

Annual Report on U.S. Consumption Poverty: 2022

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Introduction

This report presents estimates of consumption- and income-based poverty in the United States derived from information collected in the U.S. Bureau of Labor Statistics' Consumer Expenditure Survey and the U.S. Census Bureau's Current Population Survey. A poverty rate visualization tool, additional results, and resources can be found at povertymeasurement.org.

Summary of findings

- Simple adjustments to account for well-known flaws with the official poverty measure make clear that poverty in America has fallen sharply over the past 50 years.
- Between 1980 and 2022, consumption poverty fell by more than 27 percentage points, from 33.8 percent to 6.0 percent, while the official poverty rate fell by only 1.5 percentage points over that period.¹
- Three factors explain why consumption poverty shows a long-term decline but the official poverty measure does not. First, the official federal poverty line is adjusted over time using a price index with well-documented flaws. The official poverty line for a family with two adults and two children in 1980 was \$8,351. In 2022 it was \$29,678. If one corrects for the flaws in how the poverty line is adjusted for inflation, based on the 1980 standard, the threshold today would be about \$20,430. Second, the official poverty measure is based on cash income only, which fails to capture all the resources available to a family including tax credits and in-kind transfers. Finally, the official measure of family resources is biased due to under-reporting of certain types of income that are commonly received by those with low reported income.
- While the general pattern of after-tax income poverty is similar to that of consumption poverty for some periods, these two measures diverge quite noticeably over the past 2 years, particularly for child poverty. For example, changes in child poverty between 2008

¹ For these calculations, we anchor the poverty rates to the official rate in 2015. We anchor the rates so that for our baseline year, or anchor year, we are looking at the same point in the distribution across different measures of resources. For example, in 2015, the official poverty rate was 13.5%, so we proportionately scale our thresholds for consumption poverty so that the rate is also 13.5%. These thresholds are then adjusted overtime to account for inflation as explained in the methods section of the appendix.

and 2020 are virtually the same across these two measures. However, after-tax income poverty for children fell much more than consumption poverty in 2021, and then rose sharply in 2022, while consumption poverty continued to fall. This divergence is driven by large, temporary payments to families with children, especially the Economic Impact Payments with the expanded Child Tax Credit also playing a role. We do not see noticeable fluctuations in consumption poverty because, at least in part, families saved a share of these temporary payments.

Measuring Poverty

The Office of Management and Budget established the procedure for measuring the official poverty rate in the United States through a Policy Directive in 1978. This official rate is determined by comparing the pre-tax money income of a family or a single unrelated individual to poverty thresholds that vary by family size and composition. For example, in 2022, the poverty threshold for a two-parent, two-child family was \$29,678 (Appendix Table 1). The underlying data on pre-tax money income come from the Current Population Survey Annual Social and Economic Supplement. If a family has income below the poverty cutoff for that size family, all family members are classified as poor. Except for a few minor changes, the only adjustment to these thresholds over the past five decades has been for inflation using the Consumer Price Index for all Urban Consumers (CPI-U).

The release of this report is motivated by several longstanding criticisms of the Official Poverty Measure (OPM). Many criticisms can be found in sources such as Citro and Michael (1995), Blank (2008), and U.S. Census Bureau (2016b), but three are probably of greatest importance. First, the price index that the OPM relies on to adjust the poverty thresholds for inflation, the CPI-U, is known to overstate the extent of inflation (e.g., Hausman 2008, Moulton 2018). This problem can be addressed by using an unbiased price index. To see the significant effect that this price index bias has on the poverty thresholds, consider the change in the official two-parent, two-child thresholds as shown in Appendix Table 1. The official threshold for this family type was \$8,351 in 1980 and \$29,678 in 2022, a growth of 255 percent. This growth, however, significantly exceeds the actual growth in prices. After correcting for bias in the CPI-U, prices grew by 145 percent between these two years, suggesting that, if you want to hold the bar for being out of poverty constant, the threshold in 2022 should be \$20,430. Relying on a biased price index means that what it takes to be above the poverty cutoff is rising over time, leading more and more people to be below the cutoff in the absence of countervailing increases in income.

Second, the OPM does not reflect in-kind transfers and tax credits that have grown over time, such as the Supplemental Nutrition Assistance Program (SNAP), housing benefits and the Earned Income Tax Credit (EITC). Consequently, the OPM fails to reflect the full array of resources, cash and noncash, that families can use to meet their needs.

A potential solution to the second problem is to include SNAP, housing, tax credits, and other benefits in the measure of income used to determine poverty status. This is the approach

taken in the Census Bureau's Supplemental Poverty Measure (SPM). Unfortunately, the third major problem with the OPM, income underreporting, plagues the SPM as well, and is in some ways accentuated by it (Meyer and Wu, 2023). The survey data sources for government benefits suffer from substantial reporting problems, and consequently they substantially understate the in-kind and tax benefits mentioned earlier: SNAP, housing benefits, the EITC (Meyer, Mok and Sullivan 2015; Meyer and Mittag 2019). Some forms of income included in the OPM are also sharply under-reported such as cash welfare, pension income (Bee and Mitchell 2017), and earnings for those at the very bottom (Meyer, Wu, Mooers and Medalia (2021). Thus, the SPM only addresses one of three major problems with the OPM, while leaving the others in place so it can do more harm than good if the newly included income sources have high rates of misreporting that have changed over time (Meyer and Sullivan 2012; Meyer, Wu, Mooers and Medalia 2021).

The Case for Consumption

A better approach to addressing the well-documented limitations of the OPM is to use consumption to create a poverty measure. This approach has been recently adopted by the Bureau of Labor Statistics Garner et al. (2023). Consumption measures what families can purchase in terms of food, housing, transportation and other goods and services. Consumption offers several important advantages over income. First, conceptually speaking, consumption does a better job of capturing the material circumstances of individuals and families. For example, annual income will not reflect the standard of living of individuals who smooth consumption by drawing upon savings or by borrowing. This distinction is particularly relevant when income is fluctuating significantly, as was the case for families with few resources during the pandemic due to sharp changes in employment and sporadic cash transfers including the Economic Impact Payments and the advanced Child Tax Credit. Income-based measures of well-being will not capture differences over time or across households in wealth, ownership of durable goods such as houses and cars, or the ability to borrow. In addition, many anti-poverty programs provide insurance against income loss or high medical payments that may make households more secure in their spending decisions but will not be reflected in their income. The conceptual benefits of consumption are the subject of a large literature (Cutler and Katz 1991; Poterba 1991; Slesnick 1993, Meyer and Sullivan 2003, 2011, 2012a, 2012b).

Another advantage of consumption is that at the individual level it is a more reliable indicator of deprivation than income; in particular, material hardship and other adverse family outcomes are more severe for those with low consumption than for those with low income (Meyer and Sullivan 2003, 2011; Fisher et al. 2009). Consumption appears to be more accurately reported than income for the most disadvantaged families (Meyer and Sullivan 2003, 2011). While consumption data also suffer from under-reporting, the problem is not as severe as that for income, and alternative methods using the well-measured components can be used to check results. Finally, changes in consumption-based poverty measures are more consistent with other indicators of long-run changes such as improvements in housing and mortality (Meyer and Sullivan 2011b, 2018). Consumption also does a better job than income of capturing short-run

changes in other measures of well-being such as a lack of housing problems or the ability to pay one's bills (Meyer and Sullivan 2018), and despite consumption being better suited to capture long-run, as opposed to short-run, changes in economic activity, it does at least as well as income in reflecting short-run changes in unemployment and GDP (Meyer and Sullivan 2011a).

Results

To address the problems discussed above, this report provides estimates of consumption poverty from the early 1960s through 2022 alongside the OPM and other income-based measures of poverty. The main results can be seen in Figure 1, which reports the OPM as well as after-tax income poverty and consumption poverty from the early 1960s through 2022.²

Long-run trends

The OPM, which relies on pre-tax money income data from the Current Population Survey (CPS) and accounts for inflation using the CPI-U, fell during the 1960s but had no clear trend after then. In 2022 the poverty rate was 11.5 percent, which is higher than the rate in 1972. Between 1963 and 2022 the official poverty rate fell by only 8 percentage points.

Figure 1 also reports estimates for an after-tax income poverty measure that makes two important adjustments to the OPM. It accounts for taxes (but not in-kind benefits) and uses a price index that is close to unbiased based on the research on errors in price indices.³ In addition, we anchor the poverty rates for this measure to the official rate in 2015, so that for our baseline year, or anchor year, we are looking at the same point in the distribution across different measures of resources. In 2015, the official poverty rate was 13.5%, so we proportionately scale our thresholds for the after-tax measure so that the rate is also 13.5% in 2015. These thresholds are then adjusted overtime to account for inflation as explained in the methods section of the appendix. The values of the thresholds used in these calculations are reported in Appendix Table 1.

For our after-tax income poverty measure, we see a substantial decline in poverty—the rate fell from 28.0 percent in 1980 to 22.9 percent in 1990, 15.5 percent in 2000, and 11.0 percent by 2022. Between 1963 and 2022 this after-tax income poverty measure fell by 49.5 percentage points—more than 6 times the decline in official poverty.

The final series in Figure 1 reports our results for consumption poverty. Here, again, we anchor the rates in 2015. Consumption poverty fell for much of the 1960-2022 period, with the overall decline being similar to, but somewhat greater than the decline for our measure of after-tax income poverty. Consumption poverty showed a decline in each decade after 1960, and a

² For other measures of poverty, results for subgroups, and for the numbers behind these figures, see our poverty dashboard at povertymeasurement.org.

³ Taxes are estimated using the NBER TAXSIM model (Feenberg and Coutts 1993). See the latest version of TAXSIM at <https://www.nber.org/research/data/taxsim>.

decline in the years after 2010. It fell from 33.8 percent in 1980, to 29.0 percent in 1990, to 21.3 percent in 2000, 17.3 percent in 2010, and 6.0 percent in 2022.⁴

Although the general pattern of after-tax income poverty is similar to that of consumption poverty for some periods, these two measures diverge in other periods, most noticeably in 2022, with consumption poverty continuing to decline, while after-tax income poverty rose significantly, from 7.7 percent in 2021 to 11.0 percent in 2022. This 43 percent rise is the largest one-year increase in this measure on record. This unprecedented increase is driven by changes in the estimated taxes used to calculate our after-tax resource measure, as we discuss further below.

Table 1 breaks down the after-tax and consumption poverty rates for the three major age groups, children under 18, those 18-64, and those 65 and older (using the overall population thresholds anchored in 2015). In recent years, poverty rates for children are the highest, followed by those for non-aged adults, and then those 65 and older with the lowest rates. For children, after-tax income poverty rates fell sharply from 1983 to 1989 and again between 1993 and 2001. The rates were flat from 2001 through 2012, but then declined steadily through 2021. Consumption poverty rates for children have fallen for much of the past six decades—poverty fell steeply in the 1990s and early 2000s, remained flat between 2007 and 2014, and continued to decline through 2022, a period that includes the COVID pandemic.

The after-tax income poverty rates for non-elderly adults had a shallow U-shaped pattern from the mid-1980s through 2012, with the rate in 2012 slightly higher than that in 1998. On the other hand, consumption poverty for adults has shown a steady decline, falling each decade, though it rose during the Great Recession.

The poverty rates for those 65 and older show the sharpest declines. The after-tax rate for the elderly fell throughout this period, except for a short stretch following the Great Recession. For the elderly, the consumption poverty rate fell sharply in each decade. Starting at over 75 percent in 1960/61 it fell to 44.5 percent in 1980, 28.5 percent in 1990, and has continued that fall in recent years.

Explaining the long-run trends

Several factors contributed to the sharp decline in poverty that we report using improved, consumption-based measures. Poverty has been sharply reduced through tax rate cuts and tax credits and the expansion of other anti-poverty programs. Increases in Social Security benefits have also played a large role, and rising educational attainment through its impact on earnings also accounts for some of the decline. However, these explanations cannot account for all the improvement in economic well-being at the bottom, indicating that economic growth has played an important role in the sharp reduction in poverty. See Meyer and Sullivan (2012b) for more discussion.

⁴ This persistent decline is evident using different anchor years or using a measure of consumption that only includes components that are well-measured. See our poverty dashboard at povertymeasurement.org for these results.

Changes in poverty since the start of the pandemic

The most notable changes in after-tax income poverty are evident in the past two years, particularly for children. For this group, after-tax poverty fell by 30 percent in 2021 and then rose by nearly 75 percent in 2022 (Table 1). This pattern mirrors very closely that of the Census' SPM.⁵ Note that the pattern of consumption poverty for children over the past two years is very different. In 2021, consumption poverty for children fell by only 5 percent, and it continued to fall in 2022. This unprecedented divergence indicates some consumption smoothing behavior—families may have saved part of the temporary payments. In fact, assets rose sharply for low consumption families in early 2021, shortly after the Economic Impact Payments (EIPs) were made, but before advance Child Tax Credit (CTC) payments, and returned to pre-pandemic levels in 2022 (Appendix Figure 1). This pattern is especially pronounced for families with children. Other research has also indicated that families saved substantial shares of the EIPs (Baker et al. 2020, Karger and Rajan 2020, Grieg et al. 2021, Parker et al. 2022).

Another potential explanation for why after-tax income poverty diverged from consumption poverty is the way the Census allocates tax credits—by convention, tax credits are assigned to the year they were accrued, rather than the year they were paid. Consequently, even though the second round of EIPs were paid out in early 2021, because the IRS treated them as tax credits for 2020, the Census counts these payments in after-tax income in 2020. Similarly, part of the expanded CTC payments that were not received until taxes were filed in 2022 were counted as after-tax income for 2021. When we reallocate these payments to the year they were received rather than the year they were accrued, we find that after-tax income poverty is now higher in 2020 because the second round of EIPs are no longer counted in this year, and poverty is lower in 2022, because some of the expanded CTC is now counted for this year (see Figure 2). However, even after making these changes, we still see that after-tax income poverty differs sharply from consumption poverty in these years.

Why did after-tax income poverty fluctuate so dramatically in 2021 and 2022 for children? Many pundits and policymakers have attributed these changes primarily to the implementation and then expiration of the extended CTC.⁶ Simple simulations, however, show that while the CTC played an important role, the EIPs account for a larger fraction of these fluctuations (Figure

⁵ Although the measure of after-tax income poverty that we report differs in many ways from the Census' SPM, the patterns for these measures over recent years are very similar. See Shrider and Creamer (2023) for SPM rates for recent years. Some of the key definitional differences include that unlike the SPM, our measure of after-tax income poverty relies on thresholds that are not geographically adjusted and change over time only because of inflation, and our measure of resources does not include SNAP, housing benefits, other smaller in-kind benefits, or deductions for child care and work expenses and MOOP.

⁶ For example, Koutavas et al. (2023) states, “The historic low in the child poverty rate in 2021 was largely the result of a major one-year expansion to the federal Child Tax Credit in the American Rescue Plan. The increase in child poverty in 2022, in turn, is largely the result of the expanded Child Tax Credit’s expiration.” Also see <https://www.whitehouse.gov/briefing-room/statements-releases/2023/09/12/statement-from-president-joe-biden-on-census-income-poverty-and-health-insurance-coverage-reports/>, <https://www.npr.org/2023/09/12/1198923453/child-poverty-child-tax-credi-pandemic-aid-census-data>, or <https://www.newyorker.com/news/q-and-a/how-the-us-lifted-children-out-of-poverty-and-then-threw-them-back-into-it>.

3 and Appendix Table 2). Consider the sharp decline in after-tax income poverty (row 2 of Appendix Table 2) in 2021; child poverty fell by 4.2 percentage points (35 percent).⁷ One way to determine the impact of the expanded CTC on this change, is to exclude from our poverty measure the value of the expanded CTC, leaving the original 2020 CTC in place. In this scenario, child poverty would have fallen by 2.8 percentage points (24 percent) between 2020 and 2021. If, instead, we exclude from income the EIPs received in 2021, but leave the expanded CTC in place, child poverty would have fallen by 0.6 percentage points (5 percent). As shown in Figure 3, these scenarios indicate that the expanded CTC accounts for 1.3 percentage points (32 percent) of the decline in child poverty in 2021, while the second and third rounds of the EIPs account for 3.6 percentage points (87 percent) of the decline. Note that because both policies, by themselves, can lift an individual above the poverty line, the sum of the impacts of excluding these programs one at a time exceeds the impact of excluding both programs simultaneously, so together these simulations explain more than 100 percent of the decline in poverty.

To assess the impact of the absence of the expanded CTC and EIPs on the rise in income poverty in 2022, we consider what would have been the change in poverty if each of these programs were extended. After-tax income child poverty rose by 4.5 percentage points (58 percent) in 2022 (row 2 of Appendix Table 2). If the expanded CTC were extended into 2022, then poverty would have risen by 2.3 percentage points (30 percent). If, instead, the EIPs paid in 2021 were also paid in 2022, then poverty would have risen by 0.2 percentage points (3 percent). Thus, as shown in Figure 3, not extending the expanded CTC explains 2.2 percentage points (49 percent) of the rise in poverty in 2022, while not extending the EIPs explains 4.3 percentage points (95 percent) of the rise.

⁷ For these simulations, we use a baseline poverty rate based on after-tax income poverty where the CTC and the EIPs are allocated to the income year in which these credits were received, rather than when they were accrued. This correction is why these baseline after-tax income poverty rates are different from those reported in Table 1 (see first two rows of Appendix Table 2).

References

- Advisory Commission to Study the Consumer Price Index. 1996. *Toward a More Accurate Measure of the Cost of Living*. Final Report to the Senate Finance Committee. Washington.
- Baker, Scott, R. Farrokhnia, Steffen Meyer, Michaela Pagel, and Constantine Yannelis. 2020. “Income, Liquidity, and the Consumption Response to the 2020 Economic Stimulus Payments.” w27097. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w27097>.
- Bee, C. Adam, Bruce Meyer, and James Sullivan. 2015. “The Validity of Consumption Data: Are the Consumer Expenditure Interview and Diary Surveys Informative?” in *Improving the Measurement of Consumer Expenditures*, Christopher Carroll, Thomas Crossley, and John Sabelhaus, editors. University of Chicago Press.
- Bee, Adam, and Joshua Mitchell. 2017. “Do Older Americans Have More Income Than We Think?” SESHD Working Paper #2017-39, U.S. Census Bureau.
- Berndt, Ernst R. 2006. “The Boskin Commission Report after a Decade: After-life or Requiem?” *International Productivity Monitor* 12: 61-73.
- Blank, Rebecca. 2008. “Presidential Address: How to Improve Poverty Measurement in the United States,” *Journal of Policy Analysis and Management*, 27(2): 233-254.
- Citro, Constance F. and Robert T. Michael. 1995. *Measuring Poverty: A New Approach*, eds. Washington, D.C.: National Academy Press.
- Cutler, David M. and Lawrence F. Katz. 1991. “Macroeconomic Performance and the Disadvantaged.” *Brookings Papers on Economic Activity* 2: 1-74.
- Feenberg, Daniel Richard, and Elizabeth Coutts. 1993. An Introduction to the TAXSIM Model, *Journal of Policy Analysis and Management* 12(1): 189-194.
- Fisher, Jonathan D., David S. Johnson, Joseph T. Marchand, Timothy M. Smeeding, and Barbara B. Torrey. 2009. “Identifying the Poorest Older Americans.” *Journal of Gerontology: Social Sciences* 64B(6): 758–66.
- Garner, Thesia, Brent Matsumodo, Jake Schild, Scott Curtin and Adam Safir. 2023. “Developing a consumption measure, with examples of use for poverty and inequality analysis: a new research product from BLS.” *Monthly Labor Review*, April.
- Griegel, Fiona, Erica Deadman and Tanya Sonthalia. 2021. Household Cash Balance Pulse: Family Edition. JPMorgan Chase & Co, November. <https://www.jpmorganchase.com/institute/research/household-income-spending/household-cash-balance-pulse-families>

- Hausman, Jerry. 2003. "Sources of Bias and Solutions to Bias in the Consumer Price Index," *Journal of Economic Perspectives* 17: 23-44.
- Karger, Ezra, and Aastha Rajan. 2020. "Heterogeneity in the Marginal Propensity to Consume: Evidence from Covid-19 Stimulus Payments (REVISED February 2021)." No. 2020-15. Federal Reserve Bank of Chicago. <https://www.chicagofed.org/publications/working-papers/2020/2020-15>.
- Koutavas, Anastasia, Christopher Yera, Sophie Collyer, Megan Curran, David Harris, and Christopher Wimer. 2023. "What Would 2022 Child Poverty Rates Have Looked Like if an Expanded Child Tax Credit Had Still Been in Place?" Poverty and Social Policy Brief, Vol. 7, No. 3. Access at: www.povertycenter.columbia.edu/publication/2023/what-2022-child-poverty-rates-would-have-looked-like
- Meyer, Bruce D. and Nikolas Mittag. 2019. "Using Linked Survey and Administrative Data to Better Measure Income: Implications for Poverty, Program Effectiveness and Holes in the Safety Net," NBER Working Paper No. 21676, forthcoming *American Economic Journal: Applied Economics*. UPDATE
- Meyer, Bruce D., Mok, Wallace K.C. and Sullivan, James X. 2015. Household Surveys in Crisis. *Journal of Economic Perspectives*, 29 (4), 199–226.
- Meyer, Bruce D. and Sullivan, James X. 2018. "Levels and changes in income poverty, consumption poverty, and material well-being: A response to Shaefer and Rivera (2018)," Working paper.
- Meyer, Bruce D. and Sullivan, James X. 2012a. Identifying the Disadvantaged: Official Poverty, Consumption Poverty, and the New Supplemental Poverty Measure. *Journal of Economic Perspectives*, Summer 2012, 111-136.
- Meyer, Bruce D. and Sullivan, James X. 2012a. Identifying the Disadvantaged: Official Poverty, Consumption Poverty, and the New Supplemental Poverty Measure. *Journal of Economic Perspectives*, Summer 2012, 111-136.
- Meyer, Bruce D. and James X. Sullivan. 2012b. Winning the War: Poverty from the Great Society to the Great Recession. *Brookings Papers on Economic Activity*, Fall, 133-183.
- Meyer, Bruce D. and James X. Sullivan, 2011a. "The Material Well-Being of the Poor and the Middle Class Since 1980." AEI Working Paper # 2011-04.
- Meyer, Bruce D. and James X. Sullivan. 2011b. "Consumption and Income Poverty Over the Business Cycle," *Research in Labor Economics* 32, 2011, 51-81.
- Meyer, Bruce D. and James X. Sullivan, 2011c. "Viewpoint: Further Results on Measuring the Well-Being of the Poor Using Income and Consumption." *Canadian Journal of Economics* 44(1): 52-87.

- Meyer, Bruce D. and James X. Sullivan, 2003, “Measuring the Well-Being of the Poor Using Income and Consumption,” *Journal of Human Resources* 38(S): 1180-1220.
- Meyer, Bruce D., Derek Wu. 2023. “Poverty in the United States.” University of Chicago, Working Paper.
- Meyer, Bruce D., Derek Wu, Victoria Mooers, and Carla Medalia. 2021. “The Use and Misuse of Income Data and Extreme Poverty in the United States.” *Journal of Labor Economics*, 39:S1 (January 2021), pp. S5-S58.
- Moulton, Brent. 2018. “The Measurement of Output, Prices, and Productivity: What’s Changed Since the Boskin Commission?” Report, The Brookings Institution, July.
<https://www.brookings.edu/research/the-measurement-of-output-prices-and-productivity>.
- Parker, Jonathan, Jake Schild, Laura Erhard, and David Johnson. 2022. “Household Spending Responses to the Economic Impact Payments of 2020: Evidence from the Consumer Expenditure Survey.” w29648. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w29648>.
- Poterba, James M. 1991. “Is the Gasoline Tax Regressive?” In *Tax Policy and the Economy* 5, ed. David Bradford, 145-164. Cambridge, MA: MIT Press.
- Shrider, Emily A. and John Creamer, U.S. Census Bureau, Current Population Reports, P60-280, Poverty in the United States: 2022, U.S. Government Publishing Office, Washington, DC, September 2023.
- Slesnick, Daniel T. 1993. “Gaining Ground: Poverty in the Postwar United States.” *Journal of Political Economy* 101(1): 1-38.
- U.S. Census Bureau. 2016a. Income and Poverty in the United States: 2015. P60-256, Bernadette D. Proctor, Jessica L. Semega, and Melissa A. Kollar. September 2016.
- U.S. Census Bureau. 2016b. The Supplemental Poverty Measure: 2015. P60-258, Trudi Renwick and Liana Fox, September 2016.
- Wimer, Christopher, Sophie Collyer, David Harris, and Jiwan Lee. 2022. “The 2021 Child Tax Credit expansion: child poverty reduction and the children formerly left behind.” Poverty and Social Policy Brief, vol. 6 no. 8. Center on Poverty and Social Policy, Columbia University.

Appendix

Methods

Consumption poverty status was calculated by comparing a family's consumption to the poverty thresholds that vary by family size and composition. If a family's consumption was less than the poverty threshold, all members of the family were considered to be in poverty.

We adjusted our thresholds for family size and composition in a way suggested in the "Measuring Poverty" report from the National Academy of Sciences. We proportionately scaled, or anchored, our thresholds so that the consumption poverty rate matched the historical standards implied by the official poverty rates in a base year. We anchor the rates so that for our baseline year, or anchor year, we are looking at the same point in the distribution across different measures of resources. For the results reported here, we anchor rates to the official rate in 2015 (13.5 percent). In other words, we proportionately scale our thresholds for alternative measures of poverty so that the rate is also 13.5% in 2015. These thresholds are then adjusted overtime to account for inflation as explained below. Choosing 2015 as our base year is arbitrary. Results for other anchor years are available at our poverty dashboard at povertymeasurement.org.

Note that the standard implied by the official measure is changing over time because the thresholds are adjusted for inflation using a biased price index. We adjusted the thresholds over time using a bias corrected price index rather than the CPI-U, which is known to overstate the extent of inflation. We obtained the bias corrected price index by subtracting 0.8 percentage points each year from the change in the BLS CPI-U-RS (research series). The adjustment was based on arguments found in Advisory Commission to Study the Consumer Price Index (1996), Hausman (2003), Berndt (2006) and related research. A recent review by a former senior government price index expert found a consensus bias that would suggest a slightly larger adjustment (Moulton 2018).

Instead of using pretax money income as the measure of resources at the disposal of a household, we used total consumption. We also considered an alternative consumption measure that we call well-measured consumption as a check on our estimates. Well-measured consumption consists of only those components that are reported at a high rate consistently over time when compared to national income account data and other sources.

Sources of the Estimates

We used two main sources for our data, the Consumer Expenditure (CE) Survey and the Current Population Survey Annual Social and Economic Supplement (CPS ASEC):

Consumer Expenditure Survey

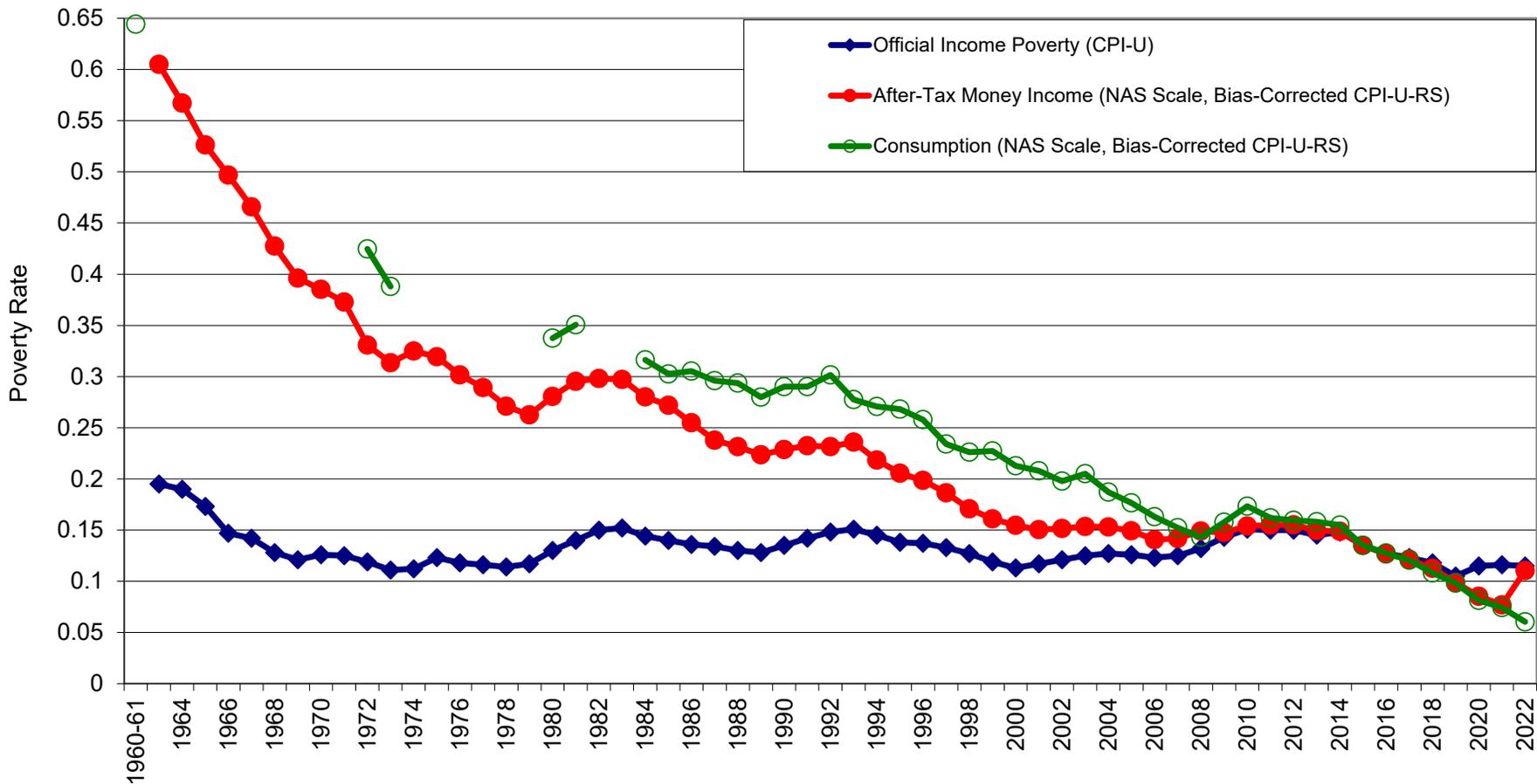
The CE is a nationally representative survey primarily used to calculate expenditure shares for construction of the Consumer Price Index. We rely on it for data on income, expenditures, housing and vehicle ownership. The CE surveys about 7,500 households each quarter, yielding about 30,000 interviews over a calendar year. The survey provides data going back to 1960/61,

though was intermittent until 1980/81. Data for households (referred to as consumer units) for calendar year 2022 were released in August 2023.

Current Population Survey

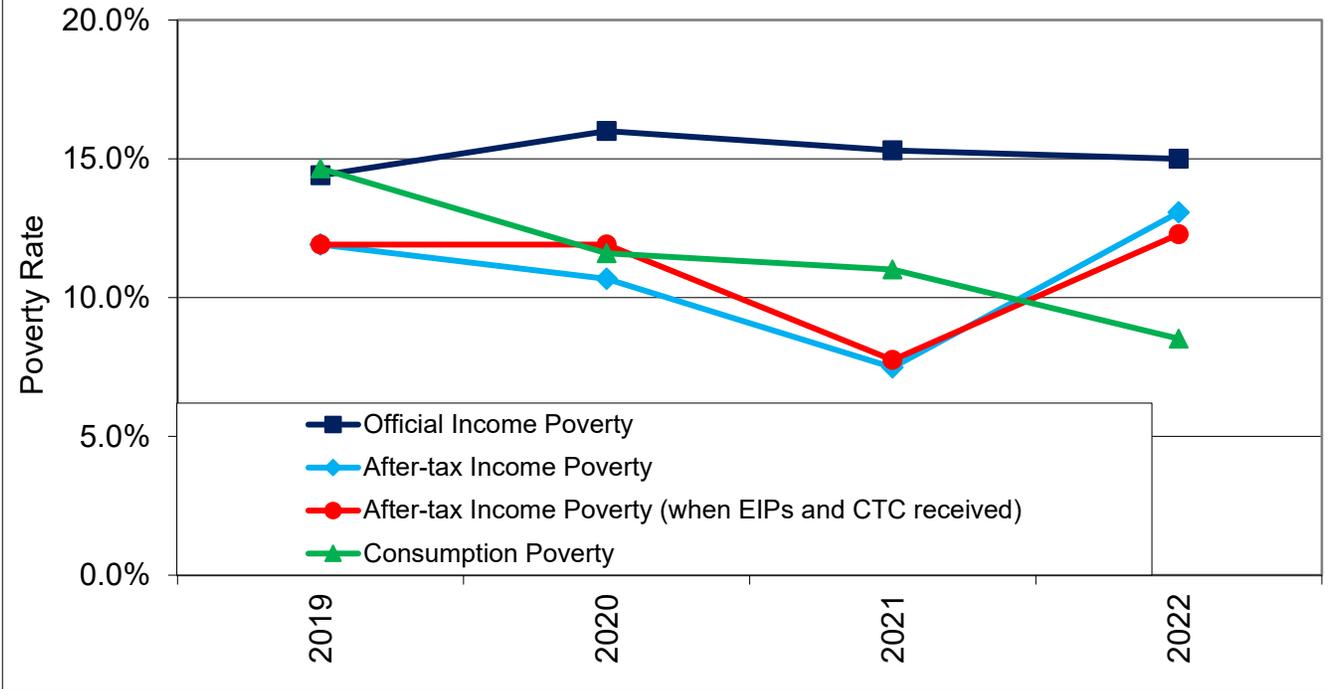
The CPS ASEC is a nationally representative survey primarily used to collect employment data. It is also the source of official income and poverty statistics. We rely on it for data on income. The CPS ASEC is a sample of about 75,000 households conducted annually in the early months of the calendar year. It provides poverty data going back until 1959, though the data on individual households are only available beginning in 1963. Data for individual households for calendar year 2022 were released on September 12, 2023.

Figure 1: Consumption and Income Poverty Rates, 1960-2022, Thresholds Anchored in 2015



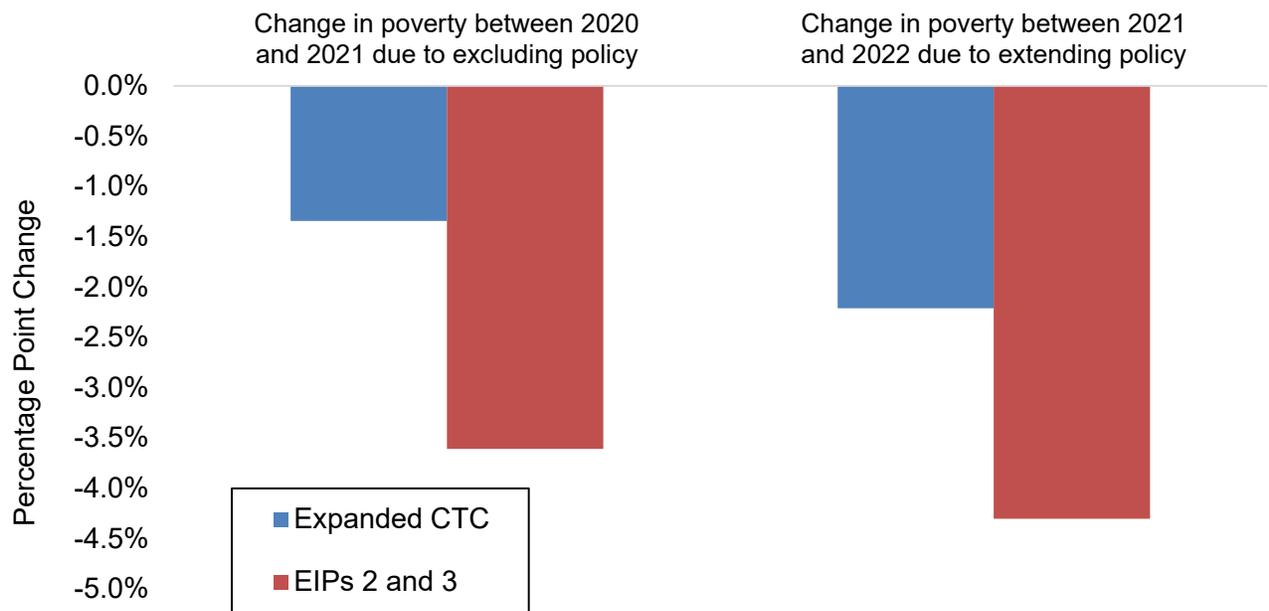
Notes: Official Income Poverty follows the U.S. Census definition of income poverty using official thresholds. For measures other than the official one, the threshold in 2015 is equal to the value that yields a poverty rate equal to the official poverty rate in 2015 (13.5 percent). The thresholds in 2015 are then adjusted over time using the Bias-Corrected CPI-U-RS, which subtracts 1.1 percentage points from the CPI-U-RS each year from 1960-1977 and 0.8 percentage points from the CPI-U-RS each year from 1978-2018. Poverty status is determined at the family level and then person weighted. After-Tax Money Income includes taxes and credits (calculated using TAXSIM). Consumption data are from the CE and income data are from the CPS-ASEC/ADF. CE data are not available for the years 1962-1971, 1974-1979 and 1982-1983.

Figure 2: Consumption and Income Child Poverty Rates, 2019-2022



Notes: See notes to Appendix Table 2.

Figure 3. Changes in Child Poverty Rates due to Expanded CTC or the Second and Third Rounds of EIPs



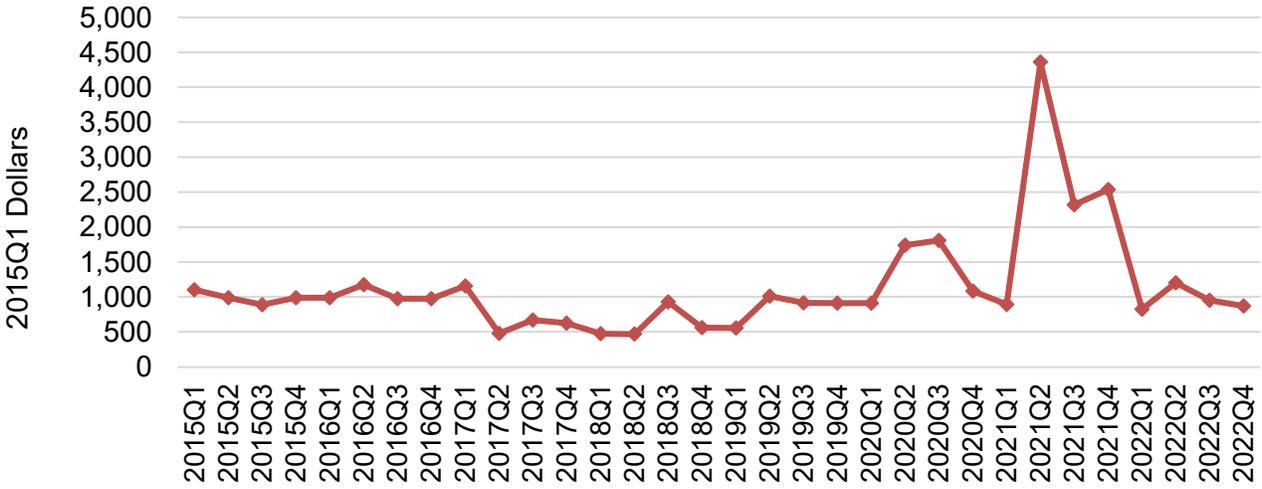
Notes: The changes reported on the left show the effect on after-tax income poverty of either replacing the expanded CTC with the original CTC or excluding the second and third round of EIPs. The changes reported on the right show the effect on after-tax income poverty of extending into 2022 either the expanded CTC or the second and third round of EIPs. For these simulations we use as our baseline poverty measure after-tax income reallocating EIPs and the CTC to when they were received (row 2 of Appendix Table 2).

Table 1: Consumption and Income Poverty by Age Group, 1960-2022, Thresholds Anchored in 2015

Year	Percent in Poverty					
	Under 18		18-64		65+	
	After-Tax		After-Tax		After-Tax	
	Income	Consumption	Income	Consumption	Income	Consumption
	(1)	(2)	(3)	(4)	(5)	(6)
1960-61/1963	61.6	72.1	59.1	56.6	71.9	76.3
1972	39.8	49.6	26.1	35.9	50.9	56.2
1973	37.8	46.3	24.7	32.5	49.3	50.2
1980	36.2	41.3	22.3	28.2	38.9	44.5
1981	38.8	42.2	24.1	30.0	36.4	44.0
1982	39.5		24.7		34.5	
1983	40.1		24.5		33.2	
1984	37.9	39.4	23.2	27.2	30.8	37.0
1985	36.8	38.2	22.5	26.0	30.1	34.6
1986	35.0	39.2	20.9	26.1	28.1	33.4
1987	32.8	39.4	19.3	25.2	27.0	29.9
1988	31.8	39.1	18.8	25.0	26.8	29.8
1989	31.2	37.0	18.0	23.5	25.5	30.4
1990	32.3	39.0	18.5	24.7	24.7	28.5
1991	32.7	38.6	18.9	25.0	24.7	27.9
1992	32.0	40.5	19.0	26.3	24.9	25.7
1993	32.9	37.2	19.4	24.0	24.1	25.4
1994	30.5	36.1	18.0	23.6	21.8	23.7
1995	28.8	36.3	17.0	23.2	20.4	23.6
1996	27.6	35.7	16.5	22.2	19.8	21.5
1997	26.0	31.8	15.5	20.4	18.2	19.2
1998	23.7	30.9	14.2	19.9	17.4	17.6
1999	21.7	31.1	13.6	20.1	16.4	17.8
2000	20.7	28.7	13.0	18.8	17.1	17.5
2001	19.5	28.3	12.9	18.5	16.4	15.9
2002	19.5	26.3	13.1	17.8	16.7	15.8
2003	20.1	28.3	13.3	18.3	15.8	15.2
2004	19.7	25.7	13.5	16.8	15.3	13.7
2005	19.5	23.5	13.0	16.0	15.4	13.7
2006	18.3	23.2	12.4	14.3	14.0	12.3
2007	18.8	21.1	12.3	13.6	14.0	11.3
2008	19.6	19.5	13.3	12.8	13.7	11.1
2009	19.3	22.0	13.6	14.3	12.1	10.9
2010	20.1	24.7	14.2	15.7	12.4	10.9
2011	20.3	22.6	14.5	14.9	11.3	10.2
2012	20.2	23.2	14.6	14.5	11.8	9.5
2013	18.5	22.8	14.3	14.6	12.2	9.1
2014	18.8	22.6	14.0	14.2	12.2	9.4
2015	17.6	19.6	12.6	12.4	10.8	8.1
2016	16.1	18.6	11.7	11.7	11.3	7.9
2017	15.5	17.7	11.3	11.1	10.8	7.1
2018	13.7	16.3	10.5	10.0	10.8	5.8
2019	11.9	14.6	9.2	9.0	9.7	5.7
2020	10.7	11.6	8.1	7.6	7.2	5.4
2021	7.5	11.0	7.5	6.8	8.5	5.0
2022	13.1	8.5	10.3	5.6	11.0	4.3
Change:						
1960*- 1972	-21.8	-22.5	-33.0	-20.8	-21.0	-20.1
1972 - 1980	-3.6	-8.3	-3.8	-7.7	-12.0	-11.7
1980 - 1990	-3.9	-2.3	-3.9	-3.5	-14.2	-16.0
1990 - 2000	-11.7	-10.3	-5.5	-5.8	-7.6	-11.0
2000 - 2022	-7.6	-20.1	-2.7	-13.3	-6.1	-13.2
1980 - 2022	-23.2	-32.8	-12.1	-22.6	-27.9	-40.2
1960*- 2022	-48.6	-63.5	-48.8	-51.1	-60.9	-72.0

Notes: Poverty status is determined at the family level and then person weighted. For each measure, thresholds are the same as those used in Figure 1. Thus, thresholds are anchored in 2015 for the full sample, rather than for each age group. Thresholds are adjusted over time using the Bias-Corrected CPI-U-RS. Consumption data are from the CE and income data are from the CPS-ASEC/ADF. Each series is adjusted using the NAS recommend equivalence scale. See notes to Figure 1 for additional details.

Appendix Figure 1. 75th Percentile Assets of Families with Total Consumption <150% Poverty Threshold, 2015:Q1-2022:Q4



Note: The quarter reflects the survey month for the data. The poverty threshold in 2015Q1 is anchored to the value that yields a poverty rate equal to the official poverty rate in 2015 (13.5 percent). The thresholds are then adjusted over time using the CPI-U. Asset values are expressed in real 2015Q1 dollars using the CPI-U. Asset information is only collected from CE respondents in the final interview.

Appendix Table 1: Poverty Thresholds Anchored in 2015

	Official Income Poverty (CPI-U)	After-Tax Money Income (NAS Scale, Bias- Corrected CPI-U-RS)	Consumption (NAS Scale, Bias-Corrected CPI-U- RS)	Well-Measured Consumption (NAS Scale, Bias-Corrected CPI-U- RS)
Year	(1)	(2)	(3)	(4)
1960-61/1963	3,104	6,108	6,049	4,381
1972	4,241	7,416	7,344	5,319
1973	4,505	7,799	7,723	5,594
1980	8,351	12,746	12,621	9,142
1981	9,218	13,849	13,714	9,933
1982	9,783	14,572	14,430	10,452
1983	10,098	15,080	14,932	10,816
1984	10,527	15,587	15,435	11,180
1985	10,903	15,986	15,830	11,466
1986	11,113	16,130	15,972	11,569
1987	11,519	16,547	16,385	11,869
1988	11,997	17,023	16,856	12,210
1989	12,575	17,621	17,449	12,639
1990	13,254	18,352	18,172	13,163
1991	13,812	18,873	18,688	13,537
1992	14,228	19,192	19,004	13,766
1993	14,654	19,521	19,331	14,002
1994	15,029	19,774	19,581	14,183
1995	15,455	20,093	19,897	14,412
1996	15,911	20,468	20,268	14,681
1997	16,276	20,747	20,544	14,881
1998	16,530	20,864	20,660	14,965
1999	16,895	21,132	20,926	15,157
2000	17,463	21,683	21,471	15,552
2001	17,960	22,126	21,910	15,870
2002	18,244	22,299	22,081	15,994
2003	18,660	22,629	22,408	16,231
2004	19,157	23,051	22,826	16,534
2005	19,806	23,650	23,418	16,963
2006	20,444	24,226	23,990	17,377
2007	21,027	24,721	24,479	17,731
2008	21,834	25,476	25,227	18,273
2009	21,756	25,181	24,934	18,061
2010	22,113	25,388	25,140	18,210
2011	22,811	25,994	25,740	18,645
2012	23,283	26,332	26,074	18,887
2013	23,624	26,520	26,261	19,022
2014	24,008	26,749	26,487	19,186
2015	24,036	26,581	26,322	19,066
2016	24,339	26,712	26,451	19,159
2017	24,858	27,065	26,801	19,413
2018	25,465	27,512	27,243	19,733
2019	25,926	27,791	27,519	19,933
2020	26,246	27,937	27,664	20,038
2021	27,479	29,064	28,780	20,847
2022	29,678	31,183	30,878	22,366

Note: Column 1 reports the official poverty thresholds for a family of two adults and two children. For years prior to 1980, the poverty thresholds varied by sex of head and farm residence and we report the poverty thresholds for a family of non-farm male head (<https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html>). Columns 2-4 report the thresholds anchored in the official poverty rate in 2015 (13.5 percent), adjusted for inflation using the Bias-Corrected CPI-U-RS.

Appendix Table 2. After-tax Income Child Poverty Rates with and without EIPs or CTC

Year	2019	2020	2021	2022	2021-2020	2022-2021
After-tax Income Poverty	11.9%	10.7%	7.5%	13.1%	-3.2%	5.6%
After-tax Income Poverty (when EIPs and CTC received)	11.9%	11.9%	7.8%	12.3%	-4.2%	4.5%
Excluding all EIPs	11.9%	13.8%	11.4%	12.3%	-2.5%	0.9%
Replace the expanded CTC w/ the original CTC	11.9%	11.9%	9.1%	13.1%	-2.8%	4.0%
Extend expanded CTC to 2022	11.9%	11.9%	7.8%	10.1%	-4.2%	2.3%
Extend EIPs 2 and 3 to 2022	11.9%	11.9%	7.8%	8.0%	-4.2%	0.2%
Official Income Poverty	14.4%	16.0%	15.3%	15.0%	-0.7%	-0.3%
Consumption Poverty	14.6%	11.6%	11.0%	8.5%	-0.6%	-2.5%

Notes: See notes to Figure 1 for details of how poverty measures are defined. In row 2, the CTC and the 2nd EIP are allocated to the income year in which these credits were received, rather than when they were accrued. The after-tax income poverty in row 2 is used as the baseline poverty rate for simulations in rows 3-6.