.33	-0.23	.	-1.00	-0.74	-0.51	-0.33
10th Percentile	.	-0.67	-0.25	-0.20	-0.19	.	-0.98	-0.06	0.00	0.00	.	-1.00	-0.17	0.00	0.00	.	-1.00	-0.33	-0.19	-0.13
15th Percentile	.	-0.39	-0.13	-0.09	-0.09	.	-0.50	0.00	0.00	0.00	.	-0.71	0.00	0.00	0.00	.	-0.88	-0.14	0.00	0.00
N (asset sample)	13,728	18,903	21,466	33,240	23,150	2,728	2,422	2,572	3,303	2,167	2,180	1,365	2,772	3,818	2,520	464	584	1,377	2,172	1,511
Debt																				
Median	.	.	476	391	0	.	.	0	0	0	.	.	0	0	0	.	.	0	0	0
75th Percentile	.	.	3,122	3,584	3,000	.	.	481	280	0	.	.	603	380	113	.	.	1,099	1,064	652
85th Percentile	.	.	5,628	6,726	6,715	.	.	1,627	1,398	531	.	.	1,778	1,630	1,412	.	.	2,957	2,751	2,686
90th Percentile	.	.	8,155	9,681	10,537	.	.	2,657	2,796	1,588	.	.	3,187	3,180	3,175	.	.	4,725	4,784	5,443
95th Percentile	.	.	13,296	15,548	18,594	.	.	4,587	5,660	5,000	.	.	6,080	7,143	8,308	.	.	9,186	9,702	11,840
N (debt sample)	.	.	65,253	87,996	69,533	.	.	7,236	7,956	5,219	.	.	8,594	10,077	6,664	.	.	4,724	6,105	4,357

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

Appendix Table 5: Demographic Characteristics of all Individuals, 1960-2005

Survey	1960-1961/1963		1972-1973		1980-1989		1990-1999		2000-2005	
	CPS	CE	CPS	CE	CPS	CE	CPS	CE	CPS	CE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Family Type										
Single Mother Families	0.052	0.052	0.077	0.073	0.106	0.104	0.123	0.127	0.124	0.128
Married Parent Families	0.634	0.656	0.562	0.582	0.449	0.462	0.418	0.429	0.399	0.412
Single Individuals	0.056	0.045	0.074	0.061	0.123	0.114	0.142	0.126	0.160	0.146
Married without Children	0.144	0.138	0.168	0.169	0.184	0.181	0.176	0.176	0.180	0.180
Head 65 and Over	0.114	0.109	0.119	0.115	0.138	0.140	0.142	0.142	0.137	0.134
Age										
0-17	0.371	0.383	0.326	0.336	0.267	0.273	0.265	0.272	0.254	0.260
18-64	0.538	0.521	0.575	0.566	0.617	0.610	0.615	0.607	0.625	0.621
65+	0.091	0.095	0.099	0.098	0.116	0.117	0.120	0.121	0.120	0.119
Education of Head										
Less than HS	0.508	0.530	0.384	0.404	0.260	0.271	0.194	0.206	0.161	0.162
HS	0.285	0.261	0.316	0.316	0.337	0.316	0.325	0.313	0.303	0.282
Some College	0.095	0.096	0.149	0.130	0.195	0.206	0.246	0.244	0.268	0.295
College +	0.112	0.113	0.151	0.150	0.208	0.208	0.235	0.236	0.268	0.262
Race										
White, Non Hispanic	0.883		0.822		0.778	0.779	0.729	0.739	0.681	0.691
Black, Non Hispanic	0.108		0.112		0.119	0.118	0.125	0.123	0.122	0.125
Other	0.009		0.067		0.103	0.103	0.147	0.139	0.197	0.184
Region										
Northeast	0.249	0.248	0.288	0.241	0.210	0.222	0.196	0.203	0.187	0.180
Midwest	0.279	0.287	0.221	0.277	0.249	0.252	0.235	0.236	0.225	0.224
South	0.307	0.307	0.315	0.306	0.340	0.317	0.348	0.335	0.358	0.366
West	0.165	0.158	0.176	0.176	0.201	0.209	0.221	0.226	0.230	0.230
Homeowner		0.627		0.656	0.683	0.683	0.679	0.673	0.710	0.704
Single family home				0.609		0.592		0.578		0.611
Mobile home or trailer				0.018		0.041		0.045		0.037
Own an automobile		0.822		0.862		0.892		0.889		0.896
N ('000s)	54.5	13.7	269	20.0	1,600	157.4	1,427	221.5	1,191.9	188.6
Total Financial Assets										
Median				2,261		2,062		1,757		1,485
85th Percentile				32,126		32,621		33,474		36,924
N (asset sample)				19,975		20,520		31,783		24,112
Debt										
Median						329		145		0
85th Percentile						5,179		6,025		5,647
N (debt sample)						78,935		111,121		94,985

Notes: Consumption data are from the CE Survey and income data are from the CPS-ASEC/ADF. See notes to Table 9.

Appendix Table 6: Assets and Debts of the Income Poor by Family Type, CE Survey, 1972-2005

	Single Parent Families					Married Parent Families					Single Head without Children					Married without Children					Head 65 and Over				
	1960-	1972-	1980-	1990-	2000-	1960-	1972-	1980-	1990-	2000-	1960-	1972-	1980-	1990-	2000-	1960-	1972-	1980-	1990-	2000-	1960-	1972-	1980-	1990-	2000-
	1961	1973	1989	1999	2005	1961	1973	1989	1999	2005	1961	1973	1989	1999	2005	1961	1973	1989	1999	2005	1961	1973	1989	1999	2005
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Homeowner	0.211	0.198	0.215	0.194	0.257	0.358	0.419	0.461	0.412	0.452	0.491	0.291	0.218	0.209	0.214	0.564	0.409	0.634	0.649	0.605	0.603	0.691	0.704	0.729	0.693
Own a car	0.151	0.332	0.433	0.504	0.601	0.726	0.784	0.853	0.840	0.842	0.299	0.471	0.542	0.601	0.578	0.677	0.740	0.851	0.881	0.824	0.343	0.515	0.649	0.722	0.689
Total Financial Assets																									
Median	.	0	0	0	0	.	0	0	0	0	.	0	111	133	109	.	81	58	144	10	.	0	0	24	0
75th Percentile	.	0	0	0	3	.	381	519	333	400	.	324	1,148	1,152	1,227	.	2,022	2,696	2,823	1,241	.	2,831	1,117	1,955	1,200
85th Percentile	.	16	100	60	103	.	1,213	1,730	1,376	1,272	.	607	2,549	2,576	2,900	.	4,679	12,516	15,223	6,479	.	8,897	6,796	12,130	7,024
90th Percentile	.	266	397	254	227	.	3,235	3,043	3,639	2,702	.	1,618	4,758	4,852	4,763	.	9,758	24,624	56,378	16,000	.	13,547	16,430	35,539	31,752
95th Percentile	.	1,375	1,019	878	680	.	9,301	11,972	15,059	14,062	.	3,045	13,680	14,072	10,258	.	20,220	60,315	129,874	62,703	.	27,023	48,440	122,514	127,553
Change in Total Financial Assets																									
5th Percentile	-824	-761	-358	0	-10	-3,899	-5,844	-1,699	-1,231	-1,061	-10,612	-4,974	-1,903	-2,426	-1,200	-11,549	-4,044	-4,354	-11,727	-11,340	-7,633	-5,662	-1,967	-1,239	-5,000
10th Percentile	-55	-190	0	0	0	-1,070	-1,213	-456	0	-33	-7,743	-1,618	-822	-724	-300	-6,361	-2,022	-1,520	-1,239	-1,600	-3,955	-1,903	-170	0	-28
15th Percentile	0	0	0	0	0	-277	-571	0	0	0	-4,468	-1,142	-329	-261	0	-4,117	-922	0	0	0	-2,212	-381	0	0	0
Percent Change in Total Financial Assets																									
5th Percentile	.	-1.00	-0.29	0.00	-0.13	.	-1.00	-0.67	-0.33	-0.33	.	-0.95	-0.71	-0.71	-0.33	.	-1.00	-0.94	-0.28	-0.47	.	-1.00	-0.33	-0.12	-0.20
10th Percentile	.	-0.98	0.00	0.00	0.00	.	-1.00	-0.22	0.00	-0.02	.	-0.93	-0.33	-0.33	-0.17	.	-0.83	-0.21	-0.09	-0.23	.	-0.50	-0.03	0.00	-0.01
15th Percentile	.	-0.24	0.00	0.00	0.00	.	-1.00	0.00	0.00	0.00	.	-0.90	-0.22	-0.16	-0.01	.	-0.53	0.00	0.00	-0.01	.	-0.17	0.00	0.00	0.00
N (asset sample)	194	354	698	1,054	612	720	436	539	670	397	206	69	936	1,308	929	247	197	197	248	170	813	309	402	538	412
Debt																									
Median	.	.	0	0	0	.	.	0	0	0	.	.	0	0	0	.	.	0	0	0	.	.	0	0	0
75th Percentile	.	.	360	27	0	.	.	1,368	1,173	386	.	.	194	509	308	.	.	865	867	1,270	.	.	152	0	0
85th Percentile	.	.	1,466	859	543	.	.	2,990	3,180	2,122	.	.	1,256	1,596	1,918	.	.	2,230	2,500	4,479	.	.	714	699	648
90th Percentile	.	.	2,336	1,910	2,000	.	.	4,661	5,898	4,682	.	.	3,172	3,258	4,855	.	.	4,377	4,092	8,264	.	.	1,263	1,330	1,390
95th Percentile	.	.	4,607	4,365	5,305	.	.	8,451	10,033	9,800	.	.	6,796	8,443	11,974	.	.	11,085	8,650	17,097	.	.	2,422	4,280	3,309
N (debt sample)	.	.	1,875	2,615	1,481	.	.	1,504	1,672	951	.	.	2,837	3,316	2,392	.	.	607	696	461	.	.	1,771	1,778	1,379

Notes: The sample includes all families in the CE Survey that are income poor (defined using after-tax money income) and are designated as complete income reporters. All estimates are person weighted. Debt includes all non-mortgage, non-vehicle debt. Financial asset statistics come from samples of families in their fifth CE Survey interview, while debt statistics come from families in either their second or fifth interview.

Appendix Table 7: Demographic Characteristics of the Income Poor by Consumption Poverty Status and by Family Type, 1972-2005

	Single Parent Families					Married Parent Families					Single Head without Children					Married without Children					Head 65 and Over				
	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005	1960-1961	1972-1973	1980-1989	1990-1999	2000-2005
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Panel A: Income Poor but not Consumption Poor																									
Share of Income Poor	0.082	0.325	0.389	0.484	0.566	0.163	0.413	0.538	0.540	0.568	0.301	0.638	0.574	0.635	0.642	0.308	0.563	0.737	0.791	0.796	0.237	0.434	0.639	0.731	0.802
Homeowner	0.246	0.285	0.349	0.261	0.331	0.641	0.527	0.588	0.554	0.602	0.688	0.355	0.292	0.280	0.286	0.823	0.478	0.725	0.717	0.687	0.907	0.770	0.821	0.814	0.777
Own a car	0.302	0.438	0.666	0.652	0.698	0.878	0.879	0.933	0.906	0.909	0.488	0.553	0.686	0.707	0.682	0.926	0.833	0.921	0.920	0.886	0.504	0.717	0.746	0.810	0.747
Expenditures > Income	1.000	0.981	0.985	0.968	0.967	1.000	0.988	0.991	0.996	0.986	0.950	0.944	0.983	0.989	0.977	0.961	0.961	0.979	0.973	0.983	0.854	0.909	0.932	0.952	0.949
N	16	115	1,473	2,556	1,721	117	180	1,652	1,901	1,106	62	44	3,370	4,250	3,088	76	111	939	1,133	733	193	134	2,324	2,648	2,183
Total Financial Assets																									
Median	.	0	0	0	0	.	57	340	154	53	.	0	318	263	160	.	647	865	743	106	.	426	438	559	340
75th Percentile	.	76	224	119	103	.	1,618	1,889	2,455	1,405	.	283	1,740	1,433	1,385	.	3,175	5,915	7,434	3,099	.	5,257	8,723	7,818	6,198
85th Percentile	.	404	731	391	331	.	5,116	5,421	9,368	6,917	.	607	4,587	3,325	3,258	.	11,081	24,016	42,966	9,700	.	20,172	25,950	43,934	37,666
90th Percentile	.	1,375	1,643	1,054	620	.	7,566	9,365	15,428	14,175	.	1,383	9,880	8,688	6,167	.	16,378	52,247	78,845	21,693	.	27,023	53,200	89,711	100,585
95th Percentile	.	3,806	5,522	4,070	2,053	.	12,306	20,388	25,270	55,162	.	3,640	28,991	21,078	16,000	.	45,208	67,683	172,299	315,065	.	112,357	138,012	146,766	277,978
Change in Total Financial Assets																									
5th Percentile	-1,571	-3,094	-3,172	-234	-454	-19,413	-11,829	-7,152	-5,088	-2,376	-19,548	-5,709	-5,097	-3,717	-2,041	-33,511	-4,044	-8,204	-12,390	-15,288	-16,607	-19,791	-3,172	-3,816	-13,512
10th Percentile	-1,571	-841	-865	0	0	-12,168	-5,844	-1,520	-364	-1,061	-16,476	-2,103	-1,520	-1,088	-371	-19,631	-2,495	-1,643	-2,392	-3,000	-12,846	-7,612	-2,682	-262	-543
15th Percentile	-1,571	-381	-33	0	0	-7,190	-1,618	-510	0	-100	-10,509	-1,519	-476	-480	0	-11,549	-1,237	-40	-682	-1,103	-9,098	-3,806	-1,586	0	0
Percent Change in Total Financial Assets																									
5th Percentile	.	-1.00	-0.76	-0.25	-0.28	.	-1.00	-0.71	-0.62	-0.34	.	-1.00	-0.71	-0.77	-0.33	.	-1.00	-0.94	-0.33	-0.62	.	-1.00	-0.88	-0.33	-0.21
10th Percentile	.	-1.00	-0.24	0.00	0.00	.	-1.00	-0.46	-0.27	-0.16	.	-0.95	-0.33	-0.38	-0.14	.	-0.83	-0.14	-0.15	-0.26	.	-0.50	-0.22	-0.05	-0.10
15th Percentile	.	-0.66	-0.04	0.00	0.00	.	-1.00	-0.21	0.00	-0.04	.	-0.90	-0.24	-0.21	-0.01	.	-0.53	-0.03	-0.05	-0.19	.	-0.38	-0.08	0.00	0.00
N (asset sample)	16	115	255	454	299	117	180	264	349	201	62	44	510	816	587	76	111	130	188	127	193	134	218	365	297
Debt																									
75th Percentile	.	.	971	579	200	.	.	2,432	2,427	1,655	.	.	623	1,031	800	.	.	1,155	1,158	2,122	.	.	173	51	0
85th Percentile	.	.	2,244	2,264	1,303	.	.	4,725	5,429	4,990	.	.	2,468	2,462	3,450	.	.	3,653	2,693	6,000	.	.	795	805	869
90th Percentile	.	.	3,678	3,591	3,183	.	.	6,748	8,113	8,000	.	.	4,470	5,576	8,264	.	.	6,344	5,580	10,000	.	.	1,520	1,433	1,950
95th Percentile	.	.	6,718	7,248	7,371	.	.	12,342	13,356	14,869	.	.	9,268	11,125	15,469	.	.	12,977	11,438	18,462	.	.	2,612	3,909	4,412
N (debt sample)	.	.	741	1,246	829	.	.	802	897	533	.	.	1,634	2,099	1,534	.	.	438	549	360	.	.	1,109	1,314	1,101
Panel B: Income Poor and Consumption Poor																									
Homeowner	0.208	0.166	0.150	0.146	0.179	0.316	0.361	0.330	0.279	0.279	0.411	0.190	0.106	0.084	0.090	0.457	0.326	0.407	0.418	0.346	0.532	0.643	0.533	0.554	0.455
Own a car	0.139	0.292	0.318	0.395	0.499	0.704	0.733	0.770	0.779	0.765	0.223	0.341	0.327	0.413	0.399	0.574	0.628	0.680	0.749	0.630	0.305	0.390	0.509	0.540	0.525
Expenditures > Income	0.626	0.595	0.660	0.675	0.748	0.670	0.663	0.702	0.744	0.697	0.540	0.641	0.751	0.764	0.723	0.599	0.610	0.703	0.801	0.700	0.508	0.424	0.576	0.682	0.654
N	178	239	2,315	2,728	1,322	603	256	1,417	1,617	840	144	25	2,502	2,446	1,721	171	86	335	300	188	620	175	1,311	976	540
Total Financial Assets																									
75th Percentile	.	0	0	0	0	.	84	0	3	10	.	348	510	586	737	.	685	26	0	55	.	1,142	170	120	6
85th Percentile	.	0	8	0	5	.	404	242	124	199	.	1,545	1,274	1,634	2,228	.	1,213	575	254	318	.	6,470	1,100	1,014	331
90th Percentile	.	19	57	33	53	.	1,047	537	269	400	.	1,941	2,059	2,606	3,402	.	2,131	1,019	725	326	.	9,515	2,209	1,955	500
95th Percentile	.	761	397	243	191	.	4,044	1,807	798	765	.	3,045	3,755	4,858	6,198	.	3,806	19,029	957	600	.	17,127	6,055	5,985	1,200
Change in Total Financial Assets																									
5th Percentile	-498	-228	-17	0	0	-1,383	-1,998	-519	-20	-2	-6,849	-304	-1,384	-1,158	-882	-3,319	-3,425	-1,788	-36	0	-4,287	-1,903	-86	0	0
10th Percentile	-6	-57	0	0	0	-553	-607	0	0	0	-4,021	-202	-397	-359	-258	-1,051	-922	-164	0	0	-1,815	-809	0	0	0
15th Percentile	0	0	0	0	0	-55	-266	0	0	0	-2,766	-38	-170	-36	0	-553	-381	0	0	0	-979	-171	0	0	0
Percent Change in Total Financial Assets																									
5th Percentile	.	-1.00	-0.18	0.00	0.00	.	-1.00	-0.43	-0.02	-0.13	.	-0.93	-0.73	-0.54	-0.40	.	-1.00	-1.00	-0.04	0.00	.	-1.00	-0.02	0.00	0.00
10th Percentile	.	-0.96	0.00	0.00	0.00	.	-1.00	0.00	0.00	0.00	.	-0.08	-0.35	-0.23	-0.20	.	-0.86	-0.79	0.00	0.00	.	-0.22	0.00	0.00	0.00
15th Percentile	.	0.00	0.00	0.00	0.00	.	-1.00	0.00	0.00	0.00	.	-0.01	-0.18	-0.05	0.00	.	-0.48	0.00	0.00	0.00	.	-0.04	0.00	0.00	0.00
N (asset sample)	178	239	443	600	313	603	256	275	321	196	144	25	426	492	342	171	86	67	60	43	620	175	184	173	115
Debt																									
75th Percentile	.	.	114	0	0	.	.	519	203	0	.	.	0	0	0	.	.	380	0	0	.	.	114	0	0
85th Percentile	.	.	1,025	213	0	.	.	1,699	1,356	310	.	.	209	425	318	.	.	1,427	732	413	.	.	673	405	124
90th Percentile	.	.	1,813	718	532	.	.	2,314	2,936	1,289	.	.	848	991	1,804	.	.	1,901	2,852	1,270	.	.	986	869	826
95th Percentile	.	.	3,735	2,392	2,864	.	.	4,460	6,226	2,865	.	.	3,010	2,576	4,081	.	.	3,142	4,092	5,517	.	.	1,666	4,852	1,659
N (debt sample)	.	.	1,134	1,369	652	.	.	702	775	418	.	.	1,203	1,217	858	.	.	169	147	101	.	.	662	464	278

Notes: The samples are restricted to families in the CE Survey that are income poor (defined using after-tax money income) and are designated as complete income reporters. All estimates are person weighted. Debt includes all non-mortgage, non-vehicle debt. Financial asset statistics come from samples of families in their fifth CE Survey interview, while debt statistics come from families in either their second or fifth interview.