



# The Levels and Trends in Deep and Extreme Poverty in the United States, 1993–2016

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## Abstract

Recently, there has been tremendous interest in deep and extreme poverty in the United States. We advance beyond prior research by using higher-quality data, improving measurement, and following leading standards in international income research. We estimate deep (less than 20% of medians) and extreme (less than 10% of medians) poverty in the United States from 1993 to 2016. Using the Current Population Survey, we match the income definition of the Luxembourg Income Study and adjust for underreporting using the Urban Institute's TRIM3 model. In 2016, we estimate that 5.2 to 7.2 million Americans (1.6% to 2.2%) were deeply poor and 2.6 to 3.7 million (0.8% to 1.2%) were extremely poor. Although deep and extreme poverty fluctuated over time, including declines from 1993 to 1995 and 2007 to 2010, we find significant increases from lows in 1995 to peaks in 2016 in both deep (increases of 48% to 93%) and extreme poverty (increases of 54% to 111%). We even find significant increases with thresholds anchored at 1993 medians. With homelessness added, deep poverty would be 7% to 8% higher and extreme poverty 19% to 23% higher in 2016, which suggests that our estimates are probably lower bounds. The rise of deep/extreme poverty is concentrated among childless households. Among households with children, the expansion of SNAP benefits has led to declines in deep/extreme poverty. Ultimately, we demonstrate that estimates of deep/extreme poverty depend critically on the quality of income measurement.

**Keywords** Poverty · Income · Measurement · Extreme poverty · Deep poverty

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## Introduction

Many have recently called attention to deep and extreme poverty in the United States. This literature is notable both for suggesting that extreme and deep poverty are disturbingly high and for the tremendous variation in estimates (Jencks 2016; Parolin and Brady 2019). In the most visible account, Edin and Shaefer (2015) claimed that more than 4% of all households (HHs) with children—1.5 million HHs with 3 million children—lived on less than \$2 per day (henceforth, \$2/day) in a month in 2011. Using a more comprehensive measure of income and including all HHs, Chandy and Smith (2014) found only slightly less \$2/day poverty. With a higher threshold, Fox et al. (2015b) found that 5.3% of the population—roughly 16.5 million—was deeply poor in 2011. Deaton (2018) estimated that 3.2 to 5.3 million Americans have less than \$4/day. Philip Alston (2018), the United Nations Special Rapporteur on extreme poverty and human rights, reported that 18.5 million Americans live in deep poverty. In contrast, the Heritage Foundation claimed that only about 0.5% of the U.S. population is in deep poverty (Hall and Rector 2018). Meyer et al. (2018) concluded that only 326,000 Americans, about 0.11% of the population, were extremely poor in 2011.

Equally important, many have claimed that deep/extreme poverty has increased in recent decades. Edin and Shaefer (2015:xviii) claimed, “The number of families in \$2-a-day poverty had more than doubled in just a decade and a half.” Including means-tested programs and all households, Shaefer and Edin (2013:260) found that the percentage of HHs in this form of extreme poverty increased by 36.9% between 1996 and 2011. Several have contended that increases in deep/extreme poverty resulted from the 1996 welfare reform and related social policy changes (Danziger 2010). Shaefer et al. (2015) found that \$2/day poverty is much less common if HHs receive Temporary Assistance for Needy Families (TANF). Because TANF receipt has declined (Danziger 2010; Moffitt 2015; Parolin 2019b), Edin and Shaefer (2015) inferred that the 1996 welfare reform contributed to the rise of extreme poverty. In response, a contentious debate has ensued about the levels, trends, and source of deep/extreme poverty (Jencks 2016; Meyer et al. 2018; Shaefer and Edin 2018; Winship 2016). For instance, Meyer et al. (2018:1) concluded, “An implication of the low recent level of extreme poverty is that it cannot have risen substantially over time or due to welfare reform.”

Given the salience of the topic and the wide variation in estimates, there is a clear need for scientific scrutiny. Using improved measures, higher-quality data, and several thresholds, as well as making many unique adjustments, we address three questions. First, what are the levels and trends in deep/extreme poverty in the United States from 1993 to 2016? Second, how has the composition, in terms of households with and without children, of the deep/extreme poor changed during this period? Third, how do our answers to the first two questions inform understanding about the changes to American social policy in recent decades? Throughout, we demonstrate that estimates of deep/extreme poverty depend critically on the quality of income measurement. We also demonstrate that deep/extreme poverty has become increasingly concentrated among childless households.

## Data

We use the 1994–2017 Annual Social and Economic Supplement of the Census Bureau’s Current Population Survey (CPS), which includes reporting years 1993–2016. This is similar to Fox and colleagues’ (2015b) study of deep poverty and unlike those using the Survey on Income and Program Participation (SIPP) (Meyer et al. 2018; Shaefer and Edin 2013). Although the SIPP has some attractive features, the CPS has a few advantages. First, the CPS has about twice as many HHs as the SIPP. Previous SIPP estimates relied on quite small counts of deep/extreme poor people. Shaefer and Edin (2013) had only 256 households in extreme poverty in the first wave and 392 in the last wave. Meyer et al. (2018) had only 70 individuals in extreme poverty. Because rates of deep/extreme poverty are very low with any measure, a larger sample reduces the impact of measurement error and facilitates obtaining more reliable estimates. This is particularly true when disaggregating extreme poverty trends by household type or other demographic characteristic. Also, more efficient estimates improve assessments of over-time change. Relatedly, most previous estimates do not report confidence intervals.

Second, the CPS measures income over an entire year, whereas the SIPP measures income quarterly. Shaefer and Edin (2013:256) acknowledged that the short time horizon was “an important limitation” and that they were constrained by the SIPP weights. In turn, Shaefer and Edin conducted sensitivity analyses on quarterly estimates. Meyer et al. (2018) also used the SIPP to average income over four months. Still, Shaefer and Edin (2013:261) found, “Fewer households experience extreme poverty for a calendar quarter when compared to a month.” Although some have argued that short time periods enable observation of extreme deprivation (e.g., Morduch and Schneider 2017) or better reflect a HH’s ability to cope with emergency expenses (e.g., Chen 2019), the annual time frame better captures more permanent economic resources and well-being (Brady et al. 2018). HH incomes smooth over time, short-term deprivation is more dependent on assets than just income, and longer-term HH income is higher and more equally distributed (Brady et al. 2018). As Meyer et al. (2018:29) wrote, “Most of the literature on income and well-being has argued for looking over a full year given transitory fluctuations in income that may not be reflected in consumption or other outcomes.”

The CPS has other advantages over the SIPP for investigating deep/extreme poverty. As Winship (2016) noted, many of the perceived benefits of the SIPP have faded over time: (1) imputation of transfers in the SIPP now matches or exceeds that of the CPS; (2) survey nonresponse has increased at a much faster rate in the SIPP than it has in the CPS; and (3) the representativeness of SIPP samples declines over time, particularly when the SIPP is used for cross-sectional estimates (as in Meyer et al. 2018). Relative to the SIPP, Meyer et al. (2018) found that the CPS has fewer inconsistencies between reported earnings and reported hours working, including a much smaller share of HH’s reporting zero earnings but positive reported hours worked (see the [online appendix](#), section 6).

All analyses use weights to make the estimates representative of the U.S. population. We include all individuals in our primary analyses (Fox et al. 2015b; Meyer et al. 2018). We then decompose trends in deep/extreme poverty by household type, focusing on individuals in households with children (the focus of Shaefer and Edin 2013) compared with individuals in households without children. Roughly one-half of the

U.S. population lived in either household type in 2016. The individual is the unit of analysis, and we estimate the proportion of individuals who reside in deep or extremely poor households. This differs from the approach taken by Shaefer and Edin (2013), who mainly treated HHs as the unit of analysis and reported the raw number and percentage of HHs that are extremely poor.<sup>1</sup> For samples sizes, see Table 1.

It is important to acknowledge that the CPS does not capture many of the most severely disadvantaged people (e.g., the homeless) or those residing in institutions, such as prisons or military bases (Fox et al. 2015b). Therefore, our estimates could be lower-bound estimates, and actual levels of deep/extreme poverty could be higher. As a result, we estimate deep/extreme poverty after adding the national homelessness point-in-time counts (Corporation for National and Community Service 2018).

## The Measurement of Income

In the 1990s, the United Nations convened the Canberra Group to identify best practices in income measurement (United Nations Economic Commission for Europe 2011). As a result, a consensus emerged on how to measure income (Brady 2009; Brady et al. 2013; Brady and Burton 2016; Brady et al. 2018; Duncan and Petersen 2001; Parolin and Brady 2019; Rainwater and Smeeding 2003; Smeeding 2016; Smeeding and Weinberg 2001). Among the leading international standards, measures of income should be (1) as comprehensive as possible incorporating taxes and transfers (i.e., be “post-fisc”), and (2) equivalized for HH size. People live, consume, manage volatility, and maintain well-being by sharing expenses and resources with others in HHs, by accessing transfers, and based on disposable income after taxes and transfers (Bitler and Hoynes 2016; Brady et al. 2018; Gundersen and Ziliak 2003; Hoynes et al. 2016; Shaefer and Gutierrez 2013).

## Incorporating Taxes and Transfers

Shaefer and Edin’s “headline results”—in the 2013 article abstract, in their 2015 book, and in the media—are based on cash income only. As others noted (Meyer et al. 2018; Winship 2016), their measure omitted near-cash transfers (e.g., the Supplemental Nutrition Assistance Program (SNAP), housing vouchers, and rent and heating subsidies) and taxes and tax credits (e.g., the Earned Income Tax Credit (EITC)). Edin and Shaefer (2015:xviii) argued that including SNAP would be, “A problematic assumption because SNAP cannot legally be converted to cash, so it can’t be used to pay the light bill, the rent, or buy a bus pass.” On balance, Shaefer and Edin (2013) reported some results with alternative income definitions and noted that the increase is more modest with these alternatives. For instance, including welfare transfers and tax credits, Shaefer and Edin (2013:256) concluded that only 1.6% of HHs with children were extremely poor—less than one-half of their estimate of more than 4% of HHs with children.

<sup>1</sup> Shaefer and Edin’s (2013) counts of the number of extreme poor HHs could increase simply because of population growth. Without standardizing by population, it is unclear how trends in raw counts should inform our understanding of trends in extreme poverty.

**Table 1** Poverty thresholds in 2017 USD in per person equivalized household income for various national measures by year and sample sizes (% of real GDP per capita in parentheses)

	20% of Current National Median (as % of GDP PC)	20% of Real 1993 Median (as % of GDP PC)	10% of Current National Median (as % of GDP PC)	10% of Real 1993 Median (as % of GDP PC)	Sample Size
1993	5,377.4 (13.2)	5,377.4 (13.2)	2,688.7 (6.6)	2,688.7 (6.6)	150,943
1994	5,491.73 (13.1)	5,377.4 (12.8)	2,745.86 (6.6)	2,688.7 (6.4)	149,642
1995	5,669.67 (13.3)	5,377.4 (12.6)	2,834.84 (6.7)	2,688.7 (6.3)	130,476
1996	5,783.46 (13.3)	5,377.4 (12.4)	2,891.73 (6.7)	2,688.7 (6.2)	131,854
1997	5,933.14 (13.2)	5,377.4 (12.0)	2,966.57 (6.6)	2,688.7 (6.0)	131,617
1998	6,292.89 (13.5)	5,377.4 (11.6)	3,146.45 (6.8)	2,688.7 (5.8)	132,324
1999	6,496.21 (13.5)	5,377.4 (11.2)	3,248.1 (6.8)	2,688.7 (5.6)	133,710
2000	6,527.54 (13.2)	5,377.4 (10.9)	3,263.77 (6.6)	2,688.7 (5.4)	128,821
2001	6,607.07 (13.3)	5,377.4 (10.9)	3,303.53 (6.7)	2,688.7 (5.4)	217,219
2002	6,671.56 (13.3)	5,377.4 (10.7)	3,335.78 (6.7)	2,688.7 (5.4)	216,424
2003	6,781.7 (13.3)	5,377.4 (10.5)	3,390.85 (6.6)	2,688.7 (5.3)	213,051
2004	6,711.39 (12.7)	5,377.4 (10.2)	3,355.69 (6.4)	2,688.7 (5.1)	210,612
2005	6,766.27 (12.5)	5,377.4 (9.9)	3,383.14 (6.2)	2,688.7 (5.0)	208,562
2006	6,813.85 (12.3)	5,377.4 (9.7)	3,406.92 (6.2)	2,688.7 (4.9)	206,639
2007	6,888.56 (12.4)	5,377.4 (9.6)	3,444.28 (6.2)	2,688.7 (4.8)	206,404
2008	6,911.19 (12.7)	5,377.4 (9.9)	3,455.59 (6.3)	2,688.7 (4.9)	207,921
2009	6,728.44 (12.7)	5,377.4 (10.1)	3,364.22 (6.3)	2,688.7 (5.1)	209,802
2010	6,667.44 (12.4)	5,377.4 (10.0)	3,333.72 (6.2)	2,688.7 (5.0)	204,983
2011	6,631.94 (12.3)	5,377.4 (10.0)	3,315.97 (6.1)	2,688.7 (5.0)	201,398
2012	6,694.48 (12.2)	5,377.4 (9.8)	3,347.24 (6.1)	2,688.7 (4.9)	202,634
2013	6,664.91 (12.0)	5,377.4 (9.7)	3,332.46 (6.0)	2,688.7 (4.8)	139,415
2014	6,620.13 (11.7)	5,377.4 (9.5)	3,310.07 (5.8)	2,688.7 (4.7)	199,024
2015	6,846.6 (11.7)	5,377.4 (9.2)	3,423.3 (5.9)	2,688.7 (4.6)	185,487
2016	7,285.05 (12.4)	5,377.4 (9.1)	3,642.53 (6.2)	2,688.7 (4.6)	185,914

*Notes:* State-specific annual thresholds available upon request. All thresholds can be generated with Stata code in section 8 of the online appendix. PCE deflator is applied. GDP Per Capita data are from the World Bank WDI database.

By contrast, we contend it is essential to incorporate SNAP, the EITC, and any taxes and transfers (Brady 2009; Citro and Michael 1995; Laird et al. 2018; Moffitt and Scholz 2009; Ziliak 2006). Much evidence has shown that SNAP plays a crucial role in smoothing and stabilizing the consumption of low-income HHs (e.g., Gundersen and Ziliak 2003). SNAP and other transfers are also essential to families' ability to offset the turbulence of economic recessions (Bitler and Hoynes 2016), and access to SNAP significantly improves short- and long-term well-being (Hoynes et al. 2016). Shaefer and Gutierrez (2013) found that SNAP significantly reduces both HH food insecurity and nonfood material hardships. Since the 1990s, the EITC has grown into the largest social assistance programs for families with children in the United States, and SNAP receipt has grown substantially (Danziger 2010; Moffitt 2015; Tiehen et al. 2016; Wimer et al. 2020). In turn, over-time trends are likely biased by the omission of these programs (also see the online appendix, section 5).

A few in this literature have incorporated taxes and transfers (Chandy and Smith 2014; Fox et al. 2015b). However, the key limitation of most is the use of survey data that systematically underreport the receipt of welfare transfers. As even Shaefer and Edin acknowledged (2013, 2018), there is convincing evidence that the incomes and welfare transfers of low-income HHs are underreported in most HH surveys (Meyer and Mittag 2015; Meyer et al. 2015, 2018; Winship 2016).<sup>2</sup>

We improve on the income definitions applied in prior studies in several ways. First, we follow leading international standards and employ the Luxembourg Income Study's (LIS 2017) income measurement framework to construct different measures of household income. We begin with cash income, which includes labor market earnings, plus income from Social Security, TANF, General Assistance, Unemployment Insurance, retirement, interest, dividends, rent, Workers Compensation, veterans' benefits, survivors' assistance, disability assistance, education assistance, alimony, child support, and other sources not specified.

Second, we address undercounting of means-tested welfare transfers, such as SNAP and TANF, by employing the Urban Institute's (2017) TRIM3 program (Meyer et al. 2015; Parolin 2019a; Shaefer and Edin 2018). TRIM3 matches administrative records on TANF/SNAP caseloads across states to impute benefits back into the survey data. Whereas the uncorrected CPS survey data misses about one-half of TANF/SNAP cash transfers (Meyer and Mittag 2015), the augmented data come much closer to capturing the full amount of cash assistance identified in administrative data.<sup>3</sup> The first year that the TRIM3 model is available is 1993, and the last year is 2016. This explains our temporal scope.

Third, most analyses include TRIM3-corrected SNAP benefits. In some analyses, we add only 50% of the SNAP benefits because Edin and Shaefer (2015) argued that SNAP benefits are not as liquid and useful as cash benefits. Nevertheless, we doubt that SNAP has zero value, and thus we monetize SNAP at 50 cents on the dollar as a lower bound of the actual cash value of SNAP. This is consistent with Edin and Shaefer's (2015) estimates of the underground exchange rate at 50 to 60 cents on the dollar. This is also more conservative than the estimates of Whitmore (2002), who found that recipients value food stamps (what is now SNAP) at roughly 80% of their value. By reporting results with 50% and 100% of SNAP, we show a lower and upper bound of the value of SNAP.

Finally, we apply the LIS measure of disposable household income to incorporate tax liabilities, tax credits (EITC, Child Tax Credit (CTC), Additional Child Tax Credit (ACTC)); temporary benefits (stimulus credit, Make Work Pay tax credit); housing allowances; energy assistance (Low-Income Home Energy Assistance Program (LIHEAP)); and the Women, Infants, and Children (WIC) programs.<sup>4</sup> By incorporating taxes, we differ from Meyer et al. (2018), who included only the EITC and omitted

<sup>2</sup> Section 6 of the online appendix also examines the potential underreporting of earnings.

<sup>3</sup> Although Shaefer and Edin (2013:257) claimed that the underreporting of income and welfare transfers is smaller in the SIPP than the CPS, the problem is still present in the SIPP.

<sup>4</sup> We improve on the LIS protocol by including state EITCs, which are not included by the LIS. However, we acknowledge that the CPS assumes full take-up of the EITC and ACTC, whereas the actual take-up rate is estimated approximately 80% of eligible earners (Jones and Ziliak 2019). Housing allowances are measured in the CPS as the value of federal housing assistance received by members of a family as estimated using matched administrative data.

other tax credits and liabilities. We use the Census Bureau's simulations to subtract taxes from and add tax credits to HH income.<sup>5</sup> This definition is disposable "post-fisc" (i.e., after taxes and transfers) HH income and is widely viewed as high quality (Brady 2009; Brady et al. 2013; Rainwater and Smeeding 2003; Smeeding 2016).

Unlike Meyer et al. (2018), we do not incorporate assets or real estate equity into our definition of household income, although we do include income from dividends and rents. We also do not monetize the value of health benefits (Winship 2016). If a household has a level of disposable income small enough to qualify as living in deep/extreme poverty but has access to health insurance, we maintain that the household is still deeply/extremely poor.

Finally, Meyer et al. (2018) also adjusted the wages of self-employed workers to be the higher value of the reported wage or the reported number of hours worked multiplied by the minimum wage. This adjustment assumes that hours worked are reported accurately but self-employment earnings are not, and that self-employed individuals do indeed receive earnings at the minimum wage level or higher. In contrast, Bollinger (1998), Hoyakem et al. (2015), and Bollinger et al. (2014) demonstrated that overreporting of earnings, rather than underreporting, is a much larger concern at the bottom of the income distribution. Nonetheless, a sensitivity analysis in section 6 of the online appendix mimics Meyer and colleagues' (2018) strategy for adjusting wages. For any survey respondent who recorded no earned income but at least one hour "usually worked," we replace the earnings value with the product of the reported hours "usually worked" per week and the minimum wage in the respondent's state-year. We then recalculate poverty rates. Even with this wage imputation, our primary findings hold.<sup>6</sup>

### Adjusting for Household Size

HHs have economies of scale such that there is a declining cost to an additional person. Several adjustments for HH size are available. The literature suggests that the choice of equivalence scale used is less consequential, but it is essential to use an equivalence scale (Brady et al. 2018; Rainwater and Smeeding 2003). We equalize income for HH size by dividing by the square root of HH members.<sup>7</sup> By contrast, Shaefer and Edin's (2013) main results did not adjust for HH size (also Meyer et al. 2018:12). The World Bank's metric of \$2/day that they applied assumes that there are zero economies of scale as each additional HH member requires a proportional and linear increase in

<sup>5</sup> The Census Bureau tax simulation appears to overcorrect at times. In 1993–1994, the simulation recodes some households with high gross income into those with low incomes. In 1993, for example, 415 individuals in the CPS have zero disposable income (i.e., their tax liability exceeds their gross incomes) but have gross income of \$100,000+; this compares with only 10 such individuals in the 1995 sample. Although 415 is a small share of the 1993 sample of 150,943, this could bias the very low estimates of extreme poverty. Therefore, we impose a decision rule that if gross income is above the median, we do not code these households as deeply or extremely poor regardless of the tax simulation.

<sup>6</sup> Our results also hold when we remove workers with imputed earnings. See section 6 of the online appendix.

<sup>7</sup> In sensitivity checks, we reestimate all poverty rates using the modified OECD equivalence scale, and the results are quite similar. The direction of the trends are unchanged, although in some years, the levels of extreme poverty are slightly lower when measured with the modified OECD equivalence scale rather than the square root scale.

resources.<sup>8</sup> Shaefer and Edin (2013:261) also noted results with our equivalence scale and found a lower level of extreme poverty but a similar increase.

## The Conceptualization of Poverty

We define poverty with the classic, simple conceptualization of a shortage of resources compared with needs (Smeeding 2016). Following the discussion of income measurement, resources should be measured as comprehensively as possible. This simple definition clarifies that poverty is always based on some standard of needs. We make this transparent to emphasize that the literature has rarely objectively and scientifically defined the standard of needs. Most prior definitions are at least somewhat arbitrary.

We acknowledge the temptation to think of deep/extreme poverty in absolute terms. Such an image of absolute deprivation is certainly present in debates on deep/extreme poverty (Alston 2018; Deaton 2018; Edin and Shaefer 2015; Meyer et al. 2018). To the best of our knowledge, however, no physiological data, caloric requirements, or objective budget of basic necessities has been linked to a standard of needs employed in deep/extreme poverty measures. Despite common impressions, the U.S. official poverty measure (OPM) is not actually based on an objective standard of needs and has many problems undermining its reliability and validity. For brevity, we detail the problems with the OPM in section 2 of the [online appendix](#).

The absence of an absolute standard of needs in the deep/extreme poverty literature is one of the major reasons that international poverty scholars overwhelmingly use relative measures (Brady and Burton 2016; Brady et al. 2013). A relative measure defines poverty as a shortage of resources *relative* to needs defined by the prevailing standards of a given time and place. Relative measures better predict well-being, health, and life chances; are more valid for leading conceptualizations of poverty (e.g., capability deprivation and social exclusion); are more reliable for over-time and cross-place comparisons; and are justified because of the absence of defensible absolute alternatives with fewer problems (Brady 2009; Fox et al. 2015a, b; Rainwater and Smeeding 2003; Smeeding 2016). Therefore, we apply a relative measure of poverty in our primary analyses. To say that individuals are in “deep” or “extreme” poverty simply means that the gap between resources and needs is deeper or more extreme.

## Thresholds for Deep/Extreme Poverty

For transparency about the concrete dollar amounts needed for the various poverty thresholds, we report the real dollar amounts in Table 1. Also, Table 1 reports how these thresholds translate to real gross domestic product per capita. Unfortunately, scholars commonly do not report the thresholds; however, doing so is essential for readers to assess poverty rates. Table 1 lists the national poverty thresholds for each

<sup>8</sup> To the best of our knowledge, the World Bank never justified this measure’s zero economies of scale. Indeed, there was never much scientific basis for the \$2/day threshold even in developing countries (Smeeding 2016). It appears to have always been a politically constructed measure that was not based on any scientific absolute measure of deprivation.



year (state-specific poverty thresholds are available upon request). Our view is that there are several defensible thresholds, and we aim for general conclusions across thresholds.

We employ both relative and anchored poverty thresholds (Brady et al. 2013; Smeeding 2016). We set the poverty threshold for our relative deep/extreme poverty measures based on a percentage of the median in each year for the entire United States. To account for the meaningful differences in the cost of living and standards of needs across the United States, we also present a measure of deep/extreme poverty based on the median in each state in each year. Because the CPS is not necessarily large per state-year, we pool three years ( $t - 1$ ,  $t$ , and  $t + 1$ ) for each state to estimate the median. The advantage of state-specific thresholds is an even more precise definition of relative poverty that incorporates more local living standards, costs, and needs. We acknowledge, however, that differences in costs of living may also represent geographical differences in amenities, productivity levels, and wages.

To assess poverty at the same threshold over time, we also present measures using anchored poverty measures (Brady et al. 2013). Anchored measures adjust HH income for inflation with the Personal Consumption Expenditures (PCE) deflator and fix the threshold to one time point (Smeeding 2016).<sup>9</sup> Although a relative measure may be less sensitive to the business cycle and economic development (or, as in the 2008 recession, overly sensitive; see sections 2 and 3 of the [online appendix](#)), an anchored measure is responsive (Brady et al. 2013).

We draw an explicit distinction that is often implicit between the more moderate “deep” poverty and the much worse “extreme” poverty. To measure deep poverty, we employ three thresholds. First, we estimate the proportion with less than 20% of the national median in each year.<sup>10</sup> Second, we estimate the proportion of the population with less than 20% of the median in each state and year. Third, we estimate the proportion with less than 20% of the inflation-adjusted 1993 national median. To measure extreme poverty, we again employ three thresholds. We estimate the proportion with less than 10% of the national median in each year, 10% of the median in each state-year, and 10% of the inflation-adjusted 1993 national median.

Again, we are transparent and explicit that there is no objective scientific justification for thresholds of deep poverty at 20% of the median and extreme poverty at 10% of the median. For example, deep poverty could be defined at 25% of the median, and

<sup>9</sup> Trends in our anchored poverty measures are comparable if we apply the Current Price Index for Urban Consumers (CPI-U) or Current Price Index research series (CPI-U-RS) deflators rather than the PCE. We use the PCE in our primary analysis because it is the most conservative. Thus, if anchored poverty increases with the PCE, it will (and does) also increase with the other two deflators. There are concerns that the CPI-U overstates inflation relative to the PCE (Winship 2016), but that dispute remains unsettled given that the consumption patterns of low-income households may not be well reflected in the PCE indicator. Our relative measures of poverty are, of course, not affected by choice of income deflator.

<sup>10</sup> All our estimates are based on headcount measures of the percentage below the threshold. Unlike intensity or ordinal measures, headcount measures neglect the depth of poverty below the threshold (Brady 2009). However, given the few cases at the very bottom of the distribution and the low poverty thresholds used in this study, we would be cautious with analyses of the depth of extreme poverty. Headcount measures require confidence that a given HH’s income is below a threshold, but it requires a higher level of confidence in income data to utilize the exact values of HH income for those below the threshold.

extreme poverty could be defined at 5% or 15%.<sup>11</sup> For comparison, we also report trends at 30% and 50% of medians (see sections 2 and 3 of the [online appendix](#)).

As Table 1 shows, even at our highest national threshold (20% of median), being deeply poor implies a very low income. To be deeply poor in 2016, an individual had less than \$7,285 annually, or \$607 per month in 2017 dollars. To facilitate replication, we provide Stata code for augmenting the CPS data, and for calculating thresholds and poverty rates (see sections 5 and 8 of the [online appendix](#); Parolin 2019a; Parolin and Brady 2019).

Our approach for extreme poverty differs with Shaefer and Edin's (2013) thresholds of \$2/day. Their threshold is "absolute" in that it defines extreme poverty according to a predetermined threshold of basic needs regardless of time and place. For example, their threshold for a family of three would be \$2,190 (i.e.,  $\$2 \times 3 \times 365$ ) in 2015, or \$2,323 in 2017 dollars. This is much lower than our thresholds for extreme poverty. In 2016, for a family of three, 10% of the national equivalized median would be \$6,309 in 2017 dollars. Later, we replicate their estimates alongside a series of alternatives that improve on their measures in steps. With each improvement, it becomes clear how the results differ from those of Shaefer and Edin (2013).

We also acknowledge that some measure deep poverty at 50% of the OPM (Alston 2018). As explained in section 2 of the [online appendix](#), the problems with the OPM are so significant that we lack confidence in such measures. Further, some define deep poverty as a percentage of the Supplemental Poverty Measure (SPM) threshold (e.g., Fox et al. 2015a, b; Iceland 2005). In sensitivity checks, we replicate our results using deep/extreme poverty thresholds derived from the historical SPM data from Fox et al. (2015a). Specifically, we measure the share of the population living below 30% of the SPM threshold (roughly 22% of median income for the average person in 2015) and below 20% of the SPM threshold (15% of median income for the average person in 2015). The trends in poverty using the SPM are quite consistent with our findings. We display the trends in the measures based on the SPM in section 7 of the [online appendix](#).

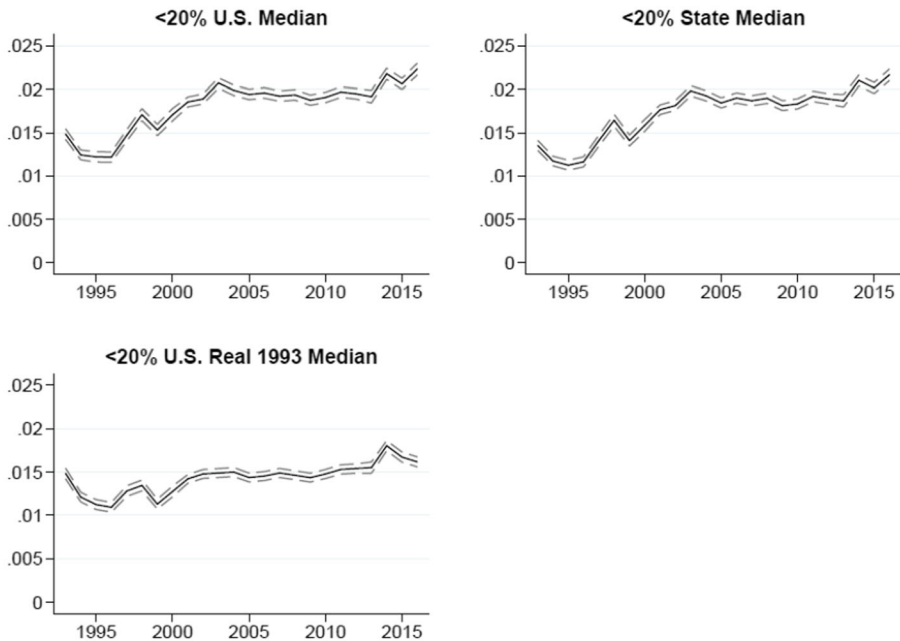
## Levels and Trends in Deep Poverty

Figure 1 shows the trends in deep poverty. We present annual estimates and 95% confidence intervals on those estimates. In all figures, the confidence intervals are fairly small, partly because the CPS provides a large sample. As a result, over-time comparisons can be made as the differences tend to be statistically significant.

In 2016, we estimate that 7.2 million (2.23% of the U.S. population) were deeply poor as measured at 20% of the national median, 7 million (2.17%) were deeply poor as measured at 20% of state medians, and 5.2 million (1.6%) were deeply poor as measured at 20% of the 1993 national median.<sup>12</sup>

<sup>11</sup> That said, we would be cautious about setting the threshold lower than we do because the sample sizes (even in the CPS, which are much larger than the SIPP) become very small, making it difficult to discern trends.

<sup>12</sup> All estimates are based on the World Bank (2018) estimates of the U.S. population.



**Fig. 1** Trends in the proportion deeply poor in the United States, 1993–2016

All three measures show substantial over-time variation. There were notable declines in deep poverty, especially 1993–1996, 2006–2009, and 2014–2015. For all three measures, 1995 or 1996 exhibited the lowest rates of deep poverty, and 2014 or 2016 exhibited the highest rates.<sup>13</sup> Although the over-time trend is not quite as stark comparing 1993 with 2016, all three measures show a significant increase in deep poverty since 1995.

In 1993, deep poverty measured as 20% of the U.S. median was 1.5%. This measure of deep poverty fell to 1.2% in 1995–1996 and then rose to hover near 2.0% in the 2000s. However, it increased to 2.18% in 2014 and 2.23% in 2016. From 1993 to 2016, deep poverty as measured at 20% of the national median increased by 50%. From its low point in 1995–1996 to 2016, this measure of deep poverty increased by 83%. We find a similar trend with deep poverty measured at 20% of each state's median. This measure of deep poverty declined from 1.4% in 1993 to 1.1% in 1995, and reached 2.2% by 2016. Overall, deep poverty at 20% of state medians increased 60% from 1993 to 2016 and 93% from 1995 to 2016.

The bottom panel in Fig. 1 shows the trend in deep poverty anchored by the 1993 U.S. median. Of the three measures of deep poverty, this measure should be least likely to show an increase given that it should decline because of over-time increases in economic development. According to this anchored measure, about 1.5% were deeply poor in 1993. This rate fell to 1.1% in 1995–1996 and then rose steadily to 1.8% in

<sup>13</sup> Because all measures of deep/extreme poverty show a peak in 2014, we scrutinized the 2014 data but found no major problems. SNAP and TANF benefit levels declined in 2014, which explains part of the trend. One factor is the end of the Emergency Unemployment Compensation program on January 1, 2014. UI benefits saw a large drop from 2013 to 2014. Estimates without UI show no increase from 2013 to 2014.

2014 before declining to 1.6% in 2016. From 1993 to 2015, anchored deep poverty increased about 9%. However, this conceals that the United States made some progress in reducing anchored deep poverty from 1993 to 1996. From its low point in 1995–1996 to 2015, anchored deep poverty increased by 48%.

Thus, even with a measure anchored in 1993, there was a significant increase in deep poverty. The increase in anchored deep poverty is even more striking given the decline in anchored poverty at 30% and 50% of the median (see sections 3 and 4 of the online appendix). The declines in anchored poverty at 30% and 50% of the median should build confidence in the validity and reliability of our measures of income, and they suggest that any increases at 10% and 20% are not simply artifacts of income measurement.

Figure 2 displays trends in deep poverty among individuals in households with children (gray line) and individuals in childless households (black line). The left panel shows trends in deep poverty (relative to 20% of federal median) for either household type. We see that much of the reason for the rise in deep poverty in the United States is due to the increase among individuals in childless households. From 1993 to 2016, deep poverty rose from 1.67% to 2.81% (a 68% increase) for childless households. For individuals in households with children, the rise is much smaller: an increase from 1.35% to 1.65%, or a 23% increase.

Differences in the trends of the anchored thresholds (right panel) are even more pronounced. Individuals in households with children actually see a decline in deep poverty as measured with the anchored threshold (1.35% to 0.99%, 1993–2016). However, individuals in childless households saw a rise from 1.67% to 2.24%. The rise in anchored deep poverty for the total population, as displayed in Fig. 1, thus

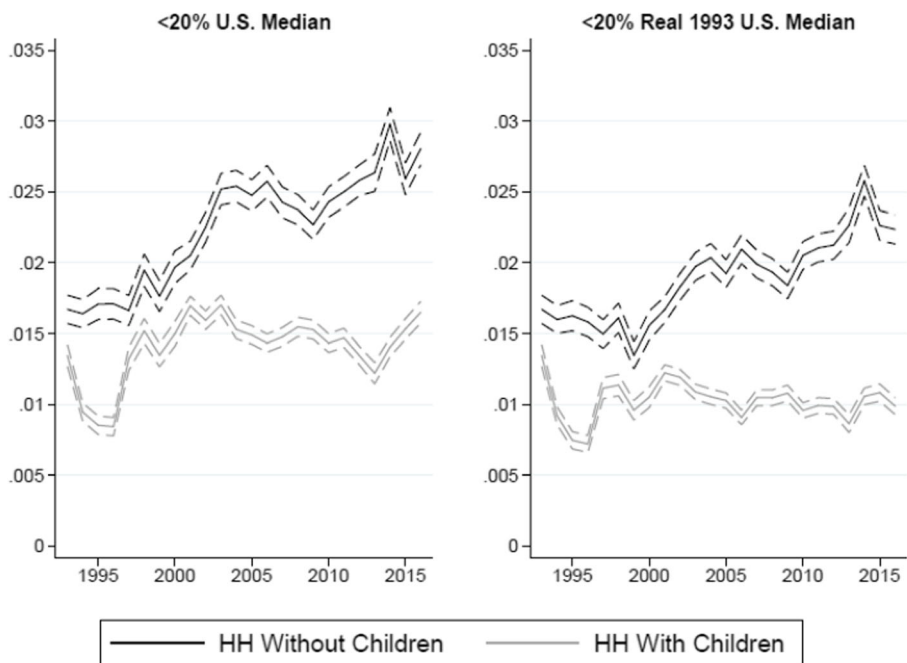


Fig. 2 Trends in the proportion deeply poor in the United States by household type, 1993–2016

appears to be primarily due to the rise in anchored deep poverty among households without children.

## Levels and Trends in Extreme Poverty

Figure 3 shows the trends in extreme poverty. In 2016, 3.7 million (1.15%) were below 10% of the national median, 3.5 million (1.08%) were below 10% of state medians, and 2.6 million (0.81%) were below 10% of the 1993 national median.

All three measures show over-time fluctuation, with high points in 1998, 2007, 2014, and 2016, and with low points in 1995, 1999, and 2010. Compared with deep poverty, there is even more temporal fluctuation. Still, there are statistically significant increases from 1993 to 2016 and from the low points in 1995 to high points in 2016.

With extreme poverty measured at 10% of the national medians, 0.66% of the United States was below the threshold in 1993. This rate fell to a low of 0.54% in 1995 and then rose to a high of 1.15% in 2016. At 10% of the national medians, extreme poverty increased 73% from 1993 to 2016, and increased 111% from 1995 to 2016.

In 1993, 0.65% of the U.S. population was below 10% of each state's median. State-specific extreme poverty declined to a low of 0.52% in 1995 and then rose to 1.08% in 2016. Thus, extreme poverty at 10% of state medians increased 65% from 1993 to 2016 and 107% from 1995 to 2015. Anchoring extreme poverty at 10% of the 1993 national median, the over-time trend is less pronounced than with the two relative measures. This measure declined from 0.66% in 1993 to 0.53% in 1995. It then rose to 0.89% in 2014 and 0.81% in 2016. Still, this measure increased by 22% over the entire period and by 54% from 1995 to 2016.

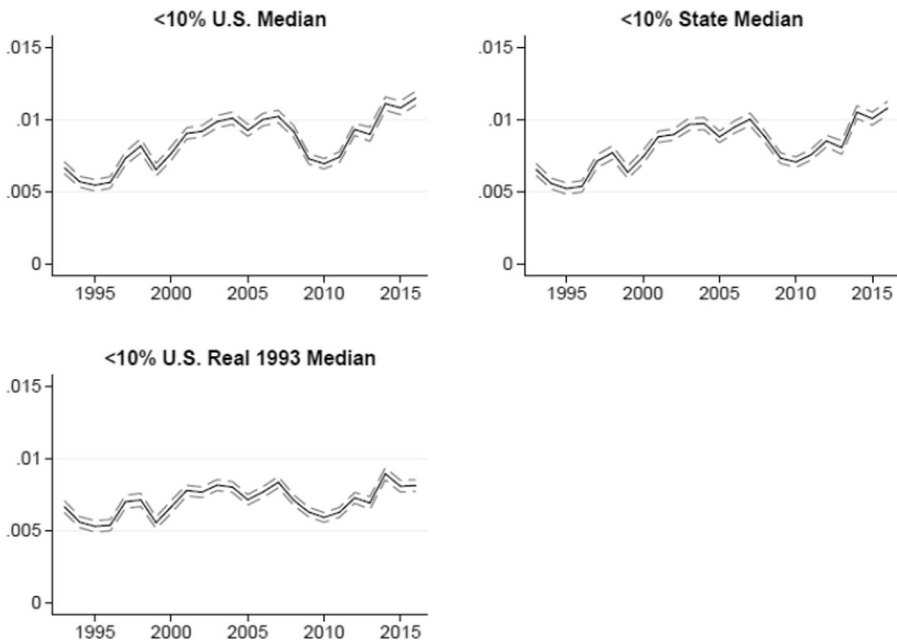


Fig. 3 Trends in the proportion extremely poor in the United States, 1993–2016

Figure 4 shows that the trends again vary greatly by household type. For individuals in households with children, extreme poverty (relative to 10% of federal median) remained stable from 1993 to 2016 (at roughly 0.50% in both years). For childless households, however, extreme poverty rose from 0.89% to 1.82%—a 105% increase. The anchored trends (right panel) show similar findings. Extreme poverty is on the decline for households with children (Parolin and Brady 2019) but has risen steeply for households without children. The rise in extreme poverty among individuals in households without children drives the observed upward trend among the total population.

## The Effect of Income Measurement and SNAP on Deep and Extreme Poverty

We argue that income measurement is essential to measuring deep/extreme poverty. One of the main reasons that our estimates differ from prior research is that we use a more complete measure of income. Although our measure of disposable income includes all taxes and transfers, decomposing poverty trends by income concept shows that the inclusion of SNAP benefits, in particular, is critical in shaping levels and trends of poverty (Parolin and Brady 2019). To demonstrate, we display two sets of results in Figs. 5 and 6, which demonstrate how incomplete measures of income bias estimates of and trends in extreme poverty.

Figure 5 shows what happens to extreme poverty anchored at 10% of the 1993 median with different definitions of income. The estimates from Fig. 2 are shown in the bottom panel of Fig. 5 for comparison. In the upper-left panel of Fig. 5, we estimate

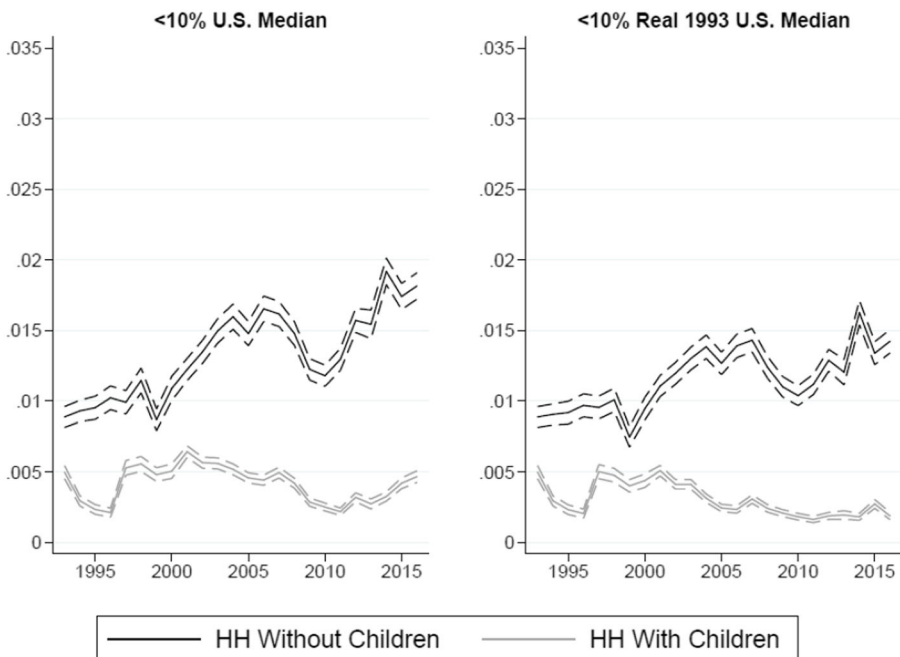


Fig. 4 Trends in the proportion extremely poor in the United States by household type, 1993–2016

extreme poverty with cash income only. This definition does not correct for underreporting of TANF or SSI, and does not include near-cash benefits like SNAP. Moreover, it does not incorporate taxes paid, tax credits (e.g., the EITC), and some other benefits. Unsurprisingly, this income measure results in a dramatically higher rate of extreme poverty. Instead of the 0.81% reported for 2016 in Fig. 2, the upper-left panel of Fig. 3 shows a 2.35% rate of extreme poverty.

The upper-right panel in Fig. 5 uses this measure of cash income, but it corrects for underreporting of TANF and SSI with the TRIM3 model. Instead of a rate of 2.35%, extreme poverty would be 1.95% in 2016. The left panel of the second row maintains the TRIM3 adjustment but adds 50% of SNAP benefits. With this measure, extreme poverty would be only 1.54%. With 100% of SNAP benefits added to TRIM-adjusted cash income in the middle-right panel, extreme poverty would be 0.92%. Finally, we show in the bottom panel that anchored extreme poverty would fall from 0.92% to 0.81% after we include tax liabilities, tax credits (EITC, CTC, ACTC), temporary benefits (stimulus credit, Make Work Pay tax credit), housing allowances, LIHEAP, and the WIC programs. Hence, moving from a cash-only income definition to one that also includes SNAP results in a reduced estimate of anchored extreme poverty from 1.95% to 0.92% (i.e., 53% lower). After SNAP is included, adding in all other taxes and transfers leads to an additional decline of only 0.11 percentage points (i.e., 12% lower).

Figure 6 replicates the Shaefer and Edin (2013) estimation of poverty at \$2/day while improving on their measure of income. The upper-left panel uses their measure of cash income, which did not equalize income for household size. Their measure results in an estimate of extreme poverty of 1.6% or 5.2 million people. Their measure increased 96% from 1993 to 2016, and 128% from its low in 1996 to its peak in 2014.

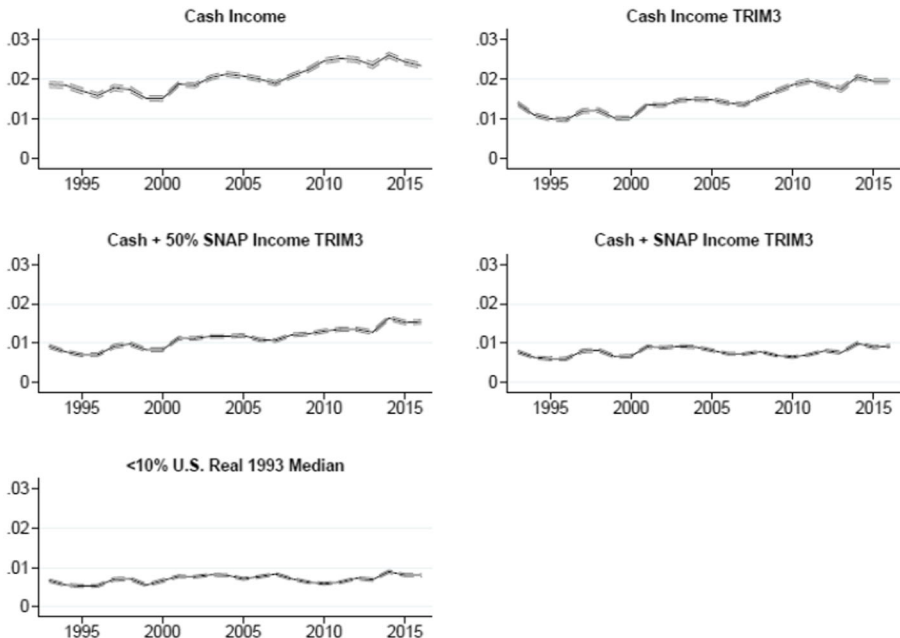
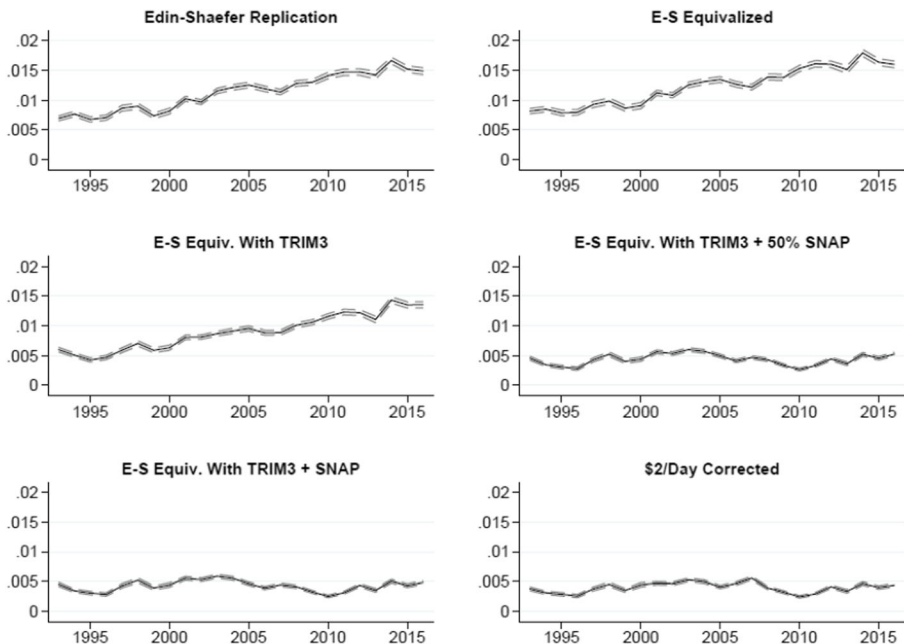


Fig. 5 Extreme poverty at 10 % of 1993 U.S. median with different income definitions



**Fig. 6** Estimates of \$2/day extreme poverty with different adjustments

The upper-right panel of Fig. 6 uses Shaefer and Edin’s (2013, 2018) income measure but equivalizes for household size. Equivalizing for household size reduces \$2/day poverty from 1.6% to 1.5%. The middle-left panel builds on that and adjusts for underreporting of TANF and SSI with TRIM3. With this income measure, \$2/day poverty declines to 1.36%.<sup>14</sup> The middle-right panel adds 50% of SNAP to income, and \$2/day poverty declines to 0.53%. This substantial reduction illustrates how consequential even a lower-bound value of SNAP benefits is to \$2/day poverty. The bottom-left panel incorporates the full 100% of SNAP benefits, and \$2/day poverty declines to 0.48%.

Finally, the bottom-right panel uses disposable income. With this “best” definition of income, only 0.44% of the United States lived on less than \$2/day in 2016. Thus, instead of 5.2 million living on less than \$2/day with Edin and Shaefer’s definition, our estimate is approximately 1.4 million. With this measure, \$2/day poverty increased by 16% from 1993 to 2016 and by 82% from its low in 1996 to its peak in 2014.<sup>15</sup> For both the levels and changes over time, the inclusion of SNAP proves to be critical in assessing \$2/day poverty. Moving from counting SNAP benefits at just 50% of their

<sup>14</sup> Recently, Shaefer and Edin (2018) used the CPS and TRIM3 to estimate \$2/day poverty in 1995–2012 for children. However, they did not equivalize income for household size and continued to use cash income by omitting SNAP and other aspects of disposable income. They found that 1.2 million children (1.6%) were poor in 2012. They also found more than a 300% increase in the raw count of children in extreme poverty in 1995–2012. Even using the CPS and TRIM3, their estimates of the level and trend were much higher than ours. They wrote, “When we control for underreporting, we find that the downward spiral since 1995 is even more dramatic than previously reported” (p. 26).

<sup>15</sup> We encourage some caution about the over-time increase in \$2/day poverty. The upper-bound confidence interval in 1993 and the lower-bound confidence interval in 2016 are both .41.



value to including all other taxes and transfers leads to no statistically significant difference in the level of \$2/day poverty.

We can again decompose the trends by households with and without children. Given that households with children are the primary target of SNAP benefits and that SNAP benefits play a large role in reducing deep/extreme poverty, we might expect that the inclusion of SNAP into measurement of household income matters far more for households with children compared with those without (Parolin and Brady 2019). Figure 7 shows trends in deep poverty (20% of federal median) by household type and income definition. The left panel shows the trends for households with children. The top line shows trends in deep poverty when only cash income (pre-TRIM3) is measured, and the second line from the top shows trends when TANF and SSI are adjusted with TRIM3. The difference between the two estimates of deep poverty in 2016 is 0.68 percentage points.

The third line from the top shows trends with SNAP added into the income definition. Moving from *cash income* to *cash income + SNAP* results in a 3.04 percentage point decrease in deep poverty among households with children in 2016. After that, adding in all other taxes and transfers (the bottom, darkest line) contributes to an additional decrease of just 0.92 percentage points, less than one-third of the decrease observed when adding SNAP to the cash income definition.

For individuals in households without children (right panel), the variance in poverty trends across income definitions is far smaller. Taxes and transfers have a smaller effect on the poverty status of childless households. Still, adding SNAP into the income definition leads to the largest relative decline among the income definitions examined. Adding SNAP benefits to the *cash income with TRIM3* income definition results in a 0.67 percentage point decline in deep poverty among childless households in 2016. After SNAP benefits are included, the addition of all other taxes and transfers has a very small (0.31 percentage point) effect on the poverty rate.

Finally, Fig. 8 shows the same patterns for extreme poverty (10% of national median). Again, the effect of taxes and transfers, and SNAP in particular, is far greater for individuals living in households with children (left panel). Adjusting for benefit underreporting in TANF and SSI contributes to a 0.77 percentage point (26%) reduction in extreme poverty among individuals in households with children. Adding SNAP into that income definition then leads to a 1.6 percentage point (71%) reduction. Moreover, adding SNAP changes the direction of the trend. If SNAP is excluded, extreme poverty increases among households with children from 1993 to 2016. When SNAP is included, however, extreme poverty declines over time. The different levels of extreme poverty around 2009–2010 also emphasize the importance of SNAP. When the Great Recession hit in 2008–2009, extreme poverty measured before the addition of SNAP benefits increased sharply. This is clear in the upward spikes of the top two lines in Fig. 8 during these years. In 2009, however, eligibility for SNAP and the program's maximum benefit levels were increased as part of the American Recovery and Reinvestment Act of 2009 (Shahin 2009). Accordingly, including SNAP into the income definition results in a *decrease* in the level of extreme poverty in 2009–2010 rather than the sharp increase observed in the pre-SNAP income definitions. In most years, the difference between the *cash income + SNAP* and *disposable income* measures of resources do not produce statistically significant differences in levels of extreme poverty. This is true for the childless households (right panel) as well.

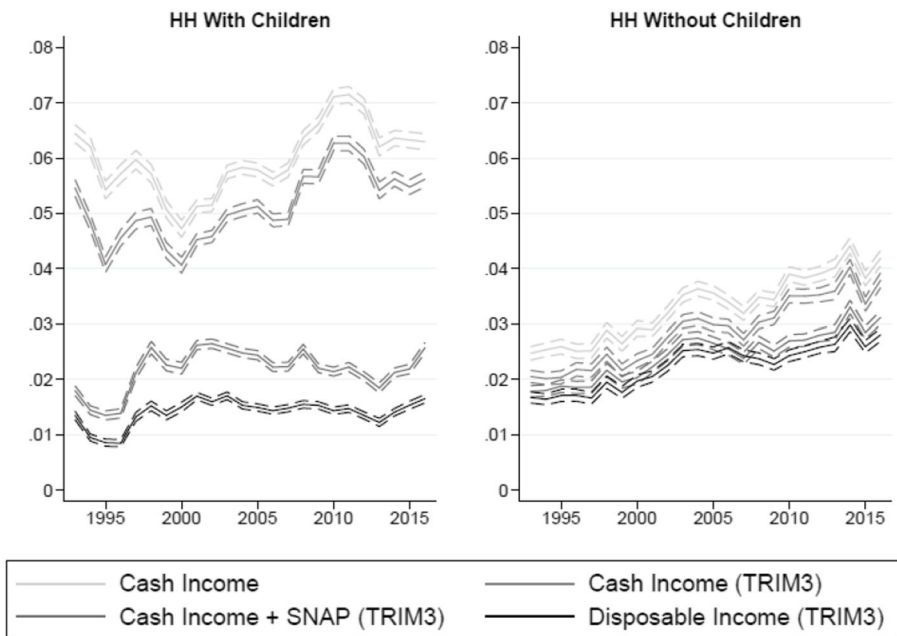


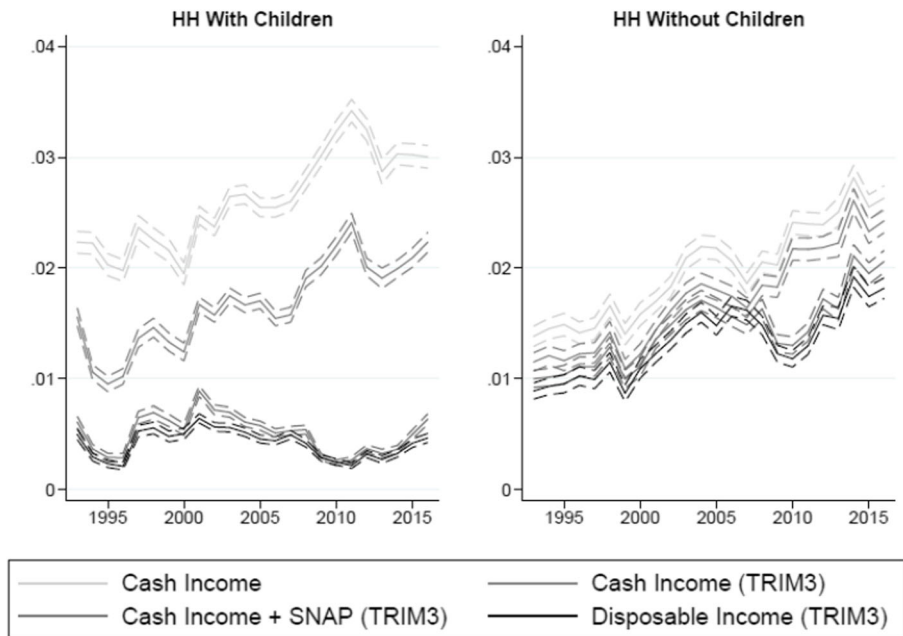
Fig. 7 Deep poverty (20 % federal median) by household type and income definition

We emphasize that these findings are not just a matter of the order in which benefits are added into the income definition. If we take our definition of disposable household income and remove SNAP benefits, for example, the extreme poverty rate among children increases from 0.5% to 1.5% in 2016. Moreover, the trend in extreme poverty using this income definition increases between 1993 and 2016, in contrast to our measures that include SNAP. That SNAP benefits play a substantial role in reducing deep/extreme poverty is consistent with Parolin and Brady (2019), who found that the rise of SNAP take-up has been instrumental toward reducing extreme child poverty after the 1996–1997 welfare reform.

## Homelessness and Extreme Poverty

The CPS does not include the homeless, which could be a salient segment of the extremely poor in the United States. As a result, we propose that our estimates of extreme poverty are probably lower-bounds.<sup>16</sup> The national point-in-time estimates suggest that 549,928 were homeless in the United States in 2016. The point-in-time estimates are available only since 2007, and the average annual (2007–2016) point-in-time estimate of homeless was 608,114. We conjecture that the homeless are likely to

<sup>16</sup> Of course, our estimates could be undercounts in other ways. For example, the poor consume a much higher share of their income than the nonpoor, and therefore sales taxes exert a greater cost on the poor. It would be very difficult to estimate what share of the poor's income is subject to sales tax and subtract state- and local-specific sales tax rates from that share of income. One would also need to apply such corrections to median HH income because this would affect the thresholds. Nevertheless, it seems reasonable to suggest that sales taxes disproportionately lower the poor's income relative to the median HH.



**Fig. 8** Extreme poverty (10 % federal median) by household type and income definition

be extremely poor. In turn, estimates of extreme poverty that are far below the counts of homelessness raise questions about face validity (Hall and Rector 2018; Meyer et al. 2018). Moreover, it is worthwhile to estimate how much larger the extreme poverty would be if the homeless were added to our estimates. Figure 9 shows the trends for 2007–2016 in extreme poverty with and without each year’s count of homelessness.

Extreme poverty would be much higher in every year if the homeless are added. For example, anchored extreme poverty in 2016 would be 1.05% of the U.S. population instead of our estimate of 0.81 %. Unfortunately, the homelessness point-in-time estimates do not include confidence intervals, so we cannot say whether statistically significant differences exist between our estimates with and without homelessness. Taking the estimates as they stand, extreme poverty would have been 19% to 23% higher in 2016 and an average of 20% to 24% higher 2007–2016. Although not shown, deep poverty would have been 7% to 8% higher in 2016 and 9% to 11% higher in 2007–2016 if the homeless were added. This provides evidence to reasonably suggest that estimates of deep/extreme poverty that solely use the CPS (or any household-based survey) are probably lower-bound estimates.

Children in foster care institutions (not yet placed into households) and the incarcerated population are also excluded from the CPS. However, we are less comfortable assuming that most individuals in foster care institutions or prison are or would be extremely poor than we are making such an assumption for the homeless population. More than 2.3 million people were incarcerated in 2013 (Glaze and Kaeble 2014), and more than 50,000 children were living in group homes or foster care institutions in 2017 (Children’s Bureau 2018). Including these individuals into our poverty count would again reinforce our conclusion that the CPS can only provide a lower-bound estimate of deep or extreme poverty in the United States.

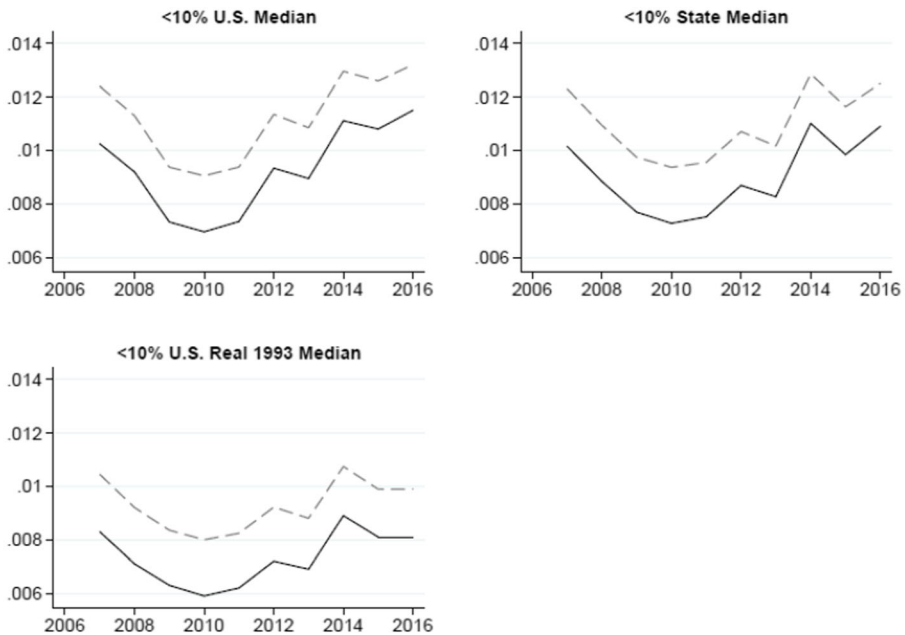


Fig. 9 Extreme poverty without (solid lines) and with (dashed lines) homelessness

## Conclusion

This study presents levels and trends in 1993–2016 in deep/extreme poverty in the United States. We use uniquely augmented CPS data to adjust for benefit underreporting and construct measures of income that more comprehensively incorporate taxes and transfers. We report several measures of poverty, although even the highest thresholds presume a very low level of income. In 2016, we estimate that 5.2 to 7.2 million Americans (1.6% to 2.2%) were deeply poor, and 2.6 to 3.7 million (0.8% to 1.2%) were extremely poor. Our evidence suggests that deep/extreme poverty in the United States has increased in recent decades. From low points in 1995 to 2016, deep poverty increased by an estimated 48% to 93%, and extreme poverty increased by an estimated 54% to 111%. We find significant increases in deep/extreme poverty even with thresholds anchored in 1993. Contrary to findings of prior research focused on deep/extreme child poverty, the increases appear to be concentrated among individuals living in households without children. For individuals in households with children, a rise in the receipt of SNAP benefits appears to have contributed to a decrease in extreme poverty over time (Parolin and Brady 2019).

Advancing beyond prior research, we demonstrate that it is essential for studies of deep/extreme poverty to incorporate leading international standards of income measurement. We show the value of measuring income comprehensively, correcting for the underreporting of taxes and transfers, and equivalizing for household size. We also examine a variety of thresholds and make several unique adjustments. In turn, we propose that our estimates of deep/extreme poverty are more credible than prior alternatives. Moreover, this study provides methodological guidance and serves as an example for broader literatures on income and poverty (see also Brady et al. 2018; Parolin 2019a).

Our analyses can inform debates about the 1996 welfare reform (Parolin 2019b). On one hand, we find significant increases in deep/extreme poverty after welfare reform. At the same time, we do not find an increase at 30% or 50% of the median (see sections 2 and 3 of the [online appendix](#)). These results are consistent with claims that welfare reform shifted the poor toward deeper and more extreme poverty. On the other hand, our data reveal an increase in deep/extreme poverty for households without children and a decline for children and households with children. From 1993 to 1995, 31.6% of the extremely poor (<10% of U.S. median) and 44.6% of the deeply poor (<20% of U.S. median) were households with children. By contrast, in 2014–2016, only 16.4% of the extremely poor and 34% of the deeply poor were households with children.<sup>17</sup> From 1993–1995 to 2014–2016, children as a share of those in deep poverty declined from 23.9% to 18.2%; the share in extreme poverty declined from 16.5% to 7.7%. These patterns contradict claims that welfare reform resulted in a greater concentration of children in deep/extreme poverty. Further, our results suggest that changes to SNAP—not changes to TANF—have most shaped deep/extreme poverty in recent years. The exclusion of childless HHs from SNAP is a key source of deep/extreme poverty, and the access of HHs with children to SNAP has reduced deep/extreme poverty (Parolin and Brady 2019).

We conclude by juxtaposing the levels and increases in deep/extreme poverty against the nation's high and rising GDP per capita (World Bank 2018). In 2016, the U.S. GDP per capita in purchasing power parity was about \$59,000 (in 2017 dollars). Given that the highest threshold for deep poverty was about 12.4% of GDP per capita in 2016 (see Table 1), it seems plausible that income redistribution could substantially reduce deep/extreme poverty. Moreover, real GDP per capita increased more than 41% from 1993 to 2016 (World Bank 2018). Given this rising economic affluence, it would be reasonable to have expected extreme poverty anchored in 1993 to have mechanically declined. That deep/extreme poverty increased as much as they did during a period when the nation was growing much richer is arguably the most important trend.

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**Authors' Contributions** The authors are listed alphabetically, and each contributed equally.

**Data Availability** CPS data are publicly available. The analytic code for this paper is in the online appendix. The code for constructing variables is available at [https://bradydave.files.wordpress.com/2018/11/replicationpackage\\_extremechildpoverty.pdf](https://bradydave.files.wordpress.com/2018/11/replicationpackage_extremechildpoverty.pdf). See also Parolin and Brady (2019).

## Compliance With Ethical Standards

**Conflict of Interest** None.

<sup>17</sup> In 1993–1995, 67.1% of the extremely poor and 54.6% of the deeply poor were households without children. From 2014 to 2016, 81.8% of the extremely poor and 64.5% of the deeply poor were households without children. The concentration of deep/extreme poverty on nonchildren would likely be even clearer if we include the homeless. In recent national point-in-time reports, the number of individuals without families has increased to be more than two-thirds of the homeless.

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