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A Guide to Statistics on Historical Trends in Income Inequality

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The broad facts of income inequality over the past six decades are easily summarized:

- The years from the end of World War II into the 1970s were ones of substantial economic growth and broadly shared prosperity.
 - Incomes grew rapidly and at roughly the same rate up and down the income ladder, roughly doubling in inflation-adjusted terms between the late 1940s and early 1970s.
 - The income gap between those high up the income ladder and those on the middle and lower rungs — while substantial — did not change much during this period.
- Beginning in the 1970s, economic growth slowed and the income gap widened.
 - Income growth for households in the middle and lower parts of the distribution slowed sharply, while incomes at the top continued to grow strongly.
 - The concentration of income at the very top of the distribution rose to levels last seen more than 80 years ago (during the “Roaring Twenties”).
- Wealth — the value of a household’s property and financial assets, minus the value of its debts — is much more highly concentrated than income. The best survey data show that the share of wealth held by the top 1 percent rose from just under 30 percent in 1989 to nearly 49 percent in 2016, while the share held by the bottom 90 percent fell from just over 33 percent to less than 23 percent over the same period.

Data from a variety of sources contribute to this broad picture of strong growth and shared prosperity for the early postwar period, followed by slower growth and growing inequality since the 1970s. Within these broad trends, however, different data tell slightly different parts of the story (and no single source of data is better for all purposes than the others).

¹ The authors would like to acknowledge the contributions of Hannah Shaw, who helped create this guide and was one of the original authors, as well as William Chen, Brandon DeBot, and Emily Horton.

This guide consists of four sections. The first describes the commonly used sources and statistics on income and discusses their relative strengths and limitations in understanding trends in income and inequality. The second provides an overview of the trends revealed in those key data sources. The third and fourth sections supply additional information on wealth, which complements the income data as a measure of how the *most* well-off Americans are doing, and poverty, which measures how the *least* well-off Americans are doing.

I. The Census Survey and IRS Income Data

The most widely used sources of data and statistics on household income and its distribution are the annual survey of households conducted as part of the Census Bureau's Current Population Survey (CPS) and the Internal Revenue Service's (IRS) Statistics of Income (SOI) data compiled from a large sample of individual income tax returns. The Census Bureau publishes annual reports on income, poverty, and health insurance coverage in the United States based on the CPS data,² and the IRS publishes an annual report on individual income tax returns based on the SOI.³ While the Federal Reserve also collects income data in its triennial Survey of Consumer Finances (SCF),⁴ the SCF is more valuable as the best source of survey data on wealth.

Each agency produces its own tables and statistics and makes a public-use file of the underlying data available to other researchers. In addition, the Congressional Budget Office (CBO) has developed a model that combines CPS and SOI data to estimate household income both before and after taxes, as well as average taxes paid by income group back to 1979.⁵ Economists Thomas Piketty and Emmanuel Saez have used SOI data to construct estimates of the concentration of income at the top of the distribution back to 1913.⁶ That work has been expanded recently to examine trends in wealth concentration.⁷ CBO and Piketty-Saez regularly release reports incorporating the latest available data.

² <http://www.census.gov/topics/income-poverty/income.html>.

³ Internal Revenue Service, "SOI Tax Stats — Individual Income Tax Returns Publication 1304," multiple years available, <https://www.irs.gov/uac/soi-tax-stats-individual-income-tax-returns-publication-1304-complete-report>

⁴ Jesse Bricker *et al.*, "Changes in U.S. Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances," *Federal Reserve Bulletin*, vol. 103, no. 3, September 2017, <https://www.federalreserve.gov/publications/files/scf17.pdf>.

⁵ Congressional Budget Office, "The Distribution of Household Income and Federal Taxes, 2013," June 2016, <https://www.cbo.gov/publication/51361>.

⁶ Emmanuel Saez, "Striking it Richer: The Evaluation of Top Incomes in the United States," University of California, June 30, 2016, <https://eml.berkeley.edu/~saez/saez-UStopincomes-2015.pdf>.

⁷ Emmanuel Saez and Gabriel Zucman, "Wealth Inequality in the United States since 1913: Evidence from Capitalized Income Tax Data," *Quarterly Journal of Economics*, Vol. 131, No. 2, May 2016, <http://eml.berkeley.edu/~saez/SaezZucman2016QJE.pdf>.

Concepts of Income Measured in Census and IRS Data

Census Money Income

The Census Bureau bases its report on income and poverty on a sample of about 95,000 addresses⁸ conducted through the Annual Social and Economic Supplement (ASEC) to the monthly Current Population Survey, which is the primary source of data for estimating the unemployment rate and other household employment statistics.⁹ The ASEC, also called the March CPS, provides information about the total annual resources available to families — including income from earnings, dividends, and cash benefits (such as Social Security), as well as the value of tax credits such as the Earned Income Tax Credit (EITC) and non-cash benefits such as nutritional assistance, Medicare, Medicaid, public housing, and employer-provided fringe benefits.

The income measure used in the Census report is money income¹⁰ before taxes, and the unit of analysis is the household. The latest data, for 2016, were released in September 2017. The statistics on household income are available going back to 1967. Census has statistics on family income that go back to 1947, but because Census defines a “family” as two or more people living in a household who are related by birth, marriage, or adoption, those statistics exclude people who live alone or with others to whom they are not related.

Census’s standard income statistics do not adjust for the size and composition of households. Two households with \$40,000 of income rank at the same place on the distributional ladder, even if one is a couple with two children and one is a single individual. An alternative preferred by many analysts is to make an equivalence adjustment based on household size and composition so that the adjusted income of a single person with a \$40,000 income is larger than the adjusted income of a family of four with the same income. Equivalence adjustment takes into account the fact that larger families need more total income but less per capita income than smaller families because they can share resources and take advantage of economies of scale. In recent reports, Census has supplemented its measures of income inequality based on household money income with estimates based on equivalence-adjusted income.¹¹

For reasons having to do with small sample size, data reporting and processing restrictions, and confidentiality considerations, Census provides more limited information about incomes at the very

⁸ About 70,000 households responded and were actually in the sample used to compute income statistics for 2016.

⁹ Census also collects data on income, poverty, and health insurance coverage through the American Community Survey (ACS), which has replaced the long-form decennial census questionnaire. For its more limited set of categories, the ACS provides better data at the state and local level than the CPS, but Census advises that the CPS data provide the best annual estimates of income, poverty, and health insurance coverage for the nation as a whole.

¹⁰ Examples of money income — sometimes referred to as “cash income” — include: wages and salaries; income from dividends; earnings from self-employment; rental income; child support and alimony payments; Social Security, disability, and unemployment benefits; cash welfare assistance; and pensions and other retirement income. Census money income does not include non-cash benefits such as those from the Supplemental Nutrition Assistance Program (food stamps), Medicare, Medicaid, or employer-provided health insurance.

¹¹ Census uses a three-parameter scale for equivalence adjustment that takes into account family size and composition (so that, for example, a two-adult, one-child family has a different adjustment than a one-adult, two-child family).

top of the income distribution than it does for incomes elsewhere in the distribution. For example, Census does not collect information about earnings over \$1,099,999 for any given job; earnings above that level are recorded in Census data as \$1,099,999.¹²

Income Tax Data

The income tax data used in distributional analysis come from a large sample of tax returns compiled by the IRS's Statistics of Income Division. For 2015, the sample consisted of about 339,000 returns scientifically selected from the roughly 150 million returns filed that year.¹³ For the population that files tax returns and for the categories of income that get reported, these administrative data are generally more accurate and more complete than survey data, such as the CPS, which is prone to underreporting of some kinds of income.

However, not all people are required to file tax returns, and tax returns do not reflect all sources of income. Those who do not file returns are likely to have limited incomes; hence tax data do not provide a representative view of low-income households (the mirror image of inadequate coverage of high-income households in the CPS). Like Census money income, income reported on tax returns excludes non-cash benefits such as food stamps, housing subsidies, Medicare, Medicaid, and non-taxable employer-provided fringe benefits.

The exclusion of non-filers is a major limitation of the tax data for distributional analysis. A further complication is that the data are available only for "tax-filing units," not by household or family (members of the same family or household may file separate tax returns).

SOI tax data are also less timely than Census data. Final statistics for tax year 2015 were released in September 2017.

Key Historical Series Constructed from Census and IRS Data

Congressional Budget Office Average Household Income and Federal Taxes by Income Group

The Congressional Budget Office (CBO) produces annual estimates of the distribution of household income and taxes that combine information from the CPS and the SOI.¹⁴ Thus, these estimates have relatively detailed information about very high-income households and taxes paid (the strengths of the SOI) *and* about low-income households and income and non-cash benefits (the strengths of the CPS).

¹² This is generally referred to as "top-coding" and is done to preserve confidentiality. In addition, earnings well below this limit are suppressed and replaced with group average values in the public-use data files of the ASEC made available to researchers.

¹³ Internal Revenue Service, "Individual Income Tax Returns 2015 Publication 1304," September 2017, <https://www.irs.gov/pub/irs-soi/15inalcr.pdf>.

¹⁴ For the most recent estimates, see Congressional Budget Office, "The Distribution of Household Income and Federal Taxes, 2013," <https://www.cbo.gov/publication/51361>.

CBO uses a broader measure of income than either Census money income or measures that can be constructed from tax return data alone. CBO's measure of before-tax comprehensive income includes all cash income (including non-taxable income not reported on tax returns, such as child support), taxes paid by businesses,¹⁵ employees' contributions to 401(k) retirement plans, and the estimated value of in-kind income received from various sources (such as food stamps, Medicare and Medicaid, and employer-paid health insurance premiums).¹⁶ CBO's after-tax income is computed by subtracting estimated federal individual and corporate income taxes, social insurance (payroll) taxes, and excise taxes from before-tax income.¹⁷ It is worth noting that medical benefits make up a sizeable and growing share of income in CBO's series, a fact that often accounts for the difference between trends in CBO's income data, which include these benefits, and other income series that do not.¹⁸

CBO also makes a simple equivalence adjustment based on household size: each household's income is divided by the square root of the number of people in the household. Thus, the adjusted

¹⁵ CBO includes the imputed value of taxes paid by businesses when estimating before-tax income because it assumes that households would have higher incomes in the absence of those taxes.

¹⁶ CBO values the medical benefits provided to households through Medicare, Medicaid, and the Children's Health Insurance Program (CHIP) on the basis of the Census Bureau's estimates of the average cost to the government of providing those benefits (total expenditures divided by the number of participants). This is the same approach CBO has always used to value *employer-provided* health insurance benefits.

Prior to its 2012 estimate of the distribution of household income and taxes, CBO valued government-provided health insurance on the basis of the Census Bureau's "fungible value" estimates, which essentially represent the amount that a household could afford to pay for insurance. (Technically, the fungible value is defined as the amount by which the household's income exceeds what is needed to meet basic food and housing needs; the availability of government medical benefits allows the household to spend this "extra" income on things other than insurance. Fungible value estimates are capped at the government's average cost of providing insurance.) See Congressional Budget Office, "The Distribution of Household Income and Federal Taxes, 2008-2009," July 10, 2012, <https://www.cbo.gov/publication/43373>.

For low-income households, the fungible value of government-provided health insurance can be substantially less than the average cost to the government of providing it. Consider a household with \$5,500 in income above what is needed to meet basic expenses for food and housing. If the average cost of government-provided health insurance for this type of household is \$10,000, CBO would value the benefits at the full \$10,000 under the average cost approach it now uses but at \$5,500 under the prior fungible-value approach, since that is all that the household could afford to spend on insurance in the absence of government-provided insurance. (Calculations based on tab 7 in CBO's supplemental data spreadsheet show that the average cost of Medicare and Medicaid for households in the bottom fifth of households, ranked by income before taxes and transfers, totaled about \$11,000 in 2013.) See the supplemental data accompanying Congressional Budget Office, "The Distribution of Household Income and Federal Taxes, 2013," June 8, 2016, <https://www.cbo.gov/publication/51361>.

¹⁷ CBO does not subtract other federal taxes (such as estate and gift taxes) or state and local taxes. CBO's estimate of after-tax income is higher than the estimate of before-tax income for some low-income households due to the impact of refundable tax credits.

¹⁸ CBPP does not have a position on whether or how medical benefits should be treated as income. One should note, however, that changes in the nature of health care spending could affect measured income differently than they affect household well-being. For example, advances in medical technology could enhance the value to households of health care spending in ways that the income data would not fully capture. Alternately, increases in spending on wasteful medical procedures or larger profit margins in the medical, insurance, or prescription drug industries could result in increases in health care spending that CBO counts as added income but do not enhance recipients' well-being.

household income of a single person with \$20,000 of income is equivalent to that of a household of four with \$40,000.

CBO's distributional tables are constructed by ranking people by their adjusted household income and constructing five income groups (quintiles) that each contain an equal number of people.¹⁹ This procedure results in quintiles that contain slightly different numbers of *households*, depending on the average household size at different points in the income distribution.

The latest CBO report on average federal taxes by income group was released in June 2016 and includes data for 1979-2013 on before- and after-tax income and taxes paid for each quintile, as well as for the top 1, 5, and 10 percent of households.^{20, 21} Because of the effort involved in preparing these analyses, CBO's annual updates tend to lag about two years behind the publication of the necessary SOI data.

Piketty-Saez Data on Income Concentration

Economists Thomas Piketty and Emmanuel Saez have constructed income statistics based on IRS data that go back to 1913 to provide a long-term perspective on trends in the concentration of income within the top 10 percent of the distribution.²²

Because they have no direct data on non-filers and because in any year only about 10 to 15 percent of potential tax units had to file an income tax return prior to World War II, Piketty and Saez focus on the share of income received at the top of the distribution.

¹⁹ Households with negative income are excluded from the lowest income category but are included in the totals.

²⁰ CBO includes a third income measure, "market income," defined as labor income (wages, salaries, benefits, and the employer's share of payroll taxes), business income (net income from business and farms owned solely by their owners, partnership income, and income from S corporations), realized capital gains, other capital income (dividends, rental income, and imputed corporate income taxes), and income from other sources. Note that this definition of "market income" is not the same as the market income concept used in the Piketty-Saez analysis discussed in the next section (see footnote 23).

²¹ The 2012 change in CBO's methodology for valuing government-provided health insurance discussed in footnote 14 also introduces some important changes in the ranking of certain households. As CBO explains in its July 10, 2012 report (p.18):

[T]he higher valuation of government provided health insurance causes about one-eighth of the households in the bottom quintile under CBO's earlier methodology (roughly 3 million households) to be classified in the second quintile under CBO's new methodology, and it causes a corresponding number of households to be classified in the bottom quintile rather than the second quintile. The households who moved out of the bottom quintile generally had much lower cash income than did those who moved into it. . . .

²² For details on their methods, see Thomas Piketty and Emmanuel Saez, "Income Inequality in the United States: 1913-1998," *Quarterly Journal of Economics*, February 2003, or, for a less technical summary, see Saez's latest update: <https://eml.berkeley.edu/~saez/saez-USstopincomes-2015.pdf>. Their most recent estimates are available at <http://eml.berkeley.edu/~saez/TabFig2015prel.xls>.

Their income concept is *market* income before individual income taxes. Market income is defined as the sum of all income sources reported on tax returns (including realized capital gains²³ and taxable Social Security and unemployment compensation).²⁴ Other non-taxable non-cash income sources, such as nutrition assistance and employer-provided health care benefits, are not included.

Some people with market income are not required to file income tax returns;²⁵ hence they do not show up in the population of tax filers, and their income does not show up in the total income reported on tax returns. Piketty and Saez address these omissions by estimating the number of non-filers and their income and adding these to the population of tax filers and the market income calculated from the income tax data.²⁶ They compute *total* income as all market income reported on tax returns plus their estimate of market income for non-filers.²⁷ The top 10 percent, top 1 percent, etc. are defined with respect to this total income and to the population of potential tax units (filers plus non-filers). Piketty and Saez do not make an adjustment for family size in their analysis.

The primary advantage of the Piketty-Saez data is that they provide the longest historical series of annual data on income at the top of the distribution. The key limitation is that they are based exclusively on tax return data. As a result, they do not include data for individual non-filers (and therefore provide no information about the distribution of income among non-filers). They also

²³ Piketty and Saez make available three different data series, each of which treats capital gains slightly differently and therefore yields somewhat different estimates of the share of income going to each group. (For example, estimates of the share of income going to the top 1 percent in 2015 range from 18.39 percent in one series to 20.31 percent in a second series to 22.03 percent in the series we rely on here.) We follow the income concept in Saez's most recent report and focus on the series that includes capital gains income both in ranking households and in measuring the income that households receive.

²⁴ More technically, Piketty and Saez calculate market income by taking the Adjusted Gross Income reported on tax returns and then adding back all adjustments to gross income (such as deductions for health savings accounts, student loan interest, self-employment tax, and IRAs). Note that this definition of market income is not the same as the "market income" concept used in the recent CBO report described above.

²⁵ People with income below certain thresholds are not required to file personal income tax returns. Thresholds are determined according to age and filing status. For example, in 2017, the filing threshold for a non-elderly married couple was \$20,800; the threshold for an elderly single person was \$11,950. Many people who are not required to file tax returns nonetheless pay considerable federal taxes, such as payroll and excise taxes, as well as state and local taxes.

²⁶ They estimate the total number of potential filers from Census data by summing the total of married men, widowed or divorced men and women, and single men and women over the age of 20. The number of non-filing tax units in their analysis is the difference between their estimated total and the number of returns actually reported in the IRS data. This methodology assumes the number of married women filing separately is negligible, and it has been quite small since 1948. Before that, however, married couples with two earners had an incentive to file separately, and Piketty and Saez adjust their data to account for that.

²⁷ For the years since 1943, non-filers, who account for a small percentage of all filers and of total income, are assigned an income equal to 20 percent of the average income of filers (except in 1944-45, when the percentage is 50 percent). For earlier years, when the percentage of non-filers and their share of income were much higher, Piketty and Saez assume, based on the ratio in subsequent years, that total market income of filers plus non-filers is equal to 80 percent of total personal income (less transfers) reported in the National Income and Product Accounts for 1929-1943 and as estimated by the economist Simon Kuznets for 1913-1928. For those years, the total income of non-filers is the difference between estimated total income and income reported on tax returns.

don't account for government cash transfers or for public and private non-cash benefits (such as government health and nutrition assistance benefits and employer-paid health insurance benefits).

The share of personal income coming from the public and private non-cash benefits that are missing from the Piketty-Saez income measure has increased over the years.²⁸ As a result, total income as computed by Piketty and Saez has accounted for a decreasing share of personal income in the national income and product accounts over time. This could distort their estimates of what share of the growth of total income has come at the top of the distribution. For example, employer-sponsored health insurance benefits are most likely a much smaller fraction of income for the top 1 percent than for the vast majority of middle-income tax units; not including them could understate income growth in the middle of the distribution relative to growth at the top.

II. Broad Trends in Income Inequality

Because each individual source of readily available data on income distribution has different advantages and limitations, no single source illustrates all of the major trends in inequality over the past six decades or so. Ideally, we would look at a comprehensive measure of income that covers a long time span, allows us to compare before- and after-tax income at different points in the income distribution, and accounts for changes in the size and composition of households. CBO data satisfy most of these criteria but only go back to 1979;²⁹ the historical Census family income data series and Piketty-Saez income concentration data cover a longer time span but use less-comprehensive measures of income and do not adjust for changes in the size and composition of households.

The Loss of Shared Prosperity

Census family income data show that from the late 1940s to the early 1970s, incomes across the income distribution grew at nearly the same pace. Figure 1 shows the level of real (inflation-adjusted) income at several points on the distribution relative to its 1973 level. It shows that real family income roughly doubled from the late 1940s to the early 1970s at the *95th percentile* (the level of income separating the 5 percent of families with the highest income from the remaining 95 percent), at the *median* (the level of income separating the richer half of families from the poorer half), and at the *20th percentile* (the level of income separating the poorest fifth of families from the remaining 80 percent). Then, beginning in the 1970s, income disparities began to widen, with income growing much faster at the top of the ladder than in the middle or bottom.

While the Census family income data are useful for illustrating that the widening of income inequality began in the 1970s, other data are superior for assessing more recent trends.

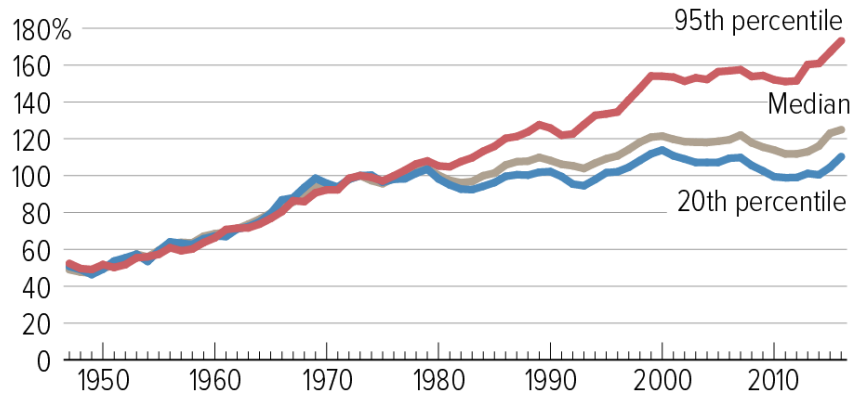
²⁸ According to data from the Bureau of Economic Analysis, wages and salaries now provide about 81 percent of employee compensation; supplemental benefits such as contributions to health and retirement plans provide the rest. In 1980, 84 percent of compensation came through wages and 16 percent through benefits; in 1950, 93 percent came through wages and 7 percent through benefits.

²⁹ As discussed in footnotes 14 and 19, the 2012 change in CBO's method of valuing government-provided health insurance has a substantial impact on comprehensive income and the ranking of households near the bottom of the income distribution. Since there is no consensus on the ideal approach to valuing government-provided health insurance, researchers are likely to continue exploring how alternative approaches affect the interpretation of historical trends and year-to-year changes in household income and its distribution.

FIGURE 1

Income Gains Widely Shared in Early Postwar Decades — But Not Since Then

Real family income between 1947 and 2016, as a percentage of 1973 level



Note: In 2014 Census split its sample of survey respondents into two groups to test a set of redesigned income questions. In 2015 (reporting on 2014 income using the new questions), Census released two estimates of 2013 incomes, one based on the old questions and one on the new. The chart uses the estimate based on the old questions, based on CBPP's judgment that, due in part to sample size, it is likely more accurate for 2013.

Source: CBPP calculations based on U.S. Census Bureau Data

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Widening Inequality Since the 1970s

Census family income data show that the era of shared prosperity ended in the 1970s and illustrate the divergence in income that has emerged since that time. CBO data allow us to look at what has happened to comprehensive income measures since 1979 — both before and after taxes — and offer a better view of what has happened at the top of the distribution.

As Figure 2 shows, from 1979 to 2007, just before the financial crisis and Great Recession, average income after taxes for the top 1 percent of the distribution quadrupled.³⁰ The increases in the middle 60 percent and bottom 20 percent of the distribution were much smaller.³¹

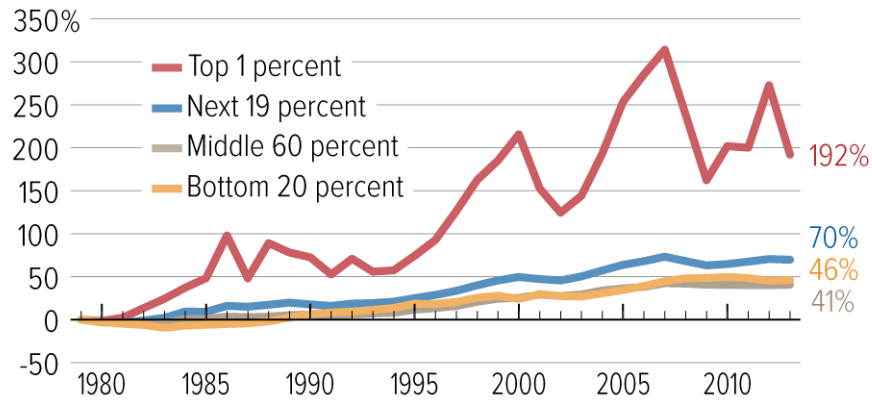
³⁰ When income increases by 100 percent, it doubles. When it increases by 300 percent, it quadruples.

³¹ CBO's published data show the average income of the bottom 20 percent rising somewhat faster over the entire 1979-2011 period than that of the middle 60 percent. That reflects CBO's 2012 decision to change its methodology and begin to value government-provided health insurance benefits at the average cost of providing those benefits rather than at their fungible value, as discussed in footnote 14. CBO provides data showing that if fungible value were used, the 1979-2011 growth in the bottom quintile would have been 26 percent, lower than the 38 percent growth for the middle 60 percent.

FIGURE 2

Income Gains at the Top Dwarf Those of Low- and Middle-Income Households

Percent change in real after-tax income since 1979



Source: Congressional Budget Office

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TABLE 1

Change in CBO Comprehensive Income by Income Group and Time Period

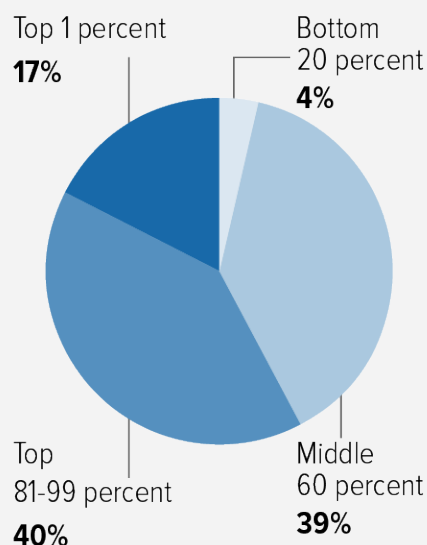
Change in average income	Bottom 20 percent	Middle 60 percent	Next 19 percent	Top 1 percent
1979-2007				
Before tax	41%	35%	68%	275%
After tax	44%	42%	73%	314%
1979-2013				
Before tax	39%	32%	65%	187%
After tax	46%	41%	70%	192%

Source: CBPP calculations from Congressional Budget Office data.

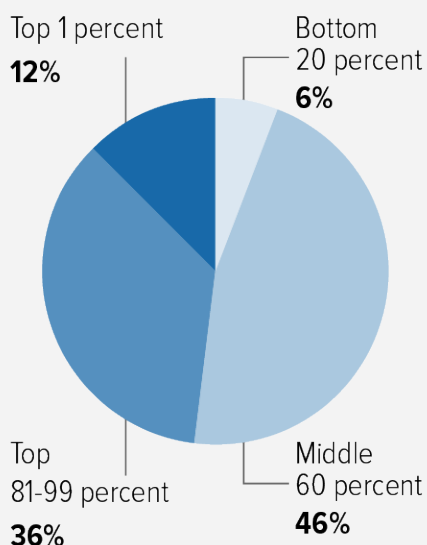
Federal Taxes and Transfers Are Progressive But Both Before- and After-Tax Income Concentration Are High

The chart below shows that U.S. federal taxes and transfers are progressive. In 2013, the share of income *after* federal taxes and transfers received by the top 20 percent of households was somewhat smaller than these households' share of income *before* federal taxes and transfers, while the opposite is true for households in the remaining 80 percent of the distribution.

Distribution of income before federal taxes and transfers, 2013



Distribution of income after federal taxes and transfers, 2013



Source: CBPP calculations from Congressional Budget Office data

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Both measures of income were highly concentrated. In 2013, the top 1 percent of households received 17 percent of income before taxes and transfers and 12 percent of income after federal taxes and transfers, while the bottom 80 percent of households received a little over two-fifths of income before taxes and transfers and a little over half of income after taxes and transfers.

As CBO's latest analysis of trends in income distribution from 1979 to 2013 shows, federal taxes and transfers both reduce income inequality, but the reduction due to transfers is considerably larger than that due to taxes.

After-tax incomes fell sharply at the top of the distribution in 2008 and 2009 but have begun to recover. The up-and-down pattern in 2012-13 may reflect, in part, decisions by wealthy taxpayers to sell assets in 2012 that had increased in value since they were first purchased in order to pay taxes on those capital gains before income tax rates increased in 2013. The Piketty-Saez data discussed below, which go through 2015, show a generally upward trend since 2009 that is consistent with this explanation.

Although the average *level* of after-tax income of the top 1 percent of households remains well below its 2007 peak, the *percentage increase* in their average after-tax income from 1979 to 2013 was five times larger than that of the middle 60 percent and four times larger than that of the bottom fifth. (See Table 1.) Moreover, CBO's latest baseline assumptions predict earnings to grow faster for high-income earners than for others in the next decade,³² suggesting that the Great Recession and financial crisis may have had only a temporary impact on the rising trend of income gains at the top, much as the impact of the dot-com collapse in the early 2000s was only temporary.

Trends in *before-tax* income growth look very similar. Because average tax rates have fallen for all income groups since 1979, growth in after-tax income has been somewhat larger than growth in before-tax income from 1979 to 2013. (See the box for more on the effect of taxes and transfers on income.)

Income Concentration Returned to 1920s Levels in the Past Decade

The Piketty-Saez data put the increasing concentration of income at the top of the distribution into a longer-term historical context. As Figure 3 shows, the share of before-tax income that the richest 1 percent of households receive has been rising since the late 1970s, and in the past decade has climbed to levels not seen since the 1920s. The vast majority of the increase is accounted for by the rising share of before-tax income going to the top 0.5 percent of households.³³

The increase in income concentration since the 1970s reverses the prior, long-term downward trend in concentration. After peaking in 1928, the share of income held by households at the very top of the income ladder declined through the 1930s and 1940s. Consistent with the shared prosperity found in the Census data on average family income, the share of income received by those at the very top changed little over the 1950s, 1960s, and early 1970s. The sharp rise in income concentration at the top of the distribution since the late 1970s was interrupted briefly by the dot-com collapse in the early 2000s and again in 2008 with the onset of the financial crisis and deep recession.

Top incomes generally have been on the rise since 2009. The Piketty-Saez data show the same up-and-down pattern in 2012-13 as CBO's, but the additional data for 2014 and 2015 show the rise in top income share continuing.

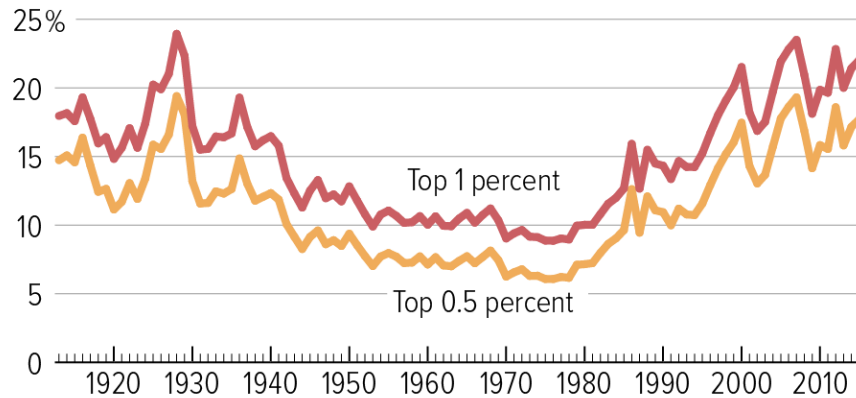
³² Congressional Budget Office, "The Budget and Economic Outlook: 2017 to 2027," January 2017, p. 21, <https://www.cbo.gov/publication/52370>.

³³ In the Piketty-Saez data, the average income for the top 1 percent of households in 2015 was about \$1.4 million. The average income for the top 0.5 percent was about \$2.2 million.

FIGURE 3

Income Concentration at the Top Has Risen Sharply Since the 1970s

Share of total before-tax income flowing to the highest income households (including capital gains), 1913-2015



Source: Emmanuel Saez, based on IRS data

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III. The Distribution of Wealth

A family's income is the *flow* of money coming in over the course of a year. Its wealth (sometimes referred to as "net worth") is the *total stock* of assets it has as a result of inheritance and saving, less any liabilities.³⁴ Wealth is much more highly concentrated than income, and concentration at the top has risen since the 1980s.

The main source of data for the distribution of household wealth is the Federal Reserve's Survey of Consumer Finances (SCF), which is conducted every three years. SCF data go back to 1983; the latest published data are for 2016. The SCF is based on a sample of about 6,300 families. The data sources discussed in the preceding sections on income distribution are superior to the SCF for measuring income distribution, but none of those sources has comparable data for looking at the distribution of wealth.

³⁴ Assets include such things as savings, stocks, vehicles, homes, and business and financial assets. Liabilities include such things as credit card debt, mortgages, and past-due bills.

The Federal Reserve publishes detailed statistics on wealth and income based on the SCF.³⁵ Figure 4 shows the distribution of income and wealth in 2016, based on the SCF data. As the chart illustrates, wealth is much more concentrated than income. It should be noted that while there is considerable overlap, the top 1 percent of the income distribution does not contain the identical group of people as the top 1 percent of the wealth distribution. The SCF data show that the top 1 percent of the income distribution received roughly a quarter of all income in 2016, while the top 1 percent of the *wealth* distribution held nearly two-fifths of all wealth. Similarly, the top 10 percent of the income distribution received a little more than half of all income, while the top 10 percent of the wealth distribution held more than *three-quarters* of all wealth.

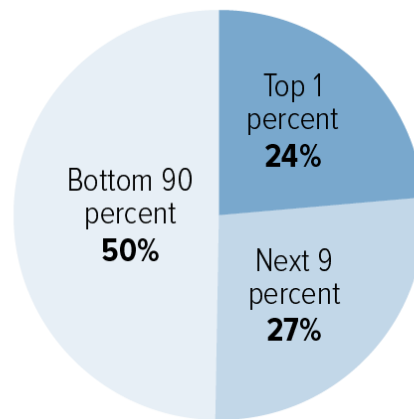
SCF data show rising concentration of wealth for the top 1 percent, little change for the rest of the top 10 percent, and a declining share for the bottom 90 percent. In particular, the share of wealth held by the top 1 percent rose from just under 30 percent in 1989 to 38.6 percent in 2016, while the share held by the bottom 90 percent fell from 33.2 percent in 1989 to 22.8 percent in 2016.³⁶

While the SCF is invaluable, it has its limitations, especially for detecting trends in wealth concentration at the very top. Recently, Emmanuel Saez and Gabriel Zucman have used tax-return information on income derived from wealth to infer the underlying distribution of wealth over time.³⁷ Figure 5 shows Saez and Zucman’s estimates of the share of

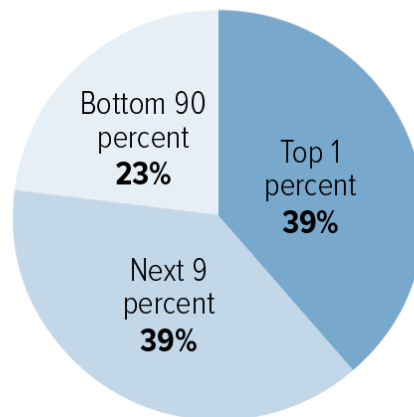
FIGURE 4

Wealth Is Even More Concentrated Than Income

Distribution of before-tax income, 2016



Distribution of wealth, 2016



Note: Percentages may not add to 100 percent due to rounding.
Source: Survey of Consumer Finances 2017

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³⁵ Jesse Bricker *et al.*, “Changes in U.S. Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances,” *Federal Reserve Bulletin*, vol. 103, no. 3, September 2017, <https://www.federalreserve.gov/publications/files/scf17.pdf>.

³⁶ *Ibid.*, “Box 3: Recent Trends in Income and Wealth.”

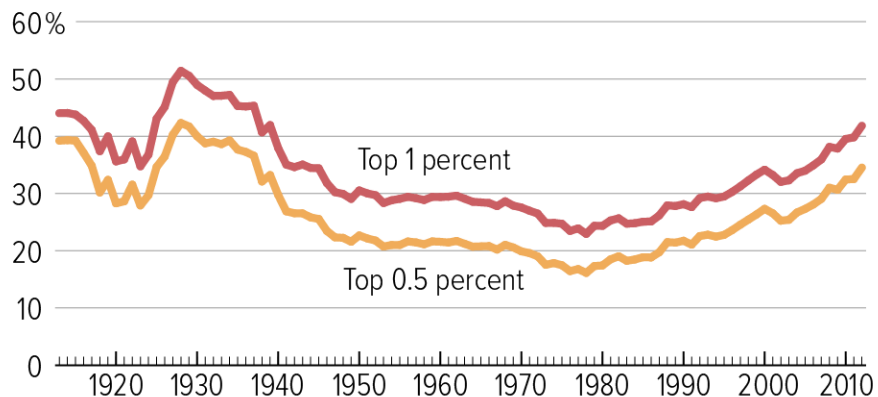
³⁷ Emmanuel Saez and Gabriel Zucman, “Wealth Inequality in the United States since 1913: Evidence from Capitalized Income Tax Data,” *Quarterly Journal of Economics*, Vol. 131, No. 2, May 2016, <http://eml.berkeley.edu/~saez/SaezZucman2016QJE.pdf>.

wealth held by the top 1 percent and top 0.5 percent since 1913. As with income, these data show a long historical decline in the concentration of wealth from the late 1920s into the late 1970s. Concentration at the top has increased markedly since then, driven by a rising share of wealth at the very top.³⁸

FIGURE 5

Wealth Concentration Has Been Rising Toward Early 20th Century Levels

Share of total wealth held by the wealthiest families, 1913-2012



Source: Saez and Zucman, May 2016

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IV. Poverty

The Official Poverty Measure

The official U.S. poverty measure was developed in the 1960s. The Census Bureau uses money income (as described above) to determine a person's poverty status. Each family or unrelated individual in the population is assigned a money income threshold based on the size of his or her family and age of its members.³⁹ A person is defined as living in poverty if his or her family income is below the threshold for that family size and composition (the threshold for a couple with two

³⁸ A recent analysis by Federal Reserve researchers tries to reconcile differences between the SCF and Zucman-Saez findings through measures such as including estimates for the wealth of the Forbes 400 in the SCF and adjusting upward the assumed rate of return on fixed income assets held by those at the top in Zucman-Saez. The Fed researchers are able to narrow the gap between the two estimates of top-income shares, and they conclude that their estimates “concur that inequality, at least as reflected in top income and wealth shares, has been rising in recent decades.” See Jesse Bricker, Alice Henriques, Jacob Krimmel, and John Sabelhaus, “The Increase in Wealth Concentration, 1989-2013,” Federal Reserve Board, June 2015, <http://www.federalreserve.gov/econresdata/notes/feds-notes/2015/increase-in-wealth-concentration-1989-2013-20150605.html>.

³⁹ There are 48 official poverty thresholds. These thresholds reflect an equivalence adjustment, but not the same three-parameter scale Census uses when it equivalence-adjusts household income. CBO uses another equivalence adjustment, based on the square root of the number of household members.

children was \$24,339 in 2016). The poverty thresholds are adjusted each year to reflect changes in the consumer price index. The *poverty rate* is the percentage of people living in poverty.

The official poverty statistics show a sharp decline in the poverty rate between 1959 and 1969 but little real change since then, apart from fluctuations due to the business cycle. For a number of reasons, however, the official measure is an unreliable guide to trends in poverty since 1970 and significantly understates progress in reducing poverty since then. The official poverty measure is based on Census money income, which includes cash assistance but does not count non-cash assistance like SNAP (formerly known as food stamps) and rental vouchers. The official poverty measure also omits the impact of the tax system, including tax credits for working families like the EITC and Child Tax Credit (CTC).

Alternatives to the Official Poverty Measure

Over the years, researchers have raised a number of serious conceptual and measurement concerns about how the official poverty rate is calculated. Following the publication of an important National Academy of Sciences (NAS) report on poverty measurement in 1995,⁴⁰ the Census Bureau has explored a number of experimental measures reflecting NAS recommendations. NAS-based measures use a more complete definition of income that includes the value of non-cash benefits and tax credits while subtracting taxes and certain expenses. The NAS also recommended using a modernized poverty line that varies with local housing costs.⁴¹

Census unveiled the newest refinement of the NAS-based measures, called the Supplemental Poverty Measure (SPM), in November 2011. This measure reflects recommendations from a federal interagency technical working group that drew on the NAS report and subsequent research. The Census SPM is available from 2009 to 2016.⁴² Unlike the official measure, which counts only a family's cash income, the SPM counts non-cash benefits (SNAP, housing assistance, WIC,⁴³ school lunch, and home energy assistance) and tax credits (the EITC and CTC) as income and subtracts various expenses, namely federal and state income and payroll taxes, child care and other work expenses, out-of-pocket medical expenditures, and child support paid. In addition, it updates the poverty line each year based on Americans' shifting patterns of spending on basic needs, and it

⁴⁰ Constance Citro and Robert Michael, eds., "Measuring Poverty: A New Approach," Committee on National Statistics, National Research Council, 1995, <http://www.nap.edu/openbook.php?isbn=0309051282>.

⁴¹ Census publishes eight experimental NAS-based poverty rates in addition to the official poverty rate, each calculated using a slightly different methodology. Estimates of these alternative poverty rates are available for each year from 1999 through 2016. The latest tables are available here: <https://www.census.gov/data/tables/2016/demo/supplemental-poverty-measure/nas-2016.html>. NAS measures also use a three-parameter equivalence scale to adjust for family size and composition. For the purpose of measuring poverty, the NAS report recommended against treating the value of medical benefits as income, noting ways in which medical benefits do not serve the same role as cash. Instead, the report recommended subtracting out-of-pocket medical expenditures from income, since money spent on medical needs is not available to meet the basic needs of food, clothing, shelter, and utilities upon which the NAS poverty threshold is based.

⁴² For more detail, see Liana Fox, "The Supplemental Poverty Measure: 2016," U.S. Census Bureau, September 2017, <https://www.census.gov/content/dam/Census/library/publications/2017/demo/p60-261.pdf>.

⁴³ WIC — formally known as the Special Supplemental Nutrition Program for Women, Infants, and Children — provides nutritious food, counseling on healthy eating, and health care referrals to low-income pregnant and postpartum women, infants, and children under age 5 who are at nutritional risk.

varies the poverty line based on local housing costs and the family’s type of housing (such as renters versus owners with a mortgage). Unlike in the official poverty measure (and most previous implementations of the NAS measure), unmarried partners are counted in the same SPM family.

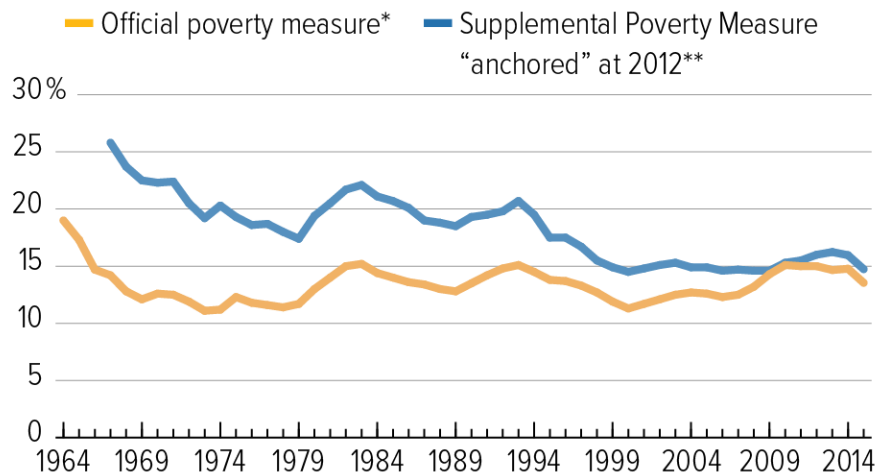
Long-Term Poverty Trends

Since non-cash and tax-based benefits constitute a much larger part of the safety net than 50 years ago, the official poverty measure’s exclusion of these benefits masks progress in reducing poverty. Trying to compare poverty in the 1960s to poverty today using the official measure yields misleading results; it implies that programs like SNAP, the EITC, and rental vouchers — all of which were either small in the 1960s or didn’t yet exist — have no effect in reducing poverty, which clearly is not the case.

FIGURE 6

Poverty Has Fallen Significantly Since 1960s Under “Anchored” Supplemental Poverty Measure

Percent of people living in poverty



*Counts only cash income and uses the official poverty line

**Counts cash income plus non-cash benefits, reflects the net impact of the tax system, subtracts certain expenses from income, and uses a poverty line based on today’s cost of certain necessities adjusted back for inflation.

Source: Christopher Wimer *et al.*, “Trends in Poverty with an Anchored Supplemental Poverty Measure,” Columbia Population Research Center, December 2013. For 2013-2015, CBPP analysis of Census Bureau data from the March Current Population Survey and SPM public use files.

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While the federal government has only calculated the SPM back to 2009, Columbia University researchers have estimated the SPM from 1967 to 2012.⁴⁴ We have updated their estimates through 2015, and found that the safety net is responsible for a decline in the poverty rate from 26 percent in 1967 to 15 percent in 2015, based on an “anchored” version of the SPM that uses a poverty line tied to what American families spent on basic necessities in 2012 adjusted back for inflation. (See Figure 6.) Without government assistance, poverty would have been about the same in 2015 compared with 1967 under this measure, which indicates the strong and growing role of antipoverty policies. These findings underscore the importance of using the SPM, as opposed to the official poverty measure, when evaluating long-term trends in poverty.

Safety Net’s Anti-Poverty Effectiveness

The safety net as a whole cut poverty nearly in half in 2015, compared to where it would have been without the safety net, according to CBPP’s analysis of SPM data. It lifted 38 million people, including 8 million children, above the poverty line and reduced the poverty rate from 26.3 percent to 14.3 percent.⁴⁵ (See Figure 7.)

Poverty also rose much less in the Great Recession when measured by the SPM rather than the official rate. Between 2007 (the year before the recession) and 2010 (the year after the recession), the anchored SPM rose from 14.7 percent to 15.3 percent, a rise (in unrounded data) of about 0.5 percentage points.⁴⁶ This increase was one-fifth the size of the rise in the official poverty rate, which went from 12.5 percent to 15.0 percent over the same period. The smaller increase under the SPM largely reflects the wider range of safety-net programs included in the SPM and their success in keeping more Americans from falling into poverty during the recession.

Deep Poverty

Measuring “deep” poverty, often defined as income below *half* of the poverty line, poses particular challenges due to underreporting of certain benefits, reflecting respondents’ forgetfulness,

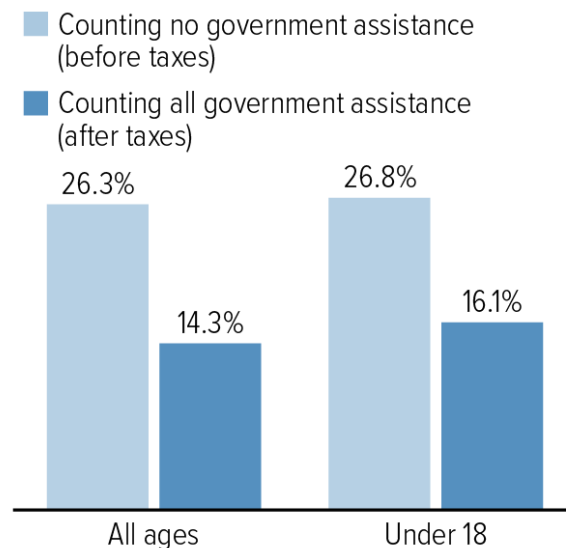
⁴⁴ Christopher Wimer *et al.*, “Trends in Poverty with an Anchored Supplemental Poverty Measure,” Columbia Population Research Center, December 2013, <http://cupop.columbia.edu/publications/2013>.

⁴⁵ CBPP analysis of Census Bureau data from the March 2016 Current Population Survey and 2015 SPM public use file.

⁴⁶ In unrounded data provided by Chris Wimer, the SPM poverty rate rose from 14.73 percent in 2007 to 15.26 percent in 2010, an increase of 0.53 percentage points.

FIGURE 7

Safety Net Cut Poverty Rate Nearly in Half in 2015



Note: Figures use the federal government’s Supplemental Poverty Measure (SPM).

Source: CBPP analysis of Census Bureau data from the March 2016 Current Population Survey and 2015 SPM public use file.

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embarrassment about receiving benefits, or other reasons. Census's counts of program participants typically fall well short of the totals shown in actual administrative records. Such underreporting is common in household surveys and can affect estimates of poverty and, in particular, deep poverty because people who underreport their benefits naturally make up a larger share of those with the lowest reported incomes. (While respondents may also underreport earned income, the net rate of underreporting in the CPS is thought to be much lower for earnings than for benefits.)

In an analysis that corrects for underreporting of Temporary Assistance for Needy Families (TANF), SNAP, and Supplemental Security Income (SSI) benefits and uses a comprehensive NAS-based poverty measure similar to the SPM, CBPP analysts find that starting in the mid-1990s — when policymakers made major changes in the public assistance system — the share of children living in poverty fell but the share living in *deep* poverty rose,⁴⁷ from 2.1 percent in 1995 to 3.0 percent in 2005.⁴⁸

Notably, uncorrected CPS figures — whether using the official poverty definition or CBPP's broader NAS measure — do not show this rise in deep child poverty. By the official measure, the share of children below half the poverty line fell from 1995 to 2005, from 8.5 percent to 7.7 percent. When counting non-cash benefits and taxes but not correcting for underreporting, the figures are essentially flat, at 4.9 percent in 1995 and 4.7 percent in 2005. Only the corrected figures show the increase. (See Figure 8.)

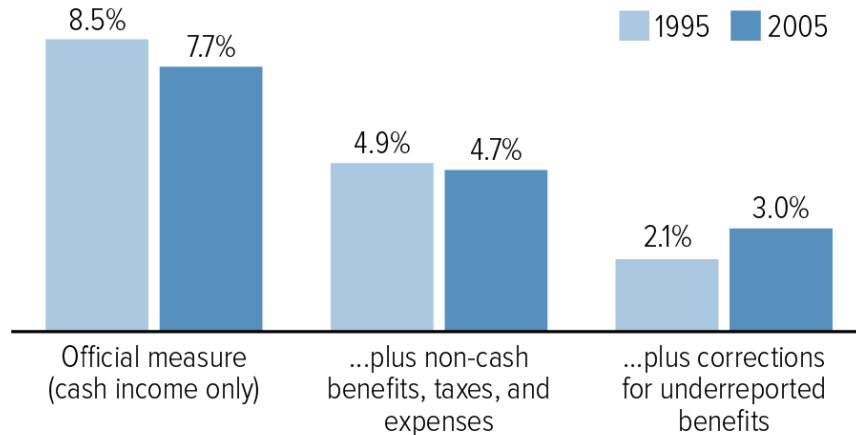
⁴⁷ For more detail, see Arloc Sherman and Danilo Trisi, “Deep Poverty Among Children Worsened in Welfare Law’s First Decade,” Center on Budget and Policy Priorities, July 23, 2014, <http://www.cbpp.org/files/7-23-14pov2.pdf> and Arloc Sherman and Danilo Trisi, “Safety Net for Poorest Weakened After Welfare Law But Regained Strength in Great Recession, at Least Temporarily,” Center on Budget and Policy Priorities, May 11, 2015, <http://www.cbpp.org/sites/default/files/atoms/files/5-11-15pov.pdf>.

⁴⁸ CBPP corrects for undercounting using data from the TRIM microsimulation model, a policy simulation tool developed and maintained by the Urban Institute for the U.S. Department of Health and Human Services Office of the Assistant Secretary for Planning and Evaluation. TRIM starts with person-by-person Census data from the CPS and adjusts it to better match true numbers of recipients of assistance from program records.

FIGURE 8

Correcting for Underreporting Exposes Rise in Children’s Deep Poverty Rate from 1995 to 2005

Percentage of children below half of poverty line, by three measures



Note: For the official poverty measure, official poverty thresholds are used; for the other two measures, the poverty threshold is a 2010 National Academy of Sciences-based threshold adjusted for inflation.

Source: CBPP analysis of March Current Population Survey; additional data from Department of Health and Human Services’ TRIM microsimulation model.

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The increase in deep poverty for children was largely due to means-tested benefits becoming less effective at shielding children from deep poverty. Over the 1995-2005 period, TANF cash assistance programs served a shrinking share of very poor families with children.⁴⁹

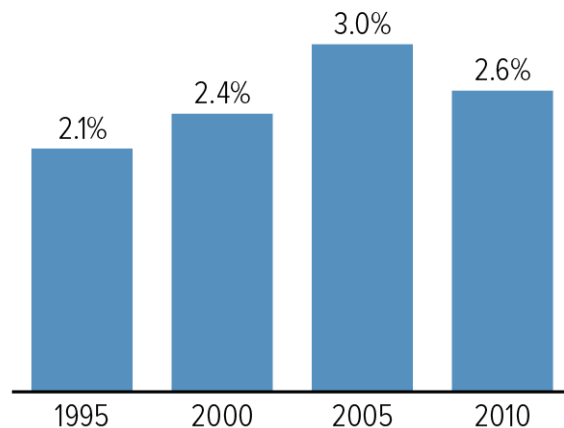
⁴⁹ Ife Floyd, LaDonna Pavetti, and Liz Schott, “TANF Continues to Weaken as a Safety Net,” Center on Budget and Policy Priorities, October 27, 2015, <http://www.cbpp.org/research/family-income-support/tanf-continues-to-weaken-as-a-safety-net>.

From 2005 to 2010, by contrast, the children’s deep poverty rate fell from 3.0 percent to 2.6 percent after correcting for underreporting.⁵⁰ (See Figure 9.) The decline, occurring despite the Great Recession, shows the safety net’s striking effectiveness during this period, when policymakers supplemented programs’ built-in responsiveness through recovery policies such as expansions in tax credits and SNAP and temporary measures such as the Making Work Pay tax credit.⁵¹

FIGURE 9

Recent Drop in Children’s Deep Poverty Shows Strong Safety Net Response to Great Recession

Percentage of children below half of poverty line, counting non-cash benefits and taxes and correcting for underreporting



Note: Figures reflect 2010 National Academy of Sciences-based poverty threshold adjusted for inflation.

Source: CBPP analysis of March Current Population Survey; additional data from Department of Health and Human Services’ TRIM microsimulation model

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⁵⁰ CBPP’s analysis finds that corrections for underreporting have a particularly large effect on the poverty-reduction estimates for the SNAP program. SNAP lifted 10 million people above the SPM poverty line in 2012 with corrections, compared with 5 million people without these corrections. See Arloc Sherman and Danilo Trisi, “Safety Net More Effective Against Poverty Than Previously Thought,” Center on Budget and Policy Priorities, May 6, 2015, <http://www.cbpp.org/research/poverty-and-inequality/safety-net-more-effective-against-poverty-than-previously-thought>.

⁵¹ Arloc Sherman, “Poverty and Financial Distress Would Have Been Substantially Worse in 2010 Without Government Action, New Census Data Show,” Center on Budget and Policy Priorities, November 7, 2011, www.cbpp.org/cms/?fa=view&id=3610.