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ABSTRACT

We compare trends in absolute poverty before (1939–1963) and after (1963–2023) the War on Poverty was declared. Our primary methodological contribution is to create a post-tax post-transfer income measure using the 1940, 1950 and 1960 Decennial Censuses through imputations of taxes and transfers as well as certain forms of market income including perquisites (Collins and Wanamaker 2022), consistent with the full income measures developed by Burkhauser et al. (2024) for subsequent years. From 1939–1963, poverty fell by 29 percentage points, with even larger declines for Black people and all children. While absolute poverty continued to fall following the War on Poverty's declaration, the pace was no faster, even when evaluating the trends relative to a consistent initial poverty rate. Furthermore, the pre-1964 decline in poverty among working age adults and children was achieved almost completely through increases in market income, during which time only 2–3 percent of working age adults were dependent on the government for at least half of their income, compared to dependency rates of 7–15 percent from 1972–2023. In contrast to progress on absolute poverty, reductions in relative poverty were more modest from 1939–1963 and even less so since then.

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I. Introduction

President Lyndon Johnson declared a War on Poverty in 1964 that set into motion the creation of the modern social safety net, including a major expansion of Food Stamps (now the Supplemental Nutrition Assistance Program or SNAP), the introduction of Medicaid and Medicare, and later anti-poverty policies like refundable tax credits. Despite the expansion of government programs intended to support low-income Americans, the official poverty rate has remained largely stagnant for the past half century even though it is an absolute measure of poverty whose income thresholds are only adjusted for inflation. This has led to claims that the War on Poverty was a failure. President Ronald Reagan famously declared in his 1988 State of the Union address: "My friends, some years ago, the Federal Government declared a war on poverty, and poverty won" (Reagan 1988).

However, researchers have for decades recognized that the official poverty measure (OPM) is an unreliable marker of progress because it fails to adjust for taxes, excludes in-kind transfers, and overstates inflation for purposes of adjusting thresholds over time. When addressing these shortcomings while continuing to use President Johnson's absolute concept of poverty, Meyer and Sullivan (2012) and Burkhauser et al. (2024) find that absolute poverty fell by over 90 percent since the early 1960s, the former using a consumption measure and the latter using a full-income measure of resources. Wimer et al. (2016) find a less dramatic but still large decline in poverty, with differences largely resulting from their different inflation measure and income definition (see Burkhauser et al. 2019). This research has supported a growing consensus that the War on Poverty has been largely successful, even if some disagreement persists about the extent of the decline.

What is less clear is whether the War on Poverty and the modern social safety net it created were necessary to reduce poverty. While the static effects of individual programs on poverty are large due to the substantial amount of resources they provide to low-income households (see Shrider and Bijou 2025), behavioral responses to means-tested programs can reduce earnings and alter family formation decisions, which could offset mechanical income gains from transfers. For example, Hoynes and Schanzenbach (2012) leverage the staggered rollout of SNAP across counties in the 1960s and 1970s to estimate that SNAP receipt reduced hours worked among female-headed households by more than half. Other studies of SNAP and other means-tested

programs find employment impacts ranging from substantially negative to approximately zero, or even positive in the case of refundable tax credits that reward work, for various subpopulations and based on different sources of policy variation (e.g., Jacob and Ludwig 2012; Baicker et al. 2014; Garthwaite et al. 2014; Nichols and Rothstein 2016). However, none of these studies, individually or in combination, can determine how poverty would have changed absent the modern social safety net, the effects of which depend on the interaction of all programs with each other and with cultural attitudes and norms that generally cannot be parsed out by studies of individual programs in specific places and time periods.

The difficulty in measuring the causal impact of the War on Poverty motivates our extending poverty trends prior to when it was officially declared. While it is not possible to infer the causal effect of the War on Poverty from the pre-trend since numerous other policies and macroeconomic conditions changed at the same time, some authors have pointed to potential progress prior to 1964—especially among Black people—as evidence that reducing poverty may not have required the implementation of the modern social safety net. For example, Thomas Sowell in a 2004 magazine article stated[1] (Sowell 2004):

> *The economic rise of blacks began decades earlier, before any of the legislation and policies that are credited with producing that rise. The continuation of the rise of blacks out of poverty did not — repeat, did not — accelerate during the 1960s.*
>
> *The poverty rate among black families fell from 87 percent in 1940 to 47 percent in 1960, during an era of virtually no major civil rights legislation or anti-poverty programs. It dropped another 17 percentage points during the decade of the 1960s and one percentage point during the 1970s, but this continuation of the previous trend was neither unprecedented nor something to be arbitrarily attributed to the programs like the War on Poverty.*

[1] Jason Riley, writing for the Wall Street Journal, echoed Sowell's argument, stating (Riley 2021): "Between 1940 and 1960 the percentage of black families living in poverty declined by 40 points as blacks increased their years of education and migrated from poorer rural areas to more prosperous urban environs in the South and North. No welfare program has ever come close to replicating that rate of black advancement, which predates affirmative action programs that often receive credit for creating the black middle class."

Sowell's poverty rate numbers are consistent with those reported in Smith (1988) who like Sowell uses the OPM definition of poverty that does not account for taxes and in-kind transfers, and uses individual household record data from the 1940, 1960 and 1980 Decennial Censuses to determine the change in absolute poverty for Black families based on the same OPM thresholds that produced an official poverty rate of approximately 20 percent in 1963, adjusted only for inflation. Smith finds that 87 percent of Black families were poor in 1939 versus 47 percent in 1959 and 27 percent in 1979. His reported poverty rates for families across all races were 51 percent in 1939, 16 percent in 1959 and 9 percent in 1979.[2]

Unfortunately, a lack of consistent historical data measuring all resources available to households has precluded rigorous evaluation of such claims, which are based on tabulations of income measures that exclude key income sources and are not comparable to comprehensive poverty measures developed to assess modern poverty trends. Thus, how progress in reducing poverty before the War on Poverty began compared to progress afterward remains an open question.

We provide the first comparison of poverty trends before and after the War on Poverty was declared using a comprehensive and consistently defined measure of income, covering an 84-year period from 1939 to 2023. We are able to produce these trends by making advancements in the use of the Decennial Censuses from 1940, 1950 and 1960—corresponding to reference years 1939, 1949, and 1959. Specifically, we are the first to impute cash and in-kind transfers and health insurance, and we build and improve upon recent research focused on improving the accuracy of market income in these years (Chetty et al. 2017; Collins and Wanamaker 2022). We also address the unique limitations of the 1950 Census that have not been fully addressed in previous research. In order to capture the post-War on Poverty trend covering 1963–2023, we rely on the Current Population Survey Annual Social and Economic Supplement (CPS ASEC) using the methods developed by Burkhauser et al. (2024) to create a post-tax post-transfer income measure. We anchor our poverty measure to the approximately 20 percent rate in 1963

[2] In his adoption of the OPM for his analysis, Smith relies on a pre-tax money income measure that does not adjust for taxes and does not include in-kind transfers (whereas we adjust for both). He also uses the family as the sharing unit and unit of analysis (whereas we use the household as the sharing unit and the individual as the unit of analysis), adjusts for sharing unit size based on the OPM thresholds (whereas we use a square root size adjustment), and relies on the Consumer Price Index to adjust thresholds for inflation (whereas we use the Personal Consumption Expenditures price index). Smith also excludes single-person families from his analysis.

President Johnson set as the baseline for his War on Poverty (see Burkhauser et al. 2024), which is also the official poverty rate in that year. We hold thresholds constant in real terms by adjusting them for inflation using the Personal Consumption Expenditures (PCE) price index.

We report absolute poverty rates based on the household size-adjusted, post-tax post-transfer income of each person in the United States. We also disaggregate this population and report poverty rates of two racial groups, Black and non-Black people, and three separate age groups: 0–17 (children), 18–64 (working age adults), and 65 and over (the elderly).[3] In our analysis, we report the poverty rates of individuals, assuming that all individuals in a given household share equally in household income after adjusting for their household size.

From 1939 to 1963, the overall poverty rate using our post-tax post-transfer income measure excluding health insurance fell from 48.5 percent to 19.5 percent, a 29.0 percentage point reduction in just under a quarter century. This decline in poverty was accompanied by a 76 percent increase in real median income over the same period, reflective of the strong economic growth the United States experienced coming out of the Great Depression in the 1940s and the post-war boom in the 1950s. Then between 1963 and 2023, the poverty rate fell by another 15.7 percentage points to 3.7 percent. The pace of poverty reduction was no faster after the War on Poverty was declared than before, even when applying a consistent initial poverty rate to compare trends in each period. Under this alternative approach, poverty fell from 19.5 percent to 5.8 percent in the 24-year period from 1939-1963, compared to a reduction from 19.5 percent to 7.8 percent in the 24-year period from 1963-1987.

Absolute poverty reductions varied across subpopulations. Between 1939 and 1963, poverty fell from 84.1 percent to 50.6 percent among Black people—a 33.4 percentage point decline—and from 62.0 percent to 21.9 percent among children of any race—a 40.1 percentage point decline. These groups continued to experience poverty declines thereafter, and by 2023 poverty rates fell to 6.0 percent for Black people and 3.4 percent for children. Including the full market value of health insurance in our income measure only slightly changes the reduction in poverty prior to

[3] Until 1988, the only race options in the CPS ASEC were “Black”, “White” and “Other”, when other groups including American Indians and Asians were added. Because it is unclear whether such individuals reported being “White” or “Other” prior to 1988, we focus on the two major categories of Black and non-Black to maintain consistency across racial groups over time.

the War on Poverty, reflecting the lack of Medicaid and Medicare coverage during that period, though it has a larger effect on reducing poverty afterward with the full population poverty rate falling to 1.6 percent by 2023.

While absolute poverty fell substantially from 1939–2023, progress in reducing relative poverty was much slower. Under our relative measure, we increase thresholds annually in proportion to nominal median income, which grew more quickly than inflation during our study period and thus leads to a poverty threshold that increases in real terms over time. Relative poverty fell from 25.4 percent in 1939 to 19.5 percent in 1963, before rising to 20.8 percent in 2023.

We also assess the extent to which reductions in absolute poverty were attributed to increases in market income as opposed to government transfers, and whether individuals have become more dependent on government transfers throughout our study period. How poverty would be reduced was a key concern of President Johnson, who stated that the War on Poverty "is not a struggle simply to support people, to make them dependent on the generosity of others," but rather, "an effort to allow them to develop and use their capacities…so that they can share…in the promise of this nation" (Johnson 1964). Contemporary critics of the War on Poverty have suggested that Johnson's vision did not prevail, arguing that poverty had already been falling before the advent of the modern safety net, and that poverty reductions afterward were achieved more through increased government transfers which led to rising dependency (Sowell 1996; Thernstrom and Thernstrom 1997; Sheffield and Rector 2014; Riley 2025).

Using the Decennial Censuses corresponding to 1939, 1949 and 1959, as well as the CPS ASEC corresponding to 1967–2023, we assess whether increases in market income alone were sufficient to lift each person above the same thresholds as those used to assess post-tax post-transfer poverty. From 1939–1959, market income poverty fell by 39.1 percentage points among all children, and by 23.5 percentage points among all working age adults, accounting for the entire decline in post-tax post transfer poverty for these groups over the same period. These market income poverty declines were even larger for Black children (32.0 percentage points) and Black working age adults (36.1 percentage points). In contrast, between 1967 and 1993, market income poverty was mostly stagnant for children and working age adults regardless of race, before declining sharply through the rest of the 1990s during welfare reform, with the largest

drop (an 18.4 percentage point decline from 1993–2000) experienced by Black children, and then falling again during the extended recovery from the Great Recession.

We also measure dependency, which following Burkhauser et al. (2024) is defined as receiving less than half of household income from market sources. This measure informs whether individuals have become more reliant over time on government transfers for the majority of their income. Among working-age adults, dependency ranged from 1.6 to 2.9 percent between 1939 and 1959. In contrast, dependency in this group increased substantially following the declaration of the War on Poverty and ranged from 6.8 percent to 11.3 percent between 1972 and 2023, with the exception of 2020 and 2021 when it reached as high as 15.2 percent. Dependency among Black working-age adults peaked at 5.7 percent prior to the War on Poverty, and 21.9 percent afterward, not counting 2020–2021 when it reached as high as 26.6 percent.

Taken together, our results show that poverty fell substantially prior to the War on Poverty, and this progress was primarily made through increases in market income, without a substantial rise in the dependency of the working age population and their children on government transfers for the majority of their resources. Poverty continued to fall after the War on Poverty was declared, but progress only continued due to the increasing generosity of transfers as market income poverty and dependency began to rise. It was not until welfare reform during the 1990s and the recovery from the Great Recession that poverty and dependency fell at the same time. These trends were particularly stark for Black people, who experienced a steep decline in poverty primarily driven by an increase in their market income before the War on Poverty and a large rise in dependency after it was declared, validating the claims of authors such as Thomas Sowell.

At the same time, our results cannot establish whether poverty would have fallen after 1963 even if the War on Poverty had not been declared. Growth in market incomes could still have stagnated from the late 1960s through the early 1990s due to slowed economic growth when compared to the stronger post-war growth of the 1940s and 1950s. Our results nonetheless provide important historical context to the success of the War on Poverty—poverty was already falling substantially in the absence of the modern social safety net.

Methodologically, our paper builds on research that constructs consistent and comprehensive measures of income by extending these measures back to 1939. Burkhauser et al. (2024) created

an absolute full-income poverty measure beginning in 1963 to evaluate progress in the War on Poverty, and related research assessed trends in the distribution of full income, each primarily relying on the CPS ASEC and a similar set of imputations (Elwell et al. 2020; Corinth and Larrimore 2024). Others have assessed historical trends in poverty since the 1960s using alternative measures (Meyer and Sullivan 2012; Fox et al. 2015; Wimer et al. 2016). The additional imputations and processing steps required to create a full-income measure in the 1940 and 1950 Decennial Censuses has precluded previous studies from evaluating poverty trends in the decades before the War on Poverty.

Other research has incorporated data from the 1940, 1950 and 1960 Decennial Censuses, but without the comprehensive set of imputations we perform to create our income measure. Chetty et al. (2017) in their analysis of intergenerational mobility trends do not impute cash or in-kind transfers in these years and do not fully address the unique design aspects of the 1950 Decennial Census that determine market income of households. We build on their work by imputing cash and in-kind transfers in these Decennial Censuses, and by relying on a 1958 volume published by the National Bureau of Economic Research to account for the unique design aspects of the 1950 Decennial Census (National Bureau of Economic Research 1958). Collins and Wanamaker (2022) incorporate the 1940 and 1960 (but not the 1950) Decennial Censuses in their analysis of intergenerational mobility since 1880, by race. Although they do not impute transfers given their focus on market income, they recognized the importance of perquisites—in-kind compensation typically in the form of room and board to farmers, farm laborers, and farm managers—and imputed this source of income to individuals in the 1940 and 1960 Decennial Census. Our paper incorporates their method of imputing perquisites and extends it to 1950 to ensure a more complete measure of market income.

Our paper proceeds as follows. Section II describes our data and imputations, along with our approach for constructing poverty and dependency trends. Section III presents the results, including trends in poverty based on post-tax post-transfer income and market income, as well as dependency. Section IV discusses our major findings. Section V concludes.

II. Data and Methodology

Our primary datasets are the CPS ASEC corresponding to reference years 1963–2023 (Flood et al. 2025), and the Decennial Census corresponding to reference years 1939, 1949, and 1959 (Ruggles et al. 2025), in each case relying on the datasets processed and synthesized by IPUMS. The CPS ASEC is a nationally representative survey of U.S. households that asks a variety of questions related to income, demographics, employment and other characteristics. Due to its relative historical consistency and large set of questions related to income, the CPS ASEC is used by the Census Bureau to report official poverty and income trends (Shrider and Bijou 2025; Kollar and Scherer 2025), as well as by researchers seeking to create related measures. Income questions have changed, and in general, increased in scope over time. The CPS ASEC does not capture in-kind transfers or health insurance prior to 1979. Federal and state income taxes and payroll taxes must be imputed on the basis of survey reported income values.

We follow Burkhauser et al. (2024) in their approach to imputing in-kind transfers and the value of health insurance for 1963–2023, as well as using NBER TAXSIM Version 35 to impute federal payroll taxes and federal and state income taxes in all years (see Feenberg and Coutts 1993).[4] Our series that include health insurance include the employer paid premiums for those with employer provided health insurance, and the full market value for those covered by public health insurance, which is calculated as the mean government cost of either Medicare or Medicaid among individuals in a given state and risk class. The risk classes for Medicaid include children, non-disabled working age adults, disabled working age adults, and the elderly. The risk classes for Medicare include the elderly and non-elderly (who are generally disabled). For years in which average per recipient costs are not contained in the CPS ASEC, we calculate them using aggregate data on spending and recipients in each risk class published by the Medicaid and CHIP Payment and Access Commission.[5]

The primary methodological contribution of this paper is the incorporation of the Decennial Censuses from 1940 through 1960, which pertain to reference years 1939, 1949, and 1959. As part of the Decennial Census that the U.S. Census Bureau conducts by law every 10 years, a

[4] NBER TAXSIM only has state tax rules beginning in 1977, and so we apply 1977 state tax law to all years prior. In sensitivity tests, we find that assigning zero state taxes prior to 1977 does not meaningfully change our results, reflecting the low level of state taxes in these years among our populations of interest.
[5] Years in which aggregate spending and recipient data are missing are linearly interpolated from non-missing years.

random, nationally representative sample of individuals is given the long form survey, a subsection that asks for more detailed information including questions about their income. Public use microdata samples of these data containing 1 percent or 5 percent of the U.S. population are publicly released.[6] The design of the long form survey and income questions asked varied across years. The 1940 Decennial Census contained only two income questions for each individual—their wage and salary income, and whether or not they received at least $50 of income from other sources. The 1950 Decennial Census contained more income questions for individuals, including wage and salary income, business and farm income, and other income. However, these questions were asked of only one person per household, referred to as the sample line person. When the sample line person was the head of the household, the individual was also asked the total pre-tax money income of all members of their family (excluding income received by household members not in the household head's family). The 1960 Decennial Census contained the same questions about wage and salary income, business and farm income, and other income. But unlike the 1950 Decennial Census, it asked these income questions for all individuals instead of only one individual per household.

Our creation of a post-tax, post-transfer income measure for 1939, 1949, and 1959 proceeds in a series of steps. First, we fill in missing sources of market income (described in detail in Appendix B). This includes imputing business, farm and other income in the 1940 Census based on information from the 1950 and 1960 Censuses, as well as imputing perquisites for farmers, farm laborers and farm managers in these years, following the approach from Collins and Wanamaker (2022). The 1950 Census requires additional imputations to ensure we capture the income from all household members. Since we rely on the total family income reported by the household head, we correct for underreporting of income relative to asking for the income of each individual, and since the response excludes income from individuals outside of the primary family, we impute the income from non-primary families within the household. Second, we manually impute taxes for each of the 1940, 1950 and 1960 Censuses, since NBER TAXSIM is not available for these years (see Appendix C for our imputation approach). Third, we impute in-kind transfers including school lunch and rental housing assistance as well as the employer paid premiums of employer provided health insurance, using administrative data on aggregate

[6] Since 2010, the American Community Survey which is fielded annually has taken the place of the long form survey.

recipients and spending as well as the self-reported characteristics of surveyed households (described in detail in Appendix D). Fourth, we impute cash transfers from both social insurance programs (Old Age, Survivors, and Disability Insurance and Unemployment Insurance) and means-tested programs (Aid to Dependent Children, and Public Assistance for the elderly, disabled, and blind as well as General Assistance). We rely on administrative aggregates for the total number of recipients and spending, and survey responses to determine individual receipt and amounts (see Appendix E for further details).

Using the combined Decennial Censuses and CPS ASEC with reference years 1939, 1949, 1959, and 1963–2023, we create a post-tax, post-transfer income measure, including the value of perquisites for farmers, farm laborers, and farm managers, and in some measures the value of health insurance. This includes cash transfers as well as in-kind transfers including SNAP, housing assistance, school meals, and the market value of Medicare and Medicaid when including the value of health insurance. We adjust for federal income taxes, state income taxes, and federal payroll taxes. We also create a market income measure, consisting of wages, salaries, self-employment income, farm income, retirement income excluding Social Security and Veterans benefits, pensions, interest, dividends, annuities, rent payments, child support received, and financial assistance from others. Our sharing unit is the household, and we adjust for different household sizes using a square root equivalence scale and use the individual as our unit of analysis.

We generally anchor our poverty measures to the OPM rate of 19.5 percent in 1963; that is, we set the poverty threshold equal to the 19.5^{th} percentile of equivalized income over all individuals. This provides a consistent baseline from which to evaluate trends in poverty across different measures. The advantage of anchoring to the 19.5 percent OPM rate in particular is that this was the approximate baseline President Lyndon Johnson set for assessing progress in his War on Poverty.[7] It thus provides an appropriate baseline for determining success of the war, as well as progress before it started.

[7] In a 1964 speech specifying the terms of his War on Poverty (Johnson 1964. p. 376), President Johnson stated: "…I have called for a national war on poverty. Our objective: total victory. There are millions of Americans—one fifth of our people—who have not shared in the abundance which has been granted to most of us, and on whom the gates of opportunity have been closed."

For our post-tax post-transfer and market income poverty measures that use an absolute standard, we update thresholds annually for inflation using the PCE price index, which is also used by the Congressional Budget Office to measure trends in the income distribution over time (Congressional Budget Office 2024). Compared to the Consumer Price Index – Urban Series (CPI-U), the inflation index used to update the official poverty thresholds, the PCE more completely adjusts for the ability of consumers to substitute between items when the price of one item rises. While the PCE has generally grown more slowly than the CPI-U, that has not always been the case, including from 1939–1963 when the PCE grew more quickly. Notably, the PCE has closely tracked the Chained CPI-U (C-CPI-U) since 2000, the first available year for the C-CPI-U. The Census Bureau uses the C-CPI-U to adjust for inflation in its historical median income series (Kollar and Scherer 2025).

We also report an alternative measure of poverty using a relative standard, which increases the threshold proportionally with nominal median income.[8] Relative poverty measures are common in European Union member countries. The poverty rate for both the absolute series and the relative series are by construction equal to 19.5 percent in 1963, which was the official poverty rate that year. The absolute series holds the real dollar value of the poverty threshold constant across all years, using the PCE price index. Following Burkhauser et al. (2024) our relative series maintains a constant ratio between the poverty threshold and median income across all years, equal to 0.56, the ratio of the 19.5th percentile to the 50th percentile of post-tax post-transfer income in 1963.

In addition to poverty, we report trends in dependency, defined as having household market income that is less than half of the household's post-tax post-transfer income. Thus, every individual in the household has the same dependency status. This follows the definition used by Burkhauser et al. (2024) to track dependency following the declaration of the War on Poverty. The contribution of this paper is to add the years 1939, 1949, and 1959 to the dependency series.

[8] Appendix Table A1 summarizes the methodological differences between the OPM and the absolute and relative post-tax post-transfer poverty measures.

III. Results

We first present results using post-tax post-transfer income, including absolute and relative poverty trends, absolute poverty trends by subpopulation, and shifts over time in the entire distribution of income. While our main results exclude the value of health insurance, we report results including the value of health insurance in the appendix. We then present results related to self-sufficiency, including poverty trends that incorporate market income only, and trends in dependency rates.

Absolute and relative poverty trends for the full population

Figure 1 reports the overall poverty rate from 1939 through 2023 on the basis of post-tax post-transfer income, excluding the value of health insurance. It reports both an absolute and relative measure, as well as the OPM for reference. Shading denotes NBER-based recession years.

Focusing first on the absolute series, the poverty rate fell from 48.5 percent in 1939 to 3.7 percent in 2023, a 44.7 percentage point reduction as reported in Table 1. When including health insurance as a resource, the poverty rate fell from 49.7 percent in 1939 to 1.6 percent in 2023 (see Appendix Figure A1 and Appendix Table A2). These represent reductions of 92 percent and 97 percent, respectively, over the 84-year period from 1939–2023. Looking separately at the periods before and after the War on Poverty was declared, declines are apparent in both periods. From 1939–1963, post-tax post-transfer poverty fell from 48.5 percent to 19.5 percent, a 29.0 percentage point decrease in the 24-year period prior to the War on Poverty. In the following 60-year period, it fell by another 15.7 percentage points to its 3.7 percent level in 2023, consistent with trends reported in Burkhauser et al. (2024) for the period 1963–2019. Figure 1 shows that the downward trends observed since the War on Poverty was declared were a continuation of the trend over the 24 years prior.

Next focusing on the relative series in Figure 1, the relative poverty rate decreased from 25.4 percent in 1939 to 20.8 percent in 2023. It decreased by 5.9 percentage points from 1939–1963, but increased by 1.4 percentage points from 1963–2023. The modest decline in relative poverty before the War on Poverty was declared in 1964 and the slight increase thereafter contrasts with the major decrease in absolute poverty. The reason for the difference is that the relative threshold is fixed in proportion to nominal median income, which has grown considerably faster than

inflation over time—real income growth measured at the median. Appendix Figure A2 reports how the growth since 1939 in the PCE price index has compared to the growth in nominal median income. By 2023, the PCE price index was 17.4 times its 1939 level, while nominal median income was 88.5 times its 1939 level. Because the relative threshold increases proportionally with nominal median income and the absolute threshold increases proportionally with the PCE price index, this explains why the absolute poverty rate fell much more than the relative poverty rate from 1939–2023. Despite the greater difficulty in showing progress with a relative threshold, relative poverty fell prior to the War on Poverty, even though the relative threshold grew 80 percent faster than the PCE price index from 1939–1963. In 1939, relative poverty was 25.4 percent, falling to 21.3 percent in 1949 and further to 20.0 percent in 1959, before reaching 19.5 percent in 1963. When including the value of health insurance, reported in Appendix Figure A1, the relative poverty rate falls by a similar amount prior to the War on Poverty, but then continues to fall afterward to 15.0 percent in 2023.

Absolute poverty trends by race and age

We next report absolute poverty trends by race and age in Figure 2, with changes over focal periods reported in Table 1. We consider two racial groups, Black and non-Black, and three separate age groups, 0–17 (children), 18–64 (working age adults), and 65 and over (the elderly). Across all ages, the poverty rate among Black people fell from 84.1 percent in 1939 to 50.6 percent in 1963, a 33.4 percentage point reduction in the 24 years prior to the War on Poverty. Then from 1963–2023, the Black poverty rate fell by another 44.6 percentage points to 6.0 percent. Across the full 84-year period, Black poverty fell by 78.1 percentage points.

The progress among Black children both before and after the War on Poverty was declared was even starker. From 1939–1963, Black child poverty fell from 93.3 percent to 58.5 percent, then fell further to 5.7 percent in 2023. Whereas in 1939 just 1 in 15 Black children lived above the poverty line, in 2023 just 1 in 18 Black children lived below it. Black working age adults also experienced a large reduction in their poverty rate prior to the War on Poverty, from 78.1 percent in 1939 to 48.3 percent in 1963, and then further to 5.4 percent by 2023. The poverty rate among elderly Black adults fell from 86.6 percent in 1939, to 64.1 percent in 1963, and to 9.6 percent in 2023. When including the value of health insurance, the post-War on Poverty reduction in

poverty for each age group is larger and reaches lower levels by 2023, as reported in Appendix Figure A3 and Appendix Table A2.

Among non-Black individuals of any age, the poverty rate fell from 44.6 percent in 1939 to 15.7 percent in 1963, a 29.0 percentage point decline before the War on Poverty. Their poverty rate fell to 3.4 percent as of 2023. Non-Black children experienced an even larger reduction in their poverty rate than Black children from 1939 to 1963, falling from 57.9 percent to 16.3 percent, a 41.6 percentage point decline. Non-Black child poverty fell further to 2.9 percent in 2023. Among children of any race, the poverty rate fell from 62.0 percent in 1939, to 21.9 percent in 1963, and to 3.4 percent in 2023—a 40.1 percentage point decline before the War on Poverty was declared, and an 18.5 percentage point decline afterward. The poverty rate among non-Black working age adults and the non-Black elderly fell by 33.9 and 51.0 percentage points, respectively, over the entire 1939–2023 period, with declines experienced both before and after the War on Poverty was declared.

Crosswalk from official poverty measure to post-tax post-transfer poverty measure

The post-tax post-transfer poverty trends we report in Figure 1 differ from trends in the official poverty measure (OPM). The official poverty rate was 22.4 percent in 1959, 19.5 percent in 1963, 11.1 percent in 1973, and still 11.1 percent a half century later in 2023. The official poverty rate is not available prior to 1959, and so we calculate a "constructed OPM" using the Decennial Census in 1939 and 1949 based on the same pre-tax money income concept, using the family as the sharing unit and the person as the unit of analysis, and the CPI-U to adjust thresholds for inflation (see Appendix Table A1 for a description of the key methodological differences between the OPM and the post-tax post-transfer poverty measures we focus on). As reported in Panel A of Figure 3, we calculate that the poverty rate according to our constructed OPM was 56.1 percent in 1939 and 32.3 percent in 1949. We calculate a 22.0 percent poverty rate in 1959 using the Decennial Census, close to the 22.4 percent official poverty rate that year, helping to validate our calculations. From 1963 to 2023, our CPS ASEC based constructed OPM is also very similar to the official poverty rates reported by the Census Bureau.[9] The trend in the

[9] An exception is 2020 and 2021, when our created poverty series is over 1 percentage point lower than the official poverty rate. This is a result of our correction for underreporting of Unemployment Insurance during those years based on Larrimore et al. (2023).

constructed OPM—a major decline prior to the declaration of the War on Poverty and stagnation for most of the period afterward—contrasts with the post-tax post-transfer measure of poverty we reported in Figure 1, which showed a decline in both periods.

In order to determine the factors that drive the difference in trends, in Panel B of Figure 3 we provide a crosswalk from our constructed OPM for the 1939–2023 period to our post-tax post-transfer poverty measure, with the values and changes over specific years reported in Table 2. Our iterative steps include switching to the PCE price index for updating poverty thresholds (series 2), including the value of perquisites (series 3), switching from the family to the household sharing unit (series 4), adjusting for taxes (series 5), and including non-medical in-kind transfers (series 6). We also show a final step in which we include the market value of health insurance (series 7). Each poverty measure is anchored to the OPM rate in 1963, and thus, by construction has a 19.5 percent poverty rate that year.

In aggregate, moving from the constructed OPM to the post-tax post-transfer poverty measure has a relatively modest effect on the poverty trend prior to the War on Poverty. Between 1939 and 1963, the poverty rate fell by 36.6 percentage points on the basis of our constructed OPM, by 29.0 percentage points on the basis of our post-tax post-transfer measure, and by 30.2 percentage points when further including the value of health insurance. Taking each step individually, switching from the CPI-U to the PCE price index mutes the 36.6 percentage point poverty rate reduction from 1939–1963 under the official measure by 2.2 percentage points (to 34.4 percentage points), because the PCE price index grew faster than the CPI-U over this time period, leading to a steeper increase in the poverty threshold and making it more difficult to escape poverty. The poverty rate reduction from 1939–1963 is shrunk further by 2.2 percentage points (to 32.2 percentage points) when adding perquisites, shrinks by 1.1 percentage point (to 31.1 percentage points) when switching to the household sharing unit, shrinks by 2.2 percentage points (to 28.9 percentage points) when adjusting for taxes, grows by 0.1 percentage point (to 29.0 percentage points) when including non-medical in-kind transfers, and grows by 1.2 percentage points (to 30.2 percentage points) when including the value of health insurance. Whether a given step shrinks or grows the poverty rate reduction from 1939–1963 depends on whether the step increases resources more in 1939 or in 1963 among individuals near the poverty threshold. For example, the fact that including health insurance increases the poverty rate

reduction implies that health insurance did more to lift individuals above the poverty threshold in 1963 than in 1939.

The effect of moving from the constructed OPM to the post-tax post-transfer poverty measure is larger after the War on Poverty was declared. While the effect is smaller in percentage point terms, it is larger in percent terms relative to the much lower baseline poverty rate of 19.5 percent in 1963 compared to the 1939 constructed OPM rate of 56.1 percent used to evaluate 1939–1963 trends. Between 1963 and 2023, the poverty rate fell by 8.2 percentage points on the basis of our constructed OPM, compared to 15.7 percentage points on the basis of our post-tax post-transfer poverty measure, and 17.8 percentage points when adding health insurance as well. The 8.2 percentage point reduction in our constructed official poverty rate between 1963–2023 grows by 3.4 percentage points (to 11.6 percentage points) when using the PCE price index instead of the CPI-U to adjust thresholds, is unaffected by perquisites, grows by 1.6 percentage points (to 13.2 percent) when switching to the household sharing unit, grows by 1.2 percentage points (to 14.5 percent) when adjusting for taxes, grows by 1.3 percentage points (to 15.7 percent) when including non-medical in-kind transfers, and grows by 2.1 percentage points (to 17.8 percentage points) when including the value of health insurance.

Over the entire 1939–2023 period, the constructed OPM fell by 44.8 percentage points, to a 2023 rate of 11.3 percent. Our post-tax post-transfer poverty measure (excluding health insurance) fell by a similar 44.7 percentage points, though it starts with a lower baseline rate in 1939 and falls to 3.7 percent in 2023. The most consequential step affecting the percentage point reduction in poverty across these two measures is the inclusion of perquisites, which shrinks the poverty rate reduction by 2.2 percentage points. But the most consequential step affecting the 2023 poverty rate level is the switch from the CPI-U to the PCE, whose contribution to the 1939–2023 change in poverty is muted by the faster growth of the PCE than the CPI-U from 1939–1963, in contrast to its slower growth from 1963–2023. Including health insurance has important effects both on the 1939–2023 change in poverty and the 2023 poverty rate level, since health insurance became an increasingly large resource over time.

The ordering of changes in the crosswalk from the constructed OPM to our post-tax post-transfer poverty measure could affect their relative importance. As a robustness check, we report in Appendix Table A3 how changing only one methodological choice at a time, relative to a

baseline of our preferred post-tax post-transfer poverty measure, would affect poverty rates and changes. As in our crosswalk, the most important methodological choices in the 1939–1963 period are the inclusion of perquisites, adjusting for taxes, and the PCE inflation measure, since individually reversing any of these choices has the largest effect on the change in poverty. The PCE inflation measure and exclusion of health insurance are the most important choices in the 1963–2023 period, again matching the qualitative results from the crosswalk. After health insurance, the inclusion of perquisites has the largest effect on the poverty trend over the entire 1939–2023 period.

Alternative baseline thresholds

To this point we have maintained a 19.5 percent baseline poverty rate in 1963 in order to provide a consistent comparison of all poverty measures, and to reflect the political judgement of President Johnson in measuring progress relative to his chosen baseline before and after his War on Poverty. But from a scientific perspective, poverty thresholds are arbitrary, and other baselines can be informative. For example, to compare progress in reducing poverty from 1939–1963 to progress from 1963–2023, we have thus far used the same real dollar value threshold to determine the 1939 baseline poverty rate and the 1963 baseline poverty rate. However, the baseline poverty rate in 1939 (48.5 percent) was much higher than the baseline poverty rate in 1963 (19.5 percent) using this same real dollar value threshold. So movement out of poverty from 1939–1963 came via increases in the income of those people who in those years were higher up in the distribution of people based on their income than was the case in the 1963–2023 period where it only came from the 19.5 percent of people with income still below the threshold. An alternative comparison that assesses progress at the same part of the distribution would set the baseline poverty rate at the same level for the initial year in each period, 1939 for the earlier period and 1963 for the later period.

In Table 3, we compare progress in reducing poverty in the 24-year period 1939–1963 to progress in the 24-year period 1963–1987, in which the initial poverty rate for both time periods is 19.5 percent. Relative to a 19.5 percent poverty rate baseline in 1939, the poverty rate fell to 5.8 percent 24 years later in 1963. Relative to a 19.5 percent poverty rate baseline in 1963, the poverty rate fell to 7.8 percent 24 years later in 1987. Thus, poverty fell faster in the 24 years before the War on Poverty was declared (by 13.6 percentage points) than the 24 years afterward

(by 11.6 percentage points), when assessed using a consistent initial poverty rate.[10] Table 3 also reports progress in reducing poverty using alternative anchor years in which the baseline poverty rate was fixed at 19.5 percent. Anchor years include 1939, 1949, 1959, 1963, 1973, 1983, 1993, 2003, 2013, and 2023. Poverty declines were smaller for all 24-year periods that began after the War on Poverty was declared (1963, 1973, 1983 and 1993) than the 24-year poverty decline from 1939–1963.

The idea to occasionally reset the poverty line to reflect economic growth over time was suggested by Robert Lampman in his book, *Ends and Means of Reducing Income Poverty* (Lampman 1971). Lampman previously served as a senior economist on President Johnsons Council of Economic Advisers and authored the chapter of the 1964 Economic Report of the President that laid out the terms of the War on Poverty, establishing a 20 percent baseline poverty rate and an absolute standard that held constant the poverty threshold in real terms (Council of Economic Advisers 1964). While Lampman preferred absolute measures, he understood that increases in income across the distribution would in time make the goals set by previous generations less relevant for new generations.[11] Figure 4 reports absolute poverty trends for separate 20-year periods, in which the poverty rate is reset to 19.5 percent in the initial year of each period. The 20-year periods include 1939–1959, 1963–1983, 1983–2003, and 2003–2023. Across these four periods, poverty fell the most in the pre-War on Poverty period from 1939–1959.[12] However, yearly poverty rates are susceptible to changes in general economic conditions. In Figure 4 we denote recession years in grey. None of the four 20-year periods we examine begin or end in a recession year, but the 1939-1959 and 1963-1983 periods each end only one year after a recession, and the 1983-2003 and 2003-2023 periods end two or three years after a recession.

[10] When including health insurance as a resource, the poverty rate falls slightly faster in the 24 years after the War on Poverty was declared (by 14.5 percentage points) than the 24 years before (by 14.0 percentage points), as reported in Appendix Table A4.

[11] He states (Lampman 1971, p. 53): "While income poverty is a relative matter, I do not think we should engage in frequent changes of the poverty lines, other than to adjust for price change. As I see it, the elimination of income poverty is usefully thought of as a one-time operation in pursuit of a goal unique to this generation. That goal should be achieved before 1980, at which time the next generation will have set new economic and social goals, perhaps including a new distributional goal for themselves."

[12] See Appendix Figure A4 for an equivalent figure that includes the market value of health insurance.

Figure 5 extends the absolute poverty series in Figure 4 so that each series encompasses the entire 1939–2023 period. For example, the 1939–1959 series from Figure 4, in which the 1939 poverty rate is anchored to 19.5 percent, is extended to include 1963–2023 using the same threshold that produced a 19.5 percent poverty rate in 1939. Similarly, the next series is anchored to a 19.5 percent poverty rate in 1963, showing how poverty evolved from 1939 through 2023 using that same real threshold. Figure 5 also includes a new series not represented in Figure 4, which is anchored to a 19.5 percent poverty rate in 2023 and extended backward to show how poverty evolved over the previous 84 years on the basis of a modern standard under which about one fifth of the population is classified as poor in 2023. According to this measure, the absolute poverty rate fell from 84.9 percent in 1939 to 19.5 percent in 2023. Across each anchor year, poverty declined from 1939–2023, with generally larger percentage point decreases for later anchor years. This figure shows that regardless of the anchor year chosen, and more generally regardless of where the poverty threshold is set, absolute poverty fell substantially both before and after the War on Poverty was declared.[13]

It is also notable that under each anchor year, the poverty rate temporarily dropped in 2020 and 2021. Applying a 2023 anchor year, the poverty rate fell from 20.7 percent in 2019 to 13.8 percent in 2020 and 13.2 percent in 2021, then back up to 20.4 percent in 2022. The 2021 poverty rates are historical lows for the post-tax post-transfer poverty measure under all anchor years. These poverty reductions occurred during the COVID-19 pandemic, and are consistent with other research finding poverty reductions in these years due to the public policy response to the pandemic, especially expanded unemployment insurance, Economic Impacts Payments, and the expanded Child Tax Credit (Creamer et al. 2022; Larrimore et al. 2023; Meyer et al. 2024).

Growth in real post-tax post-transfer income across distribution

Changes in absolute poverty are directly related to changes in real income among individuals near the poverty threshold. As the income distribution shifts outward, poverty tends to fall because fewer individuals have income below a given threshold. Figure 6 shows how the entire distribution shifted outward from 1939 to 1963 to 2023.[14] The constant poverty threshold (under the 1963 anchor year) is $11,469 in 2023 dollars for an individual (or $22,937 for a household of

[13] See Appendix Figure A5 for an equivalent figure that includes the market value of health insurance.
[14] See Appendix Figure A6 for an equivalent figure that includes the market value of health insurance.

four). Whereas in 1939, the median individual had a post-tax post-transfer household size-adjusted income ($11,550) only slightly above the poverty threshold, by 2023 median income had grown to $49,169 and just 3.7 percent of the population still had incomes below the constant poverty threshold. Real median income grew by 76 percent from 1939–1963, and by 142 percent from 1963–2023. Since the poverty line is held fixed in real dollars, the share of the population below this threshold falls. Given the extent of real income growth across the distribution that has occurred over the past 84 years, including the 24 years before the War on Poverty was declared and the 60 years afterward, it should not be surprising that poverty fell dramatically in each period.[15]

Market income poverty

While a post-tax post-transfer income measure reflects the resources available for consumption among individuals, a market income measure reflects the income received when excluding government transfers and taxes. Whether growth in market income has enabled individuals to increasingly rise above the poverty line helps determine whether the reduction in poverty has been achieved through increased self-sufficiency rather than increased dependency, as President Johnson hoped at the outset of the War on Poverty.

Table 4 compares progress in reducing market income poverty to progress in reducing post-tax post-transfer poverty, both before and after the War on Poverty was declared. Because we cannot fully separate market income from government income in 1963–1966, we focus our comparisons on the periods 1939–1959 and 1967–2023. The market income poverty rates for all years use the same dollar value thresholds as we used for the post-tax post-transfer poverty measure anchored to the 1963 official poverty rate. This allows us to determine whether market income alone was sufficient for individuals to rise above a consistent set of thresholds.[16]

[15] Income growth for each available year from 1939 to 2023 is reported in Appendix Figure A7, via selected percentiles of the real median post-tax post-transfer income distribution. Appendix Figure A8 reports the same series but including the value of health insurance.

[16] Thus, unlike previous poverty measures we report that are anchored to the 1963 official poverty rate, the 1963 market income poverty rate would not necessarily be 19.5 percent. We do not report the market income poverty rate in 1963–1966 because the relevant CPS ASEC income questions mix market and government income. In these years, a single variable includes all sources of income aside from wages, salary, self-employment income, and farm income.

For the full population in 1939, the market income poverty rate was 48.6 percent, almost identical to the 48.5 percent post-tax post-transfer poverty rate. By 1959, the market income poverty rate fell to 22.5 percent, only modestly higher than the 21.2 percent post-tax post-transfer poverty rate, reflecting the relatively modest amount of transfers received by lower income individuals relative to taxes paid. The 26.1 percentage point decline in market income poverty from 1939–1959 was only slightly smaller than the 27.3 percentage point decline in post-tax post-transfer poverty over the same period. After the War on Poverty was declared, from 1967–2023, market income poverty decreased by just 3.9 percentage points, at the same time that post-tax post-transfer poverty fell by 10.0 percentage points. Thus, while market income poverty fell to approximately the same rate in 1959 as post-tax post-transfer poverty, by 2023 market income poverty was substantially higher, 14.0 percent compared to the post-tax post-transfer poverty rate of 3.7 percent.

The same basic pattern holds for children and working age adults of each race: From 1939–1959, market income poverty fell by a large amount and accounts for almost the entire decline in post-tax post-transfer poverty over this early period. Then from 1967–2023, the decline in market income poverty slowed and accounts for a smaller amount of the decline in post-tax post-transfer poverty over this later period. Trends in market income poverty for the elderly were qualitatively different, falling by 4.9 percentage points from 1939–1959, and then by a much larger 23.3 percentage points from 1967–2023. The expansion of Social Security played an important role in reducing post-tax post-transfer poverty for the elderly in both periods.

Figure 7 expands on the results in Table 4 by reporting market income poverty rates for all years, illustrating notable variation within the post-War on Poverty period. For the full population, market income poverty stagnated starting by 1967 and ultimately increased by 2.1 percentage points up to a peak of 20.0 percent in 1993. Then from 1993–2000, in conjunction with welfare reform and the strong economy of the 1990s, market income poverty fell by 5.5 percentage points and reached 14.5 percent in 2000. Market income poverty then stalled again before increasing in conjunction with the Great Recession, rising to a peak of 18.6 percent in 2010. As the economy recovered, market income poverty fell once again and reached 14.1 percent in 2019. After a spike in market income poverty in conjunction with the COVID-19 pandemic, it fell back to 14.0 percent by 2023.

The decline in market income poverty during the 1990s welfare reform period was especially stark for Black children, falling by 18.4 percentage points from 1993–2000 after remaining stagnant from 1967–1993. While market income poverty also fell among all working age adults from 1993–2000, it fell the most among Black working age adults, by 10.5 percentage points. Market income poverty among children and working age adults fell again during the recovery from the Great Recession, though by a smaller amount than during the welfare reform period in the 1990s.

Dependency

We lastly report trends in dependency, applying the definition in Burkhauser et al. (2024) that an individual is dependent if less than half of their household income is from market sources. Trends in dependency by race and age are reported in Figure 8 (with changes over focal periods reported in Table 5).

As seen in Figure 8, the dependency rate among working age adults decreased from 2.9 percent in 1939 to 2.7 percent in 1959. It reached 4.7 percent by 1967 and increased to a local peak of 9.5 percent in 1993. The working age dependency rate then fell to 6.8 percent in 2000, consistent with the previously reported decrease in market income poverty over this period. It rose to 11.3 percent in 2010, before falling to 8.1 percent by 2019 in conjunction with the recovery from the Great Recession, and fell further to 7.6 percent in 2023 after spiking during the COVID-19 pandemic.

Ultimately, dependency among working age adults remained at low rates prior to the War on Poverty consistent with less generous transfers, but it increased after the War on Poverty was declared and remained at substantially higher levels as government transfers increased. The trend for Black working age adults followed the same qualitative patterns, with higher levels of dependency in all years. Black working age dependency never exceeded 5.7 percent in 1939–1959, peaked at 21.1 percent in 2010 (excluding 2020 and 2021), and fell to 13.3 percent as of 2023.

Dependency among children was also relatively low before the War on Poverty was declared, falling from 5.3 percent in 1939 to 4.3 percent in 1959. From 1967–2023, child dependency increased from 5.8 percent to 8.1 percent, with a large decrease from 1993–2000, especially

among Black children whose dependency rate fell by 17.0 percentage points (from 36.3 percent to 19.4 percent) during this 7-year period consistent with the previously reported decline in market income poverty during welfare reform. Dependency among the elderly follows a qualitatively different pattern, increasing substantially from 1949 through the early 1970s as elderly adults began receiving Social Security retirement income and the value of these benefits increased in real terms. Their dependency rate in 2023 was 45.1 percent. But unlike working age adults whose dependency may arise from receipt of means tested benefits, the dependency of the elderly is primarily from social insurance benefits that are related to their past contributions during their working years.

IV. Discussion

Previous research has established that poverty, when more fully accounting for taxes and transfers, fell substantially since the War on Poverty began. We affirm those results, finding that from 1963–2023, absolute poverty fell from 19.5 percent to 3.7 percent using a post-tax post-transfer income measure, and even further to 1.6 percent when including health insurance. The major innovation of this paper is to extend a comprehensive and consistent measure of poverty back to 1939, exploiting a quarter century of data before the War on Poverty began. From 1939–1963, absolute poverty fell from 48.5 percent to 19.5 percent, a 29.0 percentage point reduction. This pre-war progress provides important context for previously documented success in reducing poverty afterwards, since it occurred before the major expansion of safety net programs like SNAP, Medicaid, and refundable tax credits. During that 1939–1963 period, it was the growth of market income rather than government transfers net of taxes that reduced poverty rates. In fact, poverty fell no faster in the 24 years after the War on Poverty was declared than in the 24 years before, even when applying the same initial poverty rate to both periods.

Our results do not imply that poverty would have necessarily continued to fall at the same or faster pace after 1963 in the absence of the War on Poverty. A pre versus post comparison is conflated by contemporaneous macroeconomic and social changes, such as slower economic growth in the post-1963 period. Any attempt to control for these factors would be challenged by the endogenous nature of the expanding safety net. Conversely, any claim that the War on Poverty was necessary for poverty to decline should be accompanied by an attempt to understand why it had already been falling in the quarter century before it was declared.

While poverty fell both before and after the War on Poverty was declared, the mode by which individuals escaped poverty differed. The poverty decline in the quarter century before the War on Poverty was attributed almost entirely to increases in market income, with market income poverty falling by 26.1 percentage points from 1939–1959. In contrast, market income poverty fell by just 3.1 percentage points from 1967–2023, at the same time that post-tax post-transfer poverty fell by 10.0 percentage points. This latter result, that post-tax post-transfer income poverty has fallen much more quickly than market income poverty since the War on Poverty was declared, has been documented in previous research (Council of Economic Advisers 2014; Wimer et al. 2016).

The difference between the market income poverty rate and the post-tax post-transfer income poverty rate has been used in previous analyses as an indication of the importance of transfers for reducing poverty. For example, the Census Bureau in its annual poverty report estimates the poverty-reducing impact of specific transfers by calculating the poverty rate with and without their inclusion as a resource (Shrider and Bijou 2025). Our finding that poverty fell substantially due to increases in market income in the quarter century before the War on Poverty shows that poverty can fall dramatically for reasons outside of a major expansion of the social safety net, specifically economic growth that shifts out the entire income distribution. And while a comparison of trends before and after the War on Poverty should not be used to assess the causal effect of safety net programs on poverty, analysts should at the same time exercise caution in interpreting the mechanical difference between market income poverty and post-tax post-transfer poverty as a causal effect of tax and transfer policies.

A consequence of relatively slower progress in decreasing market income poverty relative to post-tax post-transfer poverty is that dependence on government transfers has grown over time. Before the War on Poverty, dependence rates among working age adults remained below 3.0 percent. As of 2023, their dependence rate was 7.6 percent, and among Black working age adults it was 13.3 percent. Thus, as post-tax post-transfer poverty continued to fall even as market income poverty fell more slowly, the consequence was increased dependency on government sources of income for working age adults and their children, counter to President Johnson's stated desire to reduce poverty by increasing self-reliance.

Aside from providing historical context for evaluating progress during the War on Poverty, our results offer the longest post-tax post-transfer poverty series for the United States, covering 84 years from 1939 to 2023. Regardless of the baseline poverty rate we assume for 1939, by 2023 the poverty rate fell by more than three fourths, and when including the value of health insurance it fell by up to 97 percent. The most dramatic poverty reductions were experienced by Black children, whose post-tax post-transfer income poverty rate fell from 93.3 percent in 1939 to 5.7 percent in 2023 (when the threshold is set at the 19.5th percentile of income in 1963). Just 1 in 15 Black children in the United States lived above the poverty line in 1939, while 84 years later in 2023, just 1 in 18 Black children lived below the poverty line. When including the value of health insurance, just 1 in 38 Black children lived below the poverty line in 2023. The extent of poverty reduction should not be surprising in light of the large outward shift in the entire distribution of income over the past 84 years, which was especially impactful for those with the lowest incomes in 1939.

Our ability to extend poverty trends substantially further back in time than previous research comes with tradeoffs. Our imputations depend on the reliability of aggregate data on program spending and recipients in historical periods, as well as relative stationarity in the relationships between individual characteristics and income sources and amounts when relying on survey reports from different years for imputations. Another caveat is that we rely on self-reported income information in surveys, in particular the Decennial Census and the CPS ASEC.

A large body of research has found a significant amount of misreporting of income in surveys, especially among sources important for tracking poverty, including earnings (Bollinger et al. 2019), transfers (Meyer et al. 2015), and taxes (Meyer et al. 2020). However, in general, incomes tend to be underreported, and underreporting has worsened over time, implying that poverty has likely fallen by more than poverty rates estimated on the basis of self-reported survey information suggest. Corinth et al. (2022) correct for survey misreporting using individually linked administrative data sources, and find that between 1995 and 2016, poverty fell substantially more when correcting for survey misreporting. For purposes of our paper, worsening underreporting would imply that poverty fell by even more over the 84-year period from 1939–2023 than we report. It is also possible that the bias was smaller in our pre-War on

Poverty trends, although this would not change the conclusion that poverty was already falling substantially before the War on Poverty was declared.

V. Conclusion

We create a post-tax post-transfer income measure using the Decennial Censuses that allows us to consistently evaluate poverty trends back to 1939, a quarter century before the War on Poverty was declared in 1964. We find that post-tax post-transfer poverty was falling well before the War on Poverty began and at no slower a rate than afterwards. Even more important from a policy standpoint, this pre-War on Poverty decline was driven almost completely by increases in market income. Dependency on government transfers remained low before the War on Poverty but grew to higher levels thereafter. Our results provide historical context to the widely recognized declining poverty trend after the War on Poverty was declared. At least from 1939–1963, a greatly expanded safety net was not necessary to achieve a major reduction in poverty.

This outcome is consistent with the claims of Thomas Sowell, who argued that Black people in particular made economic strides before the War on Poverty was declared that were at least as great as afterward, and did so without major increases in dependency on government transfers. The most prominent exception to rising dependency during the War on Poverty came in the 1990s when tax and transfer programs were reformed to more strongly encourage work. During the welfare reform period, reductions in poverty were achieved largely via increases in market income, with the largest reductions in poverty experienced by Black children who were disproportionately affected by work-based welfare reform. As a whole, the evidence from our newly constructed data series over the past 84 years is consistent with Sowell's descriptive claims regarding trends in poverty and dependence in the United States: Poverty fell without substantially increasing dependence, especially for Black Americans, both in the period pre-dating the War on Poverty and when programs were reformed to mitigate or reverse their work disincentives.

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Tables

Table 1. Poverty rate levels and changes in selected years, post-tax post-transfer poverty measure, by race and age

	Poverty rate level			Poverty rate change (p.p.)		
	1939	1963	2023	1939-1963	1963-2023	1939-2023
All races	**48.5**	**19.5**	**3.7**	**-29.0**	**-15.7**	**-44.7**
0-17	62.0	21.9	3.4	-40.1	-18.5	-58.6
18-64	40.8	17.1	3.5	-23.7	-13.6	-37.3
65 and older	57.7	36.7	5.1	-21.0	-31.6	-52.6
Black	**84.1**	**50.6**	**6.0**	**-33.4**	**-44.6**	**-78.1**
0-17	93.3	58.5	5.7	-34.8	-52.8	-87.6
18-64	78.1	48.3	5.4	-29.8	-42.9	-72.7
65 and older	86.6	64.1	9.6	-22.5	-54.5	-77.0
Non-Black	**44.6**	**15.7**	**3.4**	**-29.0**	**-12.3**	**-41.3**
0-17	57.9	16.3	2.9	-41.6	-13.4	-54.9
18-64	37.0	13.3	3.2	-23.8	-10.1	-33.9
65 and older	55.5	34.3	4.6	-21.2	-29.7	-51.0

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Poverty measure uses a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. The poverty measure is anchored to the 19.5% official poverty rate in 1963 and the threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Table 2. Poverty rate levels and changes in selected years, crosswalk from official poverty measure to post-tax post-transfer poverty measure including health insurance

	Poverty rate level			Poverty rate change (p.p.)		
	1939	**1963**	**2023**	**1939-1963**	**1963-2023**	**1939-2023**
[0]: Official poverty measure	—	19.5	11.1	—	-8.4	—
[1]: Pre-tax money income, family sharing unit, CPI-U	56.1	19.5	11.3	-36.6	-8.2	-44.8
[2]: [1] + PCE price index	53.9	19.5	7.8	-34.4	-11.6	-46.1
[3]: [2] + perquisites	51.7	19.5	7.8	-32.2	-11.6	-43.8
[4]: [3] + household sharing unit	50.5	19.5	6.2	-31.1	-13.2	-44.3
[5]: [4] + post-tax	48.3	19.5	5.0	-28.9	-14.5	-43.3
[6]: [5] + in-kind transfers	48.5	19.5	3.7	-29.0	-15.7	-44.7
[7]: [6] + health insurance	49.7	19.5	1.6	-30.2	-17.8	-48.0

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Series [0] reports the official poverty rates published by the Census Bureau. Series [1] approximates the official poverty measure using the same income concept, sharing unit and inflation measure, but we calculate it using the individual level CPS ASEC and Decennial Census data, and we use a square root equivalence scale instead of the official measure's equivalence scale. The unit of analysis is the individual. Each poverty measure is anchored to the 19.5% official poverty rate in 1963.

Table 3. Poverty rate levels and changes in selected years, post-tax post-transfer poverty measure, by anchor year

	Poverty rate level, Number of years since anchor year				Poverty rate change (p.p.), Number of years since anchor year		
Anchor year	0	10	20	24	10	20	24
1939	19.5	11.3	7.7	5.8	-8.2	-11.7	-13.6
1949	19.5	13.7	6.6	4.8	-5.8	-12.9	-14.7
1959	19.5	10.6	6.2	8.5	-8.9	-13.3	-11.0
1963	19.5	9.0	9.7	7.8	-10.4	-9.7	-11.6
1973	19.5	22.2	18.5	14.5	2.7	-0.9	-5.0
1983	19.5	15.9	10.4	9.5	-3.6	-9.1	-10.0
1993	19.5	12.8	12.3	9.8	-6.7	-7.2	-9.6
2003	19.5	18.8	12.5	—	-0.7	-6.9	—
2013	19.5	12.9	—	—	-6.6	—	—
2023	19.5	—	—	—	—	—	—

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Poverty measure uses a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Each poverty measure is anchored to the 19.5% baseline poverty rate in the specified anchor year. The threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Table 4. Poverty rate levels and changes in selected years, market income and post-tax post-transfer income poverty measure, by race and age

	Poverty rate level				Poverty rate change (p.p.)		
	1939	**1959**	**1967**	**2023**	**1939-1959**	**1967-2023**	**1939-2023**
Panel A. Market income							
All races	**48.6**	**22.5**	**17.9**	**14.0**	**-26.1**	**-3.9**	**-34.5**
0-17	62.0	22.9	16.6	10.3	-39.1	-6.3	-51.7
18-64	40.9	17.3	11.8	9.1	-23.5	-2.7	-31.8
65 and older	58.2	53.3	58.6	35.3	-4.9	-23.3	-22.9
Black	**84.2**	**52.3**	**40.8**	**21.1**	**-32.0**	**-19.7**	**-63.2**
0-17	93.3	61.3	47.1	20.8	-32.0	-26.4	-72.5
18-64	78.3	42.2	30.8	15.2	-36.1	-15.6	-63.1
65 and older	87.1	71.6	72.6	48.7	-15.6	-23.9	-38.4
Non-Black	**44.7**	**19.0**	**15.1**	**12.9**	**-25.8**	**-2.1**	**-31.8**
0-17	57.9	17.4	11.7	8.4	-40.5	-3.3	-49.5
18-64	37.1	14.7	9.7	8.1	-22.5	-1.6	-29.0
65 and older	56.0	51.8	57.5	33.8	-4.2	-23.7	-22.2
Panel B. Post-tax post-transfer income							
All races	**48.5**	**21.2**	**13.7**	**3.7**	**-27.3**	**-10.0**	**-44.7**
0-17	62.0	22.8	14.8	3.4	-39.1	-11.4	-58.6
18-64	40.8	17.4	9.9	3.5	-23.4	-6.4	-37.3
65 and older	57.7	38.2	32.4	5.1	-19.5	-27.3	-52.6
Black	**84.1**	**52.3**	**37.2**	**6.0**	**-31.8**	**-31.2**	**-78.1**
0-17	93.3	61.2	43.8	5.7	-32.0	-38.1	-87.6
18-64	78.1	43.2	28.8	5.4	-34.9	-23.4	-72.7
65 and older	86.6	63.8	55.2	9.6	-22.8	-45.6	-77.0
Non-Black	**44.6**	**17.5**	**10.8**	**3.4**	**-27.1**	**-7.4**	**-41.3**
0-17	57.9	17.3	10.1	2.9	-40.6	-7.2	-54.9
18-64	37.0	14.6	7.8	3.2	-22.4	-4.6	-33.9
65 and older	55.5	36.1	30.5	4.6	-19.4	-26.0	-51.0

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Poverty measure in Panel A uses a market income definition (including farmer perquisites), excluding government transfers and not adjusting for taxes. The poverty measure in Panel B uses a post-tax post-transfer income measure. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. The 1963 poverty threshold is set at the 19.5th percentile of the post-tax post-transfer income distribution in 1963, and the threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

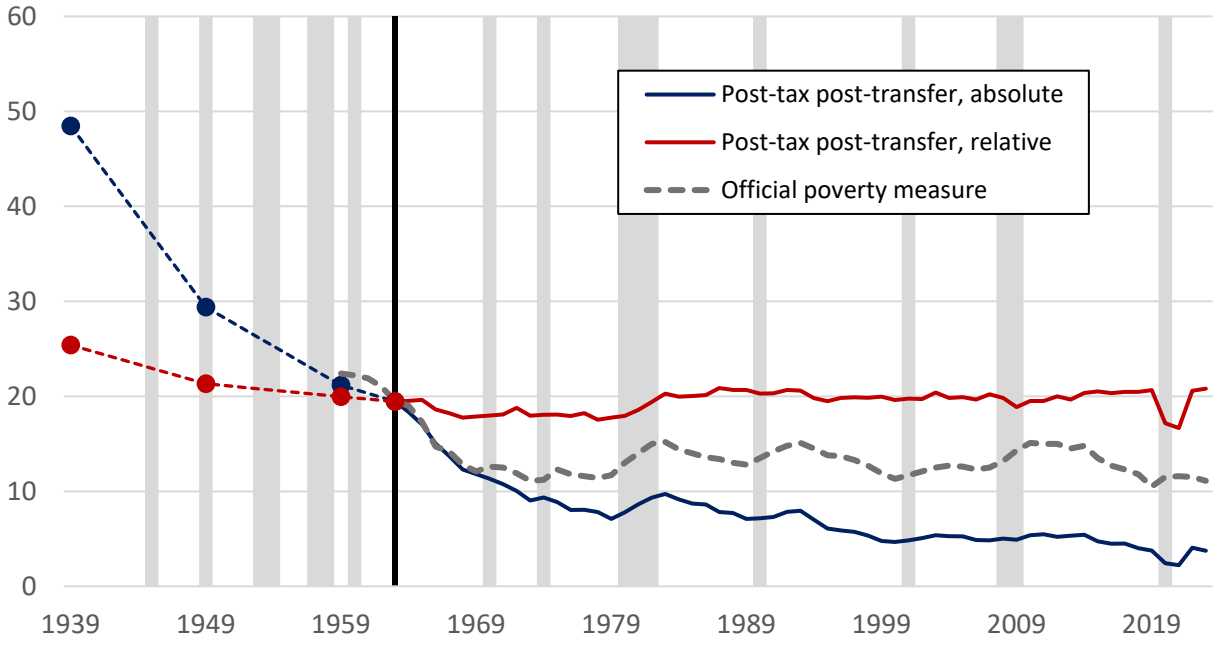
Table 5. Dependency rate levels and changes in selected years, by race and age

	Dependency rate level				Dependency rate change (p.p.)		
	1939	**1959**	**1967**	**2023**	**1939-1959**	**1967-2023**	**1939-2023**
All races	**4.5**	**6.3**	**9.3**	**14.4**	**1.8**	**5.1**	**9.9**
0-17	5.3	4.3	5.8	8.1	-1.0	2.2	2.8
18-64	2.9	2.7	4.7	7.6	-0.2	3.0	4.7
65 and older	16.1	37.4	50.2	45.1	21.3	-5.1	29.0
Black	**5.8**	**10.7**	**16.9**	**19.6**	**4.8**	**2.7**	**13.7**
0-17	7.7	11.7	17.8	17.9	4.0	0.1	10.2
18-64	3.7	5.7	10.6	13.3	2.0	2.7	9.6
65 and older	17.3	43.8	58.8	51.7	26.5	-7.1	34.3
Non-Black	**4.4**	**5.8**	**8.4**	**13.6**	**1.4**	**5.2**	**9.2**
0-17	4.4	5.8	3.9	6.2	1.4	2.4	1.9
18-64	2.8	2.4	4.0	6.7	-0.5	2.7	3.9
65 and older	16.0	37.0	49.5	44.4	20.9	-5.2	28.4

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: An individual is defined as dependent if the ratio of their household market income to their household post-tax post-transfer income is less than 0.5. Both market income and post-tax post-transfer income include perquisites and exclude health insurance. The dependency rate is the share of individuals defined as dependent in a given year.

Figures

Figure 1. Percent of population in poverty using post-tax post-transfer income, absolute and relative standard, and official poverty measure, 1939-2023



Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Black vertical line denotes baseline for President Lyndon Johnson's War on Poverty in 1963. Except for the official poverty measure, poverty series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Absolute and relative poverty measures are anchored to the 19.5% official poverty rate in 1963. Absolute threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index. Relative threshold is tied to the percent change in median income each year.

Figure 2. Share of population in poverty using post-tax post-transfer income, by race and age, 1939-2023

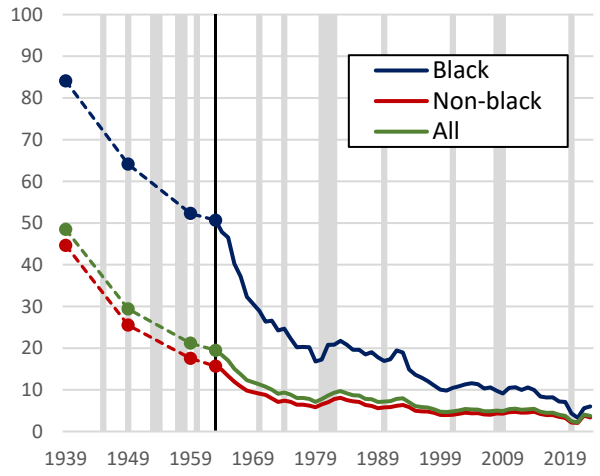


Figure 2a. All ages

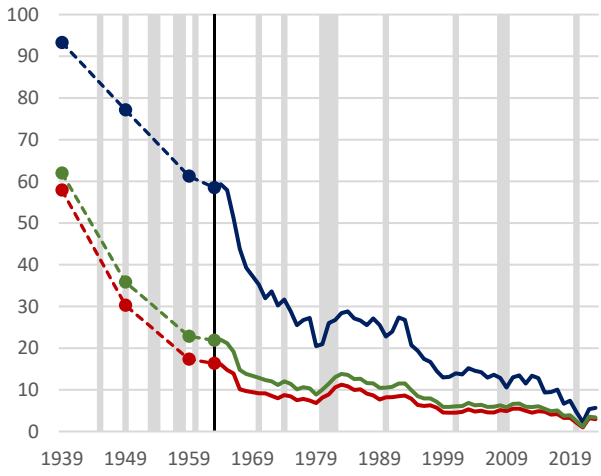


Figure 2b. Ages 0–17

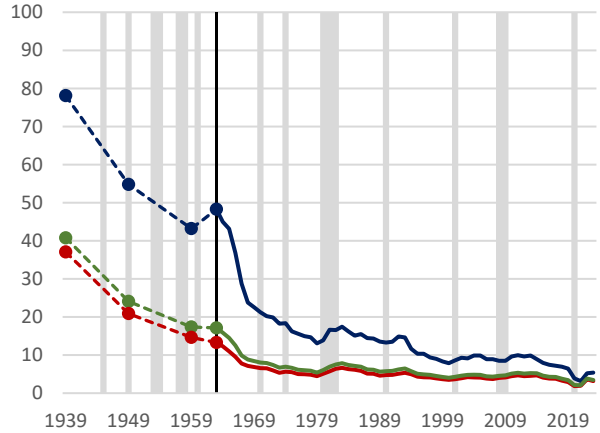


Figure 2c. Ages 18–64

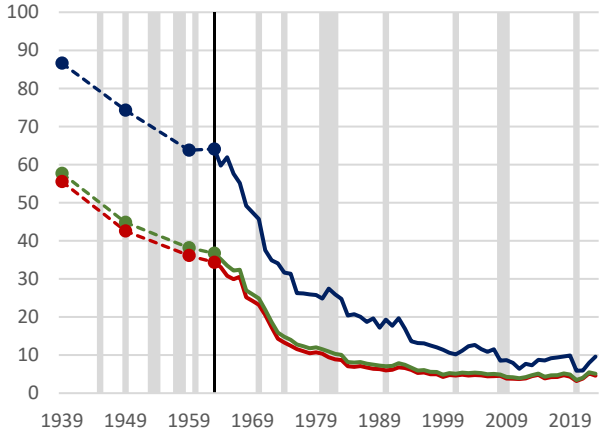


Figure 2d. 65 and older

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Black vertical line denotes baseline for President Lyndon Johnson's War on Poverty in 1963. Poverty series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Poverty measures are anchored to the 19.5% official poverty rate in 1963, and the threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Figure 3. Crosswalk, official poverty measure to full income poverty measure, 1939-2023

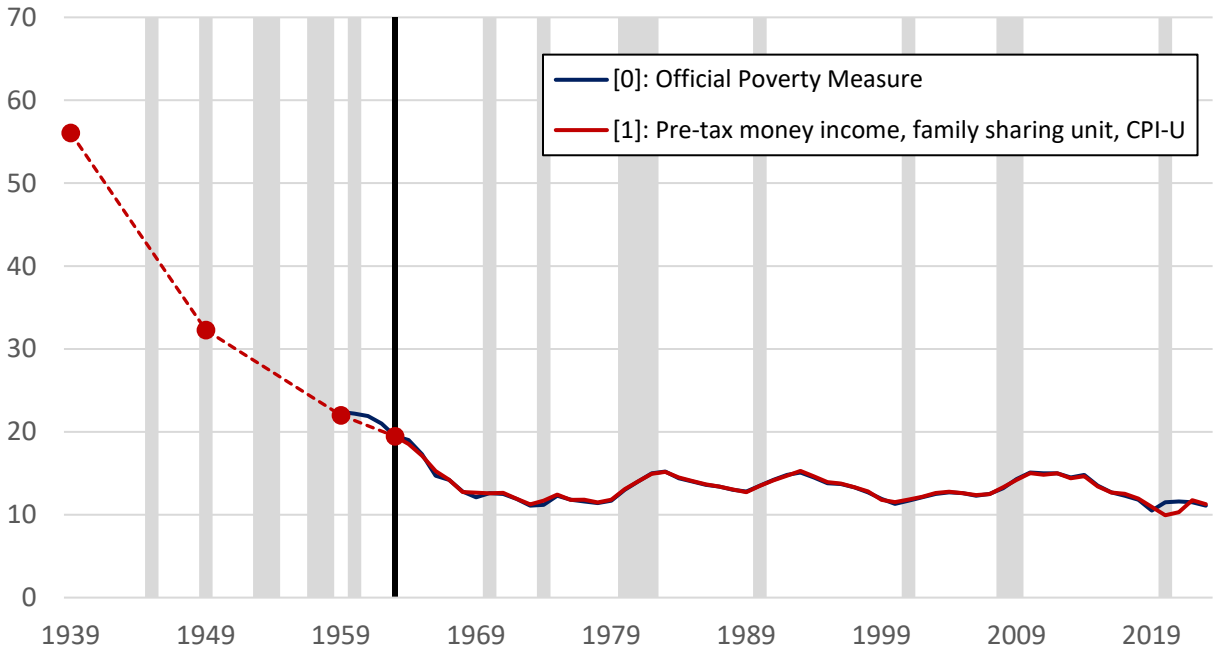


Figure 3a. Approximation of the official poverty measure

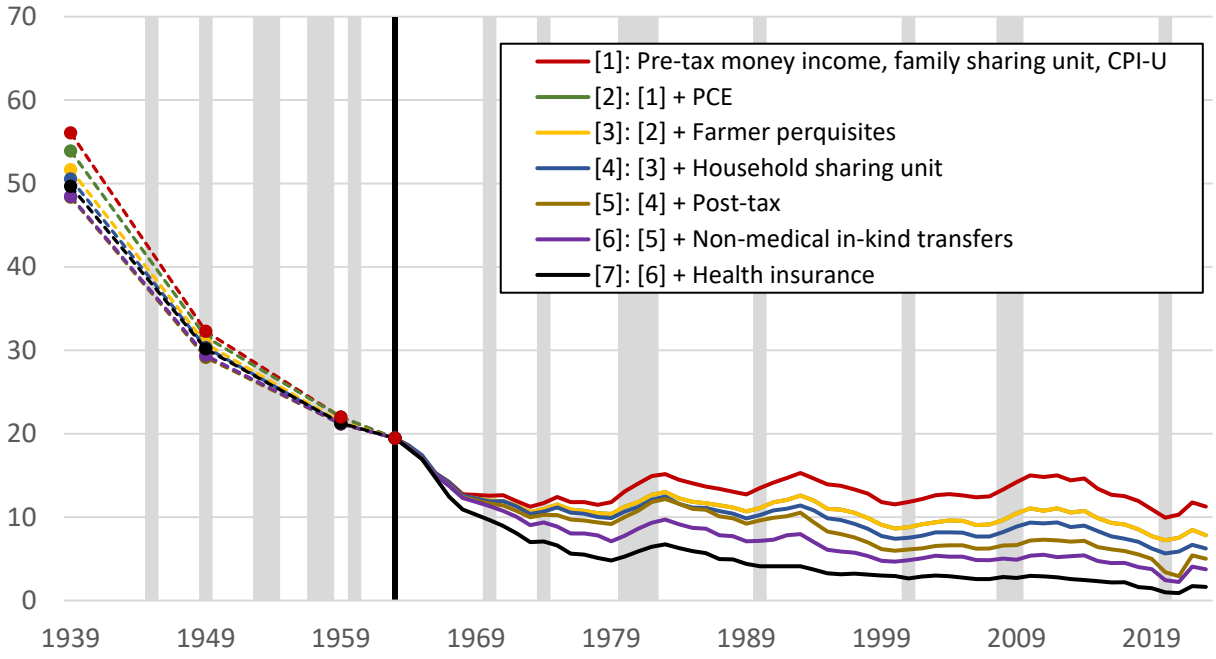
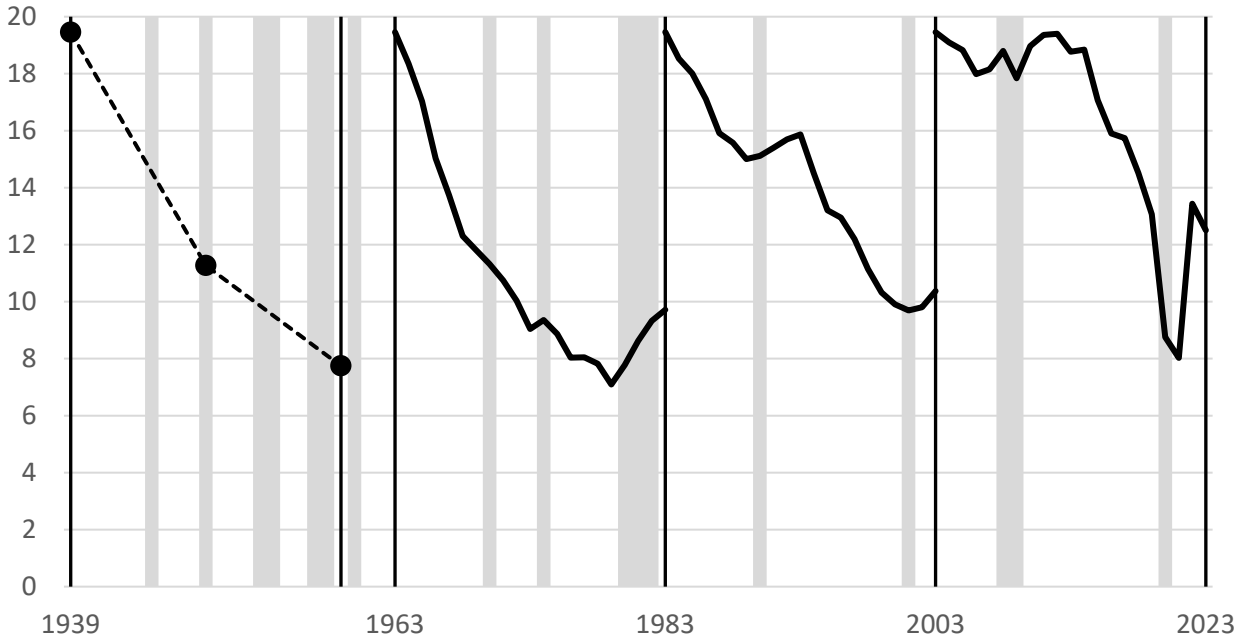


Figure 3b. Crosswalk to a full-income poverty measure

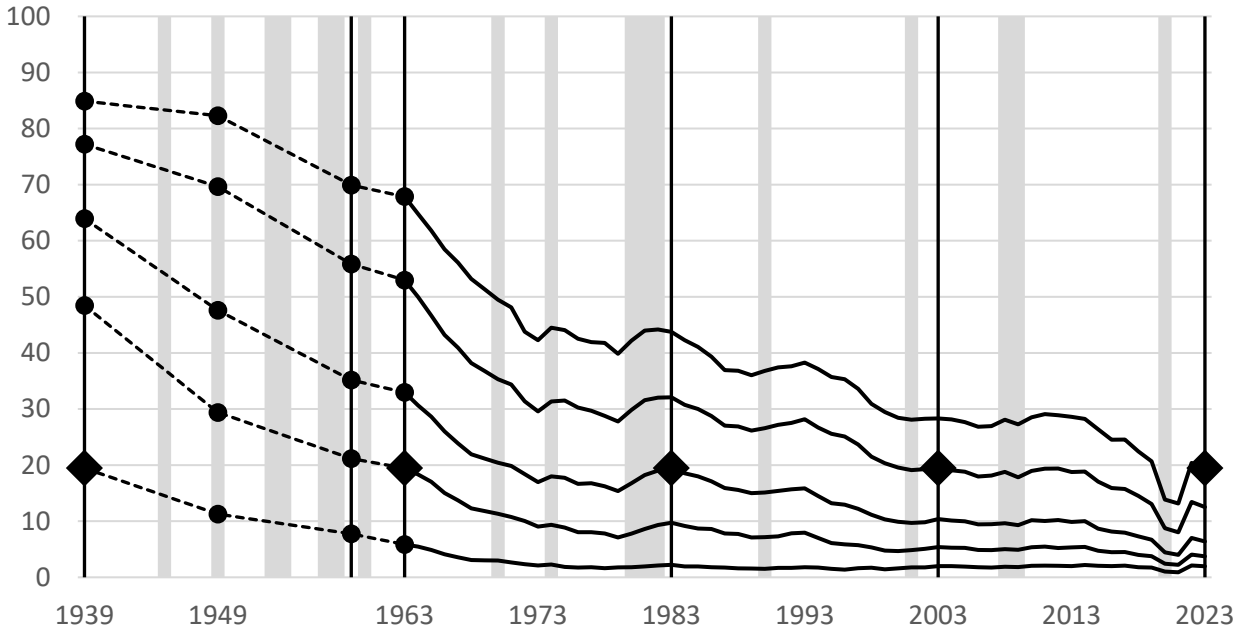
Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Black vertical line denotes baseline for President Lyndon Johnson's War on Poverty in 1963. All poverty series are size adjusted using a square root equivalence scale, and when noted, the market value of health insurance. The unit of analysis is the individual. Poverty measures are anchored to the 19.5% official poverty rate in 1963, and the threshold is adjusted for inflation.

Figure 4. Share of population in poverty using post-tax post-transfer income, reset poverty threshold every twenty years, 1939-2023



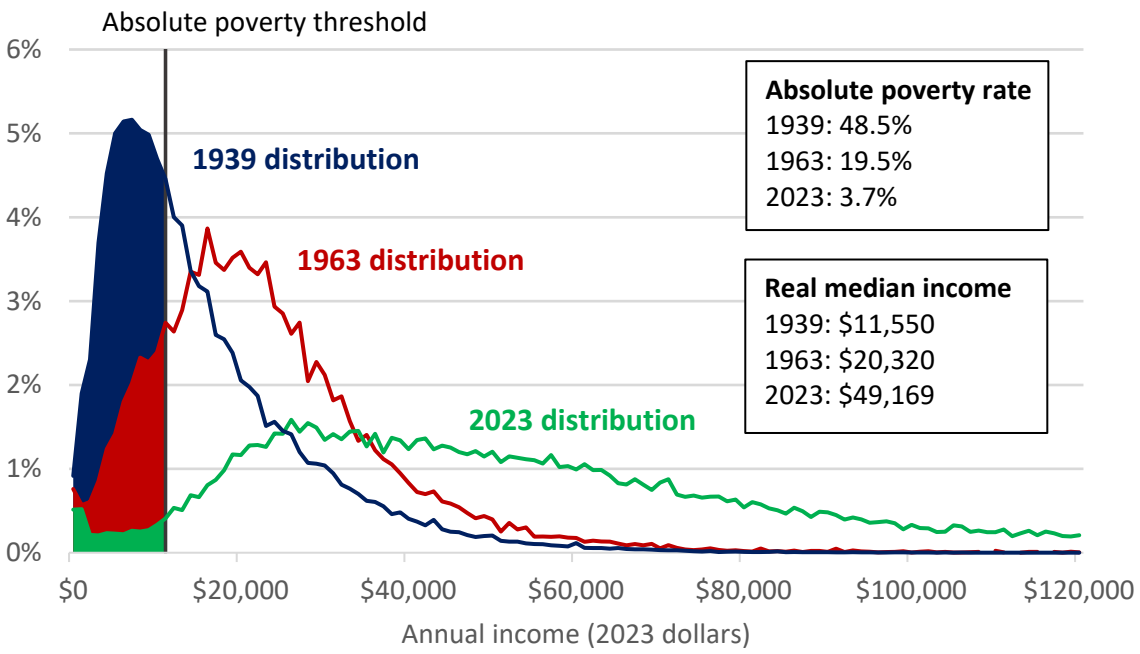
Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Poverty series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Poverty threshold is re-anchored to a 19.5% poverty rate in 1939, 1963, 1983, and 2003. Aside from these re-anchoring years, the threshold is adjusted for inflation each year using the Personal Consumption Expenditures Price Index.

Figure 5. Share of population in poverty using post-tax post-transfer income, by anchor year, 1939-2023



Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Poverty series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Poverty measures are anchored to a 19.5% poverty rate in 1939, 1963, 1983, 2003, and 2023, represented by the diamond marker. For each poverty series, the threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Figure 6. Distribution of real post-tax post-transfer income of individuals, 1939, 1963, 2023 (in 2023 $)



Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Distributions use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual, and values are presented for a household of size one. Income values are adjusted for inflation using the Personal Consumption Expenditures Price Index and expressed in 2023 dollars. Black vertical line is the 19.5th percentile of post-tax post-transfer income in 1963 for a household of one, in 2023 dollars.

Figure 7. Share of population in poverty using market income measure, by race and age, 1939-2023

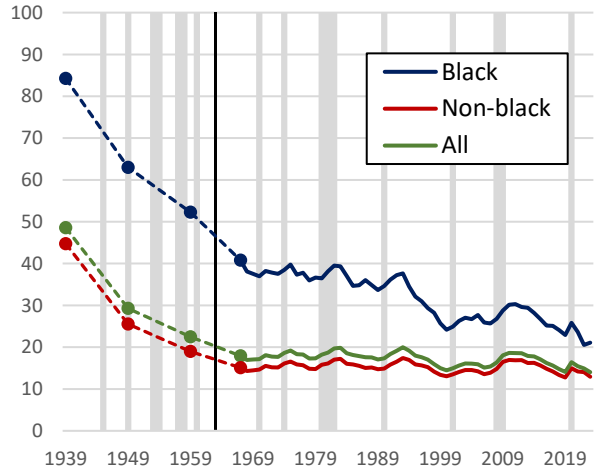


Figure 7a. All ages

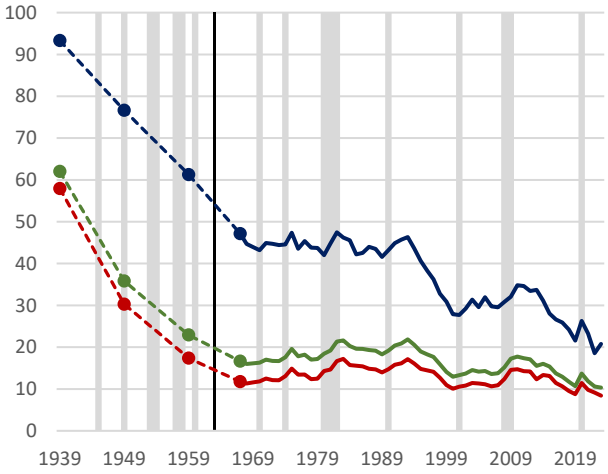


Figure 7b. Ages 0–17

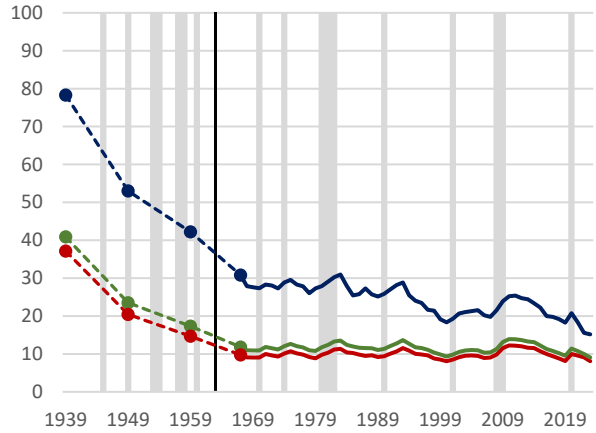


Figure 7c. Ages 18–64

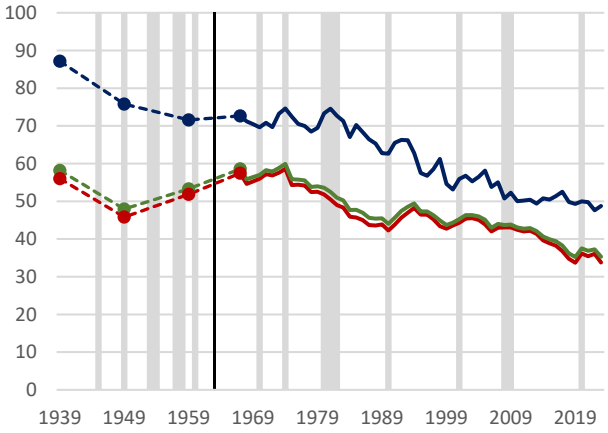


Figure 7d. 65 and older

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Market income includes all income sources except for government transfers, and it does not adjust for taxes. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. The 1963 poverty threshold is set at the 19.5th percentile of the post-tax post-transfer income distribution in 1963, and the threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Figure 8. Dependency rate by race and age, 1939-2023

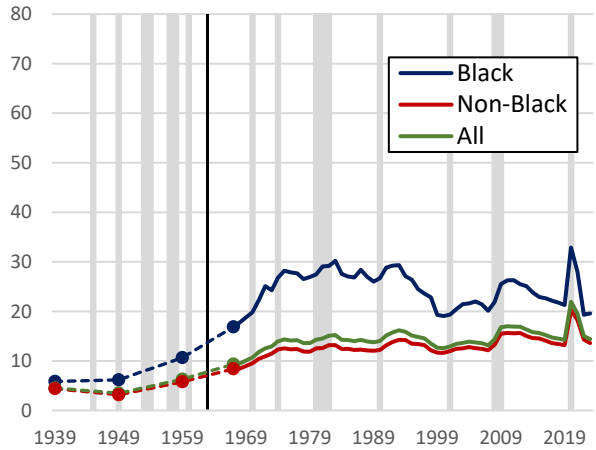


Figure 8a. All ages

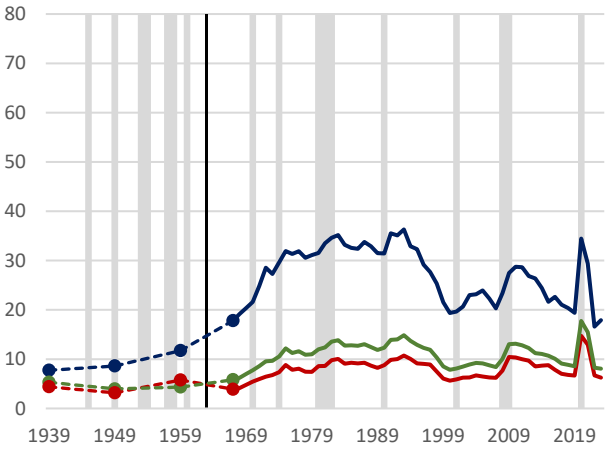


Figure 8b. Ages 0–17

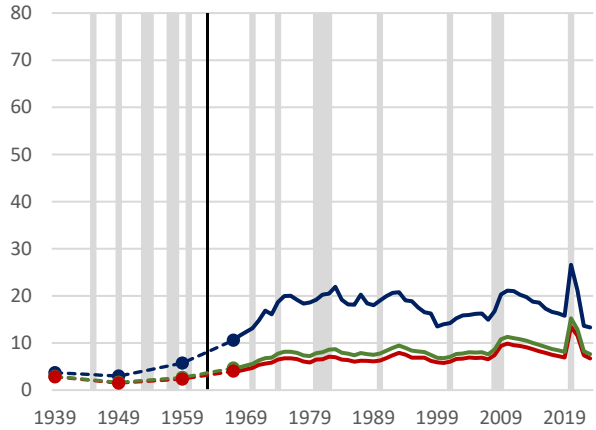


Figure 8c. Ages 18–64

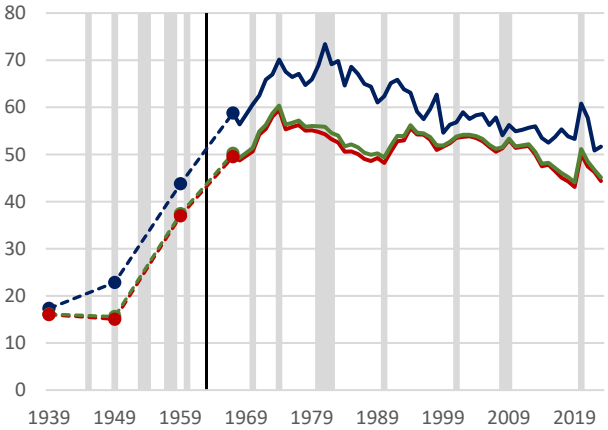


Figure 8d. 65 and older

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. An individual is defined as dependent if the ratio of their household market income to their household post-tax post-transfer income is less than 0.5. Both market income and post-tax post-transfer income include perquisites and exclude health insurance. The dependency rate is the share of individuals defined as dependent in a given year.

Appendix A. Appendix Tables and Figures

Appendix Table A1. Description of selected poverty measures

	Official poverty measure	Absolute post-tax post-transfer poverty measure	Relative post-tax post-transfer poverty measure
Income included			
Cash income (market income and cash transfers)	Yes	Yes	Yes
Non-medical in-kind transfers	No	Yes	Yes
Market value of health Insurance	No	No*	No*
Deduct income and payroll taxes; add tax credits	No	Yes	Yes
How thresholds are updated	CPI-U	PCE price index	Proportional to median income
Sharing unit	Family	Household	Household
Size adjustment	Based on cost of food plan by family size	Square root of household size	Square root of household size

Note: Private market income includes wages, salary, self-employment, and property income. The value of health insurance is excluded in our baseline post-tax post-transfer poverty measures, though results including the market value of health insurance are reported in the appendix. Post-tax post-transfer poverty measures adjust for both federal and state income taxes.

Appendix Table A2. Poverty rate levels and changes in selected years, post-tax post-transfer poverty measure plus health insurance, by race and age

	Poverty rate level			Poverty rate change (p.p.)		
	1939	1963	2023	1939-1963	1963-2023	1939-2023
All races	**49.7**	**19.5**	**1.6**	**-30.2**	**-17.8**	**-48.0**
0-17	63.2	21.9	1.6	-41.4	-20.3	-61.6
18-64	42.0	17.0	1.9	-25.0	-15.0	-40.0
65 and older	58.6	37.8	0.6	-20.8	-37.2	-58.0
Black	**84.8**	**50.8**	**2.5**	**-34.0**	**-48.4**	**-82.3**
0-17	93.7	60.0	2.6	-33.7	-57.4	-91.1
18-64	79.0	48.2	2.7	-30.8	-45.5	-76.3
65 and older	87.2	64.7	1.1	-22.5	-63.6	-86.1
Non-Black	**45.9**	**15.6**	**1.5**	**-30.2**	**-14.1**	**-44.4**
0-17	59.3	16.1	1.4	-43.1	-14.7	-57.9
18-64	38.3	13.2	1.8	-25.1	-11.3	-36.4
65 and older	56.5	35.4	0.5	-21.0	-34.9	-56.0

Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Poverty measure uses a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites, plus the market value of health insurance. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. The poverty measure is anchored to the 19.5% official poverty rate in 1963, and the threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Appendix Table A3. Poverty rate levels and changes in selected years, sensitivity analysis of post-tax post-transfer poverty measure

			Poverty rate level			Poverty rate change (p.p.)		
Income	**Sharing unit**	**Inflation**	**1939**	**1963**	**2023**	**1939-1963**	**1963-2023**	**1939-2023**
Post-tax post-transfer + perquisites	Household	PCE	48.5	19.5	3.7	-29.0	-15.7	-44.7
Adding health insurance	Household	PCE	49.7	19.5	1.6	-30.2	-17.8	-48.0
Excluding in-kind transfers	Household	PCE	48.3	19.5	5.0	-28.9	-14.5	-43.3
Before tax	Household	PCE	50.7	19.5	4.6	-31.3	-14.9	-46.2
Excluding perquisites	Household	PCE	51.0	19.5	3.7	-31.5	-15.7	-47.2
Post-tax post-transfer + perquisites	Family	PCE	49.8	19.5	5.4	-30.4	-14.1	-44.4
Post-tax post-transfer + perquisites	Household	CPI-U	50.8	19.5	5.9	-31.3	-13.6	-44.9

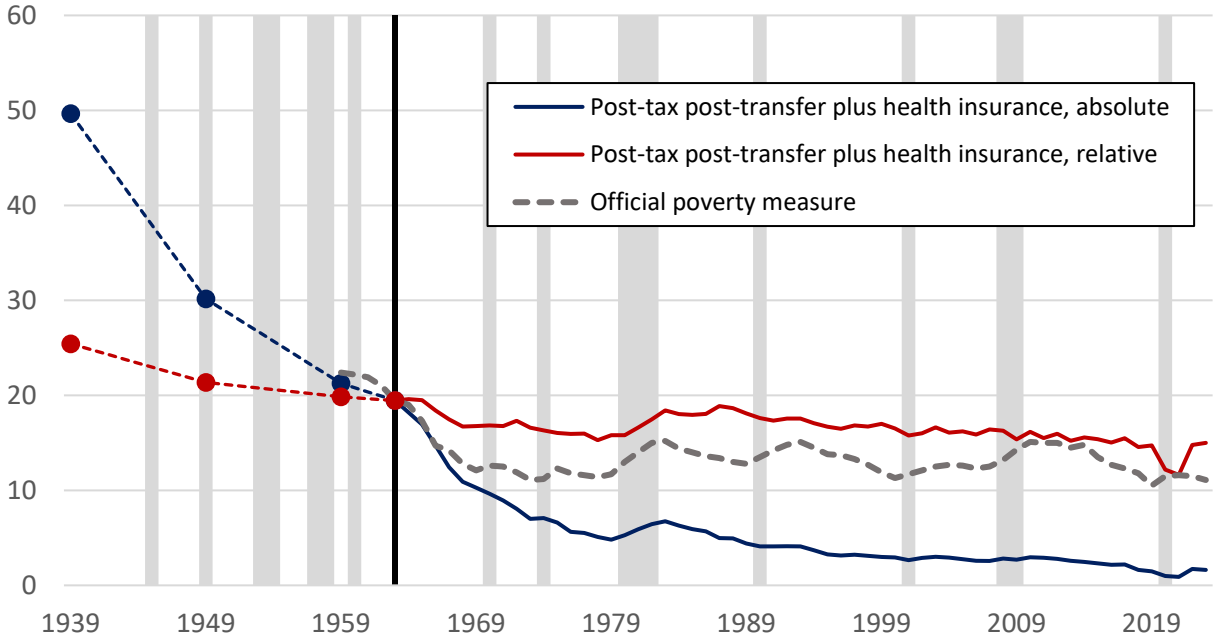
Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Series [0] reports the official poverty rates published by the Census Bureau. Series [1] approximates the official poverty measure using the same income concept, sharing unit and inflation measure, but we calculate it using the individual level CPS ASEC and Decennial Census data, and we use a square root equivalence scale instead of the official measure's equivalence scale. The unit of analysis is the individual. Each poverty measure is anchored to the 19.5% official poverty rate in 1963.

Appendix Table A4. Poverty rate levels and changes in selected years, post-tax post-transfer poverty measure plus health insurance, by anchor year

	Poverty rate level, Number of years since anchor year				Poverty rate change (p.p.), Number of years since anchor year		
Anchor year	0	10	20	24	10	20	24
1939	19.5	11.2	7.5	5.5	-8.3	-11.9	-14.0
1949	19.5	13.4	5.2	3.3	-6.1	-14.3	-16.1
1959	19.5	9.1	4.2	5.7	-10.4	-15.3	-13.8
1963	19.5	7.0	6.7	5.0	-12.5	-12.7	-14.5
1973	19.5	20.3	14.0	10.4	0.8	-5.5	-9.1
1983	19.5	13.3	7.3	6.4	-6.2	-12.1	-13.0
1993	19.5	11.0	8.9	6.4	-8.4	-10.5	-13.0
2003	19.5	16.8	8.9	—	-2.6	-10.5	—
2013	19.5	10.4	—	—	-9.0	—	—
2023	19.5	—	—	—	—	—	—

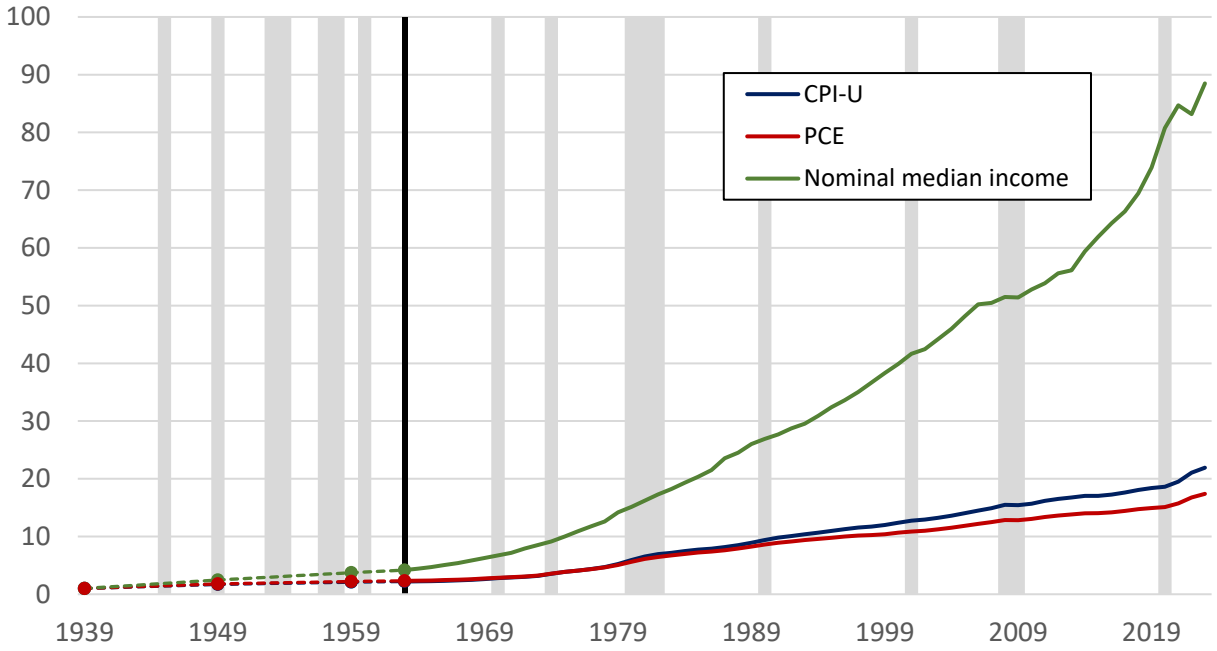
Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Poverty measure uses a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites, plus the market value of health insurance. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Each poverty measure is anchored to the 19.5% baseline poverty rate in the specified anchor year. The threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Appendix Figure A1. Percent of population in poverty using post-tax post-transfer income plus health insurance, absolute and relative standard, and official poverty measure, 1939-2023



Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Black vertical line denotes baseline for President Lyndon Johnson's War on Poverty in 1963. Except for the official poverty measure, poverty series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites, plus the market value of health insurance. The sharing unit is the household and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Absolute and relative poverty measures are anchored to the 19.5% official poverty rate in 1963. Absolute threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index. Relative threshold is tied to the percent change in median income each year.

Appendix Figure A2. Selected price indices and nominal median post-tax post-transfer income, 1939-2023



Source: U.S. Bureau of Economic Analysis; U.S. Bureau of Labor Statistics; U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Black vertical line denotes baseline for President Lyndon Johnson's War on Poverty in 1963. The Consumer Price Index – Urban Series (CPI-U), the Personal Consumption Expenditures Price Index (PCE), and nominal median income are indexed to their respective 1939 values. Nominal median income series uses a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual.

Appendix Figure A3. Share of population in poverty using post-tax post-transfer income plus health insurance, by race and age, 1939-2023

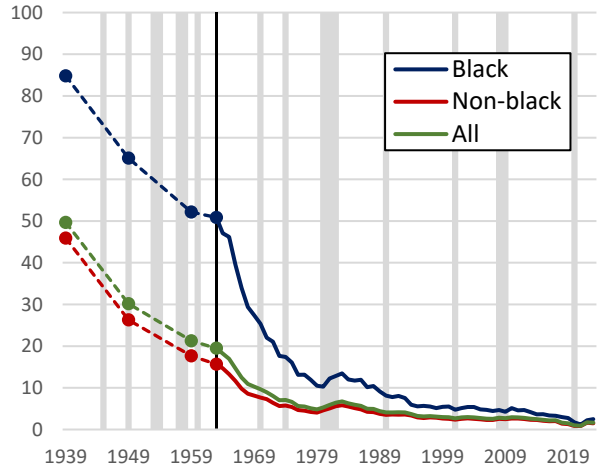


Figure A3a. All ages

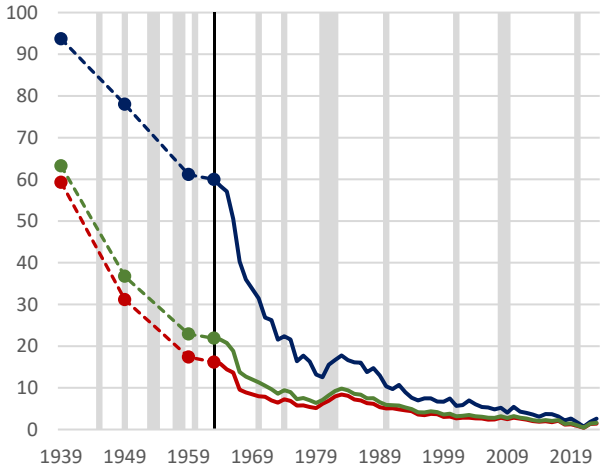


Figure A3b. Ages 0–17

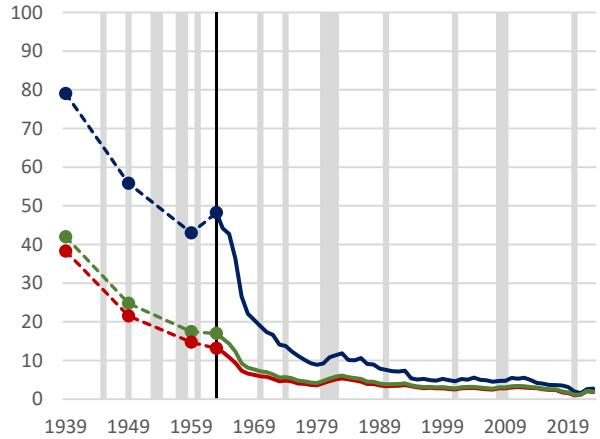


Figure A3c. Ages 18–64

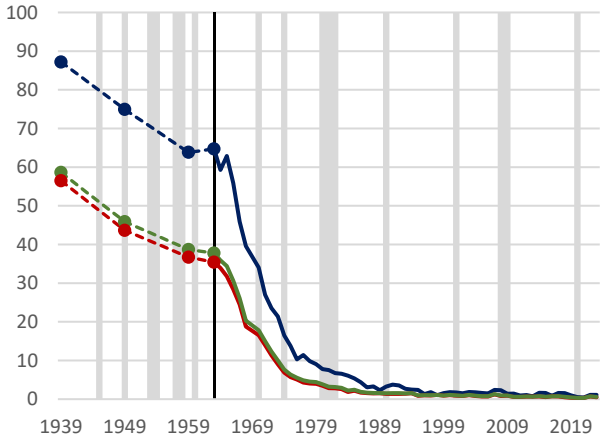
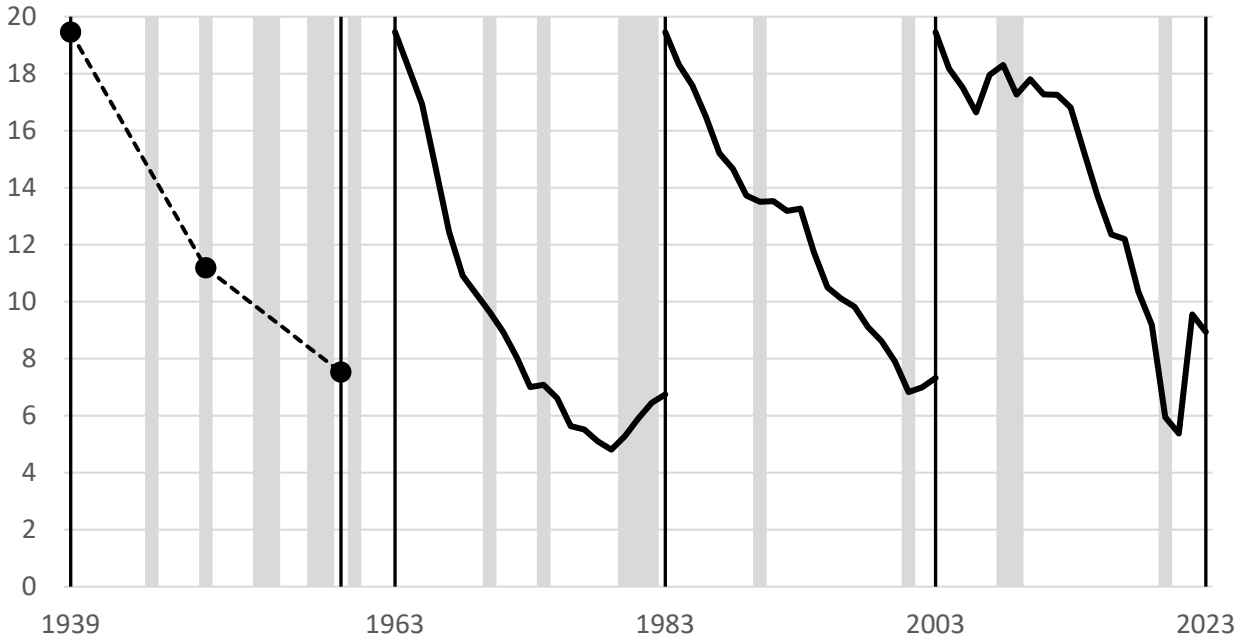


Figure A3d. 65 and older

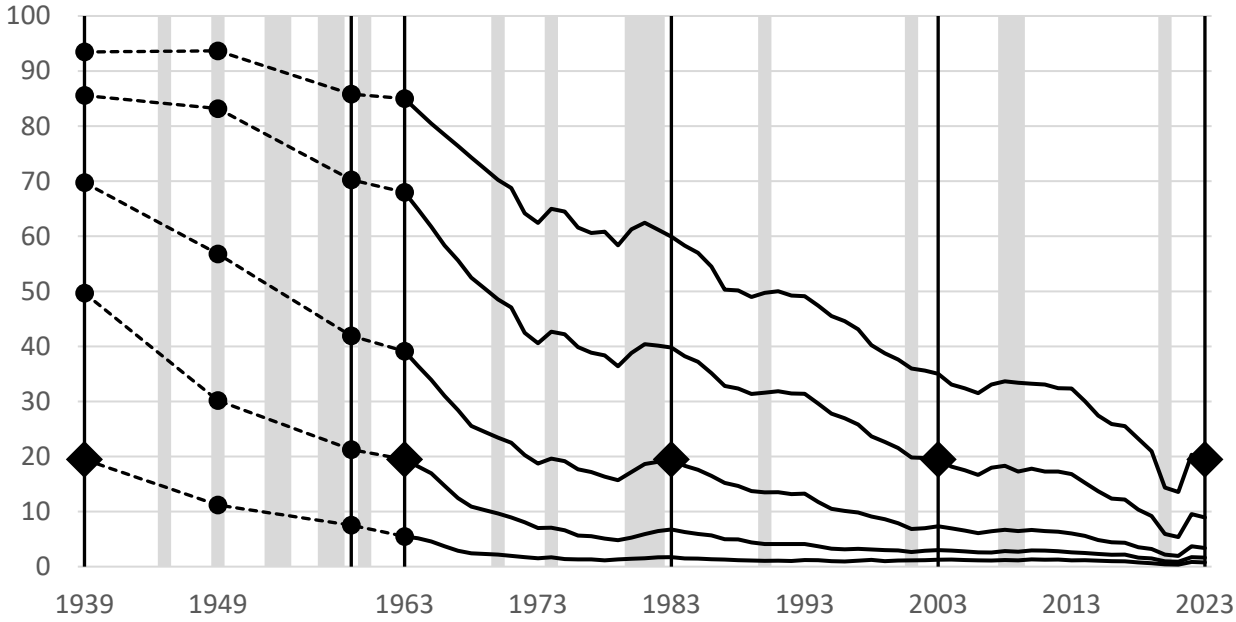
Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Black vertical line denotes baseline for President Lyndon Johnson's War on Poverty in 1963. Poverty series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites, plus the market value of health insurance. The sharing unit is the household and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Poverty measures are anchored to the 19.5% official poverty rate in 1963, and the threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Appendix Figure A4. Share of population in poverty using post-tax post-transfer income plus health insurance, reset poverty threshold every twenty years, 1939-2023



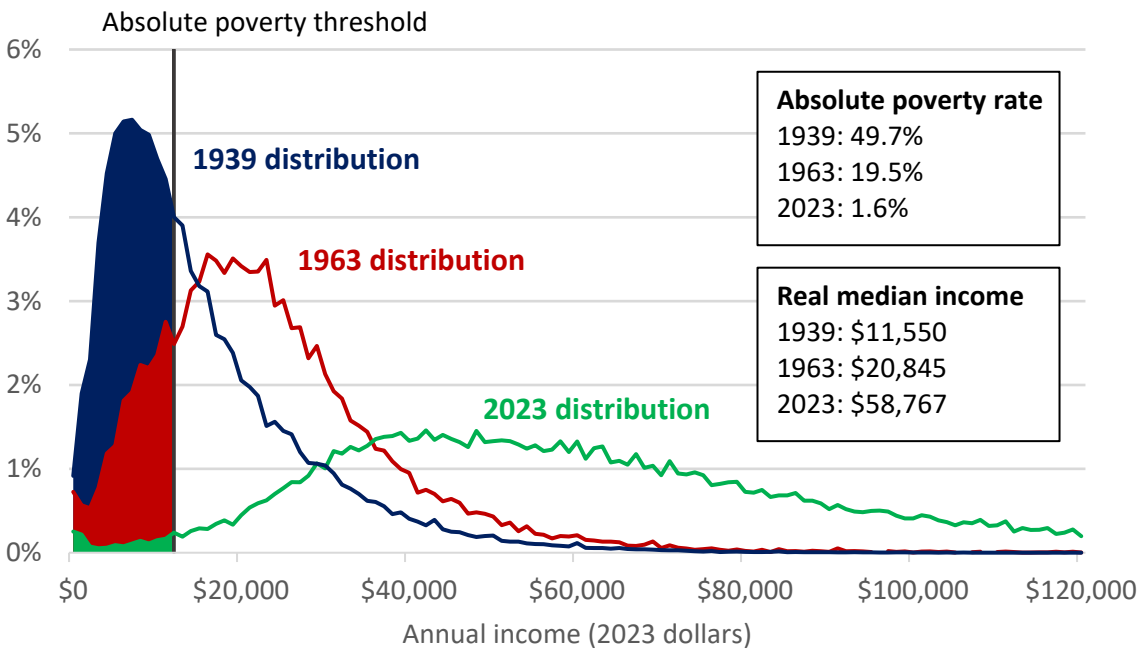
Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Poverty series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites, plus the market value of health insurance. The sharing unit is the household and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Poverty threshold is re-anchored to a 19.5% poverty rate in 1939, 1963, 1983, and 2003. Aside from these re-anchoring years, the threshold is adjusted for inflation each year using the Personal Consumption Expenditures Price Index.

Appendix Figure A5. Share of population in poverty using post-tax post-transfer income plus health insurance, by anchor year, 1939-2023



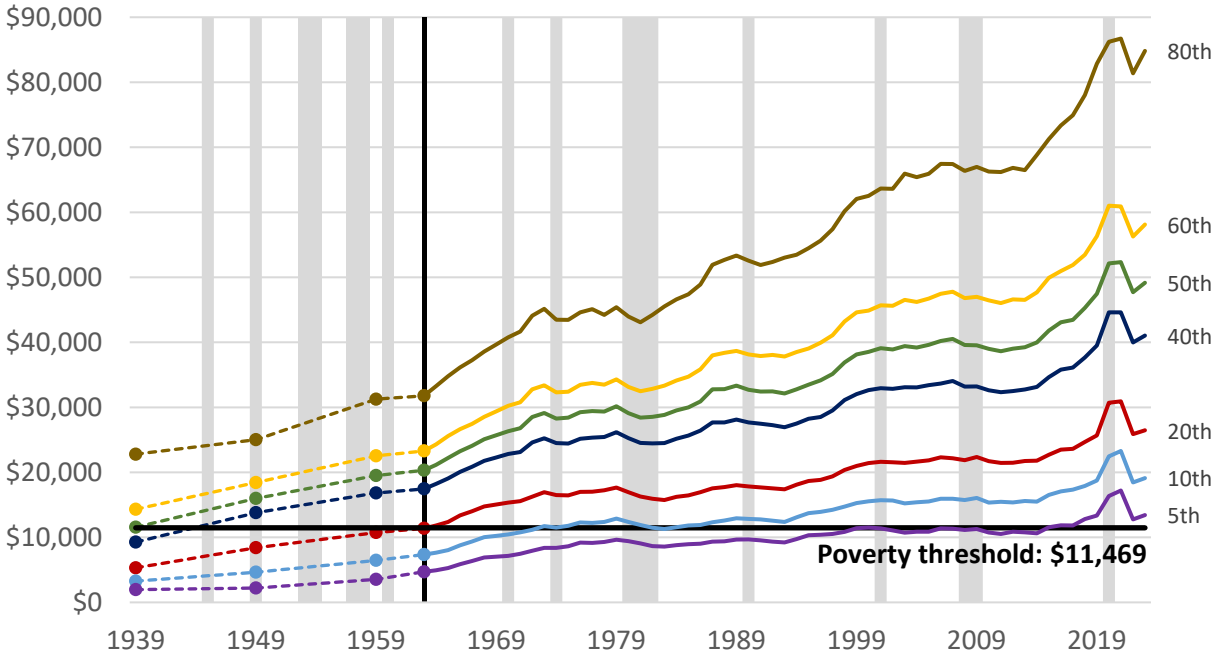
Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Poverty series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites, plus the market value of health insurance. The sharing unit is the household and income is equivalized using a square root equivalence scale. The unit of analysis is the individual. Poverty measures are anchored to a 19.5% poverty rate in 1939, 1963, 1983, 2003, and 2023, represented by the diamond marker. For each poverty series, the threshold is adjusted for inflation using the Personal Consumption Expenditures Price Index.

Appendix Figure A6. Distribution of real post-tax post-transfer income plus health insurance of individuals, 1939, 1963, 2023 (in 2023 $)



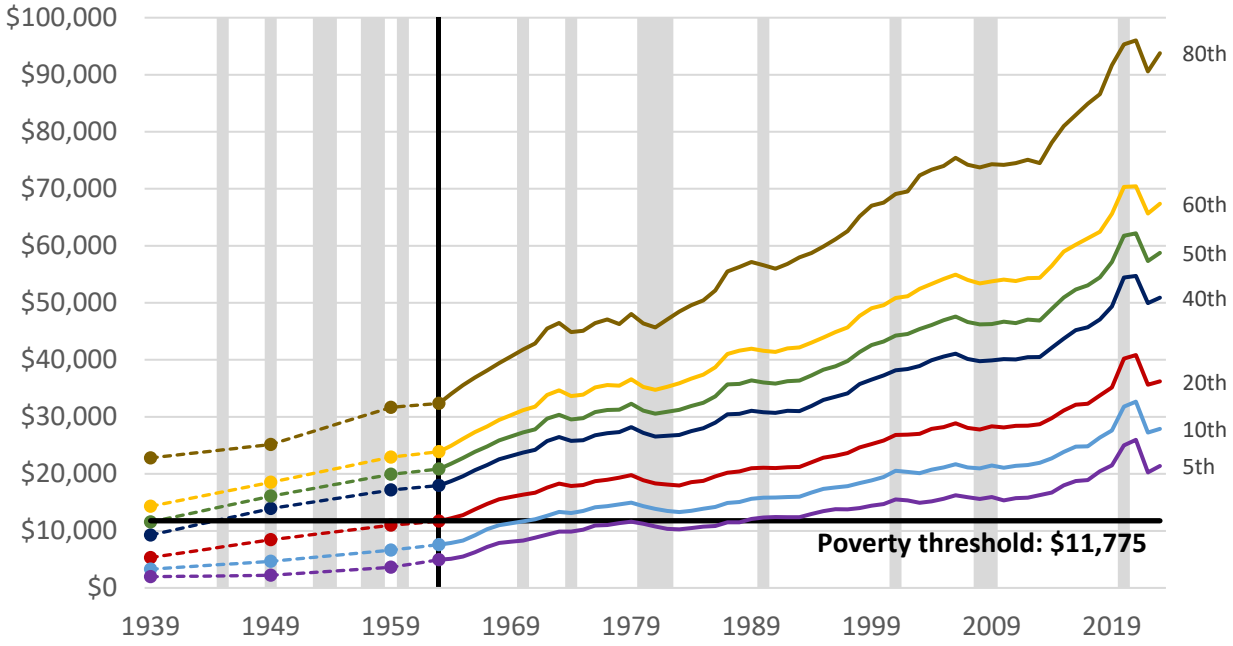
Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Distributions use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites, plus the market value of health insurance. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual, and values are presented for a household of size one. Income values are adjusted for inflation using the Personal Consumption Expenditures Price Index and expressed in 2023 dollars. Black vertical line is the 19.5th percentile of post-tax post-transfer income in 1963 for a household of one, in 2023 dollars.

Appendix Figure A7. Real percentiles of post-tax post-transfer income of individuals, 1939-2023 (in 2023 $)



Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites. The sharing unit is the household and income is equivalized using a square root equivalence scale. The unit of analysis is the individual, and values are presented for a household of size one. Income values are adjusted for inflation using the Personal Consumption Expenditures Price Index and expressed in 2023 dollars. The poverty threshold is set at the 19.5th percentile of post-tax post-transfer income in 1963, in 2023 dollars based on the Personal Consumption Expenditures Price Index.

Appendix Figure A8. Real percentiles of post-tax post-transfer income plus health insurance of individuals, 1939-2023 (in 2023 $)



Source: U.S. Census Bureau, IPUMS and NBER CPS data; NBER TaxSim; Other sources; Authors' calculations
Notes: Shading denotes NBER-based recession periods. Series use a post-tax, post-transfer definition of income, including non-medical in-kind transfers and farmer perquisites, plus the market value of health insurance. The sharing unit is the household, and income is equivalized using a square root equivalence scale. The unit of analysis is the individual, and values are presented for a household of size one. Income values are adjusted for inflation using the Personal Consumption Expenditures Price Index and expressed in 2023 dollars. The poverty threshold is set at the 19.5th percentile of post-tax post-transfer income in 1963, in 2023 dollars based on the Personal Consumption Expenditures Price Index.

Appendix B. Constructing a pre-tax money income plus perquisites measure in the 1940, 1950 and 1960 Decennial Census

This appendix documents our construction of a pre-tax money income plus perquisites measure (including cash transfers but excluding in-kind transfers and the value of health insurance) in the 1940, 1950, and 1960 Decennial Censuses. The questions asked in these three censuses to determine income are substantially different and progressively more detailed. Hence attempts to produce a plausible comparable measure of income across these three Decennial Census years requires not only a modern concept of the size-adjusted household income of persons but assumptions that adjust the raw data in each year to produce the closest consistent approximation of full-income. See Elwell, Corinth, and Burkhauser (2021) and Burkhauser et al. (2024) for discussions of a full-income concept. Our approach draws from Chetty et al. (2017) and Collins and Wanamaker (2022), who previously created income measures using these datasets. Our approach differs in some respects due to our different purposes, including our need to create household measures of income and the importance of capturing plausible variation in income across households. We describe our approach for each year of the Decennial Census below, including how our approach builds on and differs from Chetty et al. (2017) and Collins and Wanamaker (2022). For all years we rely on the Decennial Census data made available through IPUMS (Ruggles et al. 2024).

1940 Census

We use the 1940 Decennial Census (1% sample) to measure income in calendar year 1939. The 1940 Census did not record all sources of income. For each individual it recorded only (cash) wage and salary income, and an indicator for whether the individual received more than $50 from other sources—but not the amount (see the income-related Census questions at the end of this appendix). We impute the amount of income outside of wage and salary income using the 1950 Decennial Census (1% sample) and the 1960 Decennial Census (1% sample).

We separately impute (i) the labor earnings of farm laborers and farm managers as well as the net farm income of farmers, (ii) the net business income of individuals who are neither farm laborers nor farm managers nor self-employed farmers, and (iii) all other forms of pre-tax money income outsides of wages, salaries, and self-employed net income.

(i) Labor earnings of farm laborers and farm managers and the net income of self-employed farmers

The 1940 Census did not capture the net farm income of farmers (it excludes both cash income and perquisites). We impute these values using the 1960 Census. First, we calculate the ratio of each farmer's net farm cash income to the mean earnings of farm laborers in the 1960 Census. Using the full sample of farmers in the 1960 Census, we regress the ratio of each farmer's net farm income to the mean earnings of farm laborers on demographic variables including whether they own their residence, whether they belong to the primary family in a household, sex, race, age, and state.[17] We then use these regression estimates to predict farmers' net farm income in the 1940 Census. For each farmer in the 1940 Census, we randomly draw a ratio of net farm income to the mean earnings of farm laborers from a normal distribution with mean equal to the prediction of the regression and standard deviation equal to the standard error of the prediction, given the farmer's demographic characteristics. Then we multiply this realized ratio by the mean net farm income of farm laborers in the 1940 Census. This provides a net farm income value for each farmer in the 1940 Census.

Our approach for farmers differs from Collins and Wanamaker (2022), who determined the ratio of mean farmers' net farm income to mean farm laborers' earnings in the 1960 Census and applied this same ratio for all farmers in the 1940 Census. For our purposes, it is important to allow for variation in farmers' net farm income and thus led us to randomly assign different ratios to farmers in the 1940 Census in a way that reflects the observed variation of these ratios in the 1960 Census.

The 1940 Census did not record the value of perquisites (i.e., in-kind compensation typically paid in the form of room and board) for farm laborers, farm managers, or farmers. Thus, we scale up the cash income of these groups by factors calculated by Collins and Wanamaker (2022), based on aggregate data on cash wages and perquisites reported annually by the U.S. Department of Agriculture (USDA 1957). We apply their scale-up factor of 26% for farm laborers, 34% for farm managers, and 43% for farmers.

[17] Whenever using age as a predictor variable, we enter indicator variable corresponding to the following age categories: 0-17, 18-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and older.

(ii) Other net business income

The 1940 Census did not record net business income. We impute these values using the 1960 Census, following Collins and Wanamaker (2022). For each non-farmer, self-employed worker in the 1960 Census, we calculate the ratio of their own net business income (technically, all their non-wage income) to the mean earnings of wage workers in their occupation.[18] We then regress this ratio on demographic variables including whether they belong to the primary family in a household, sex, race, age and state. We then use these regression estimates to predict net business income for self-employed workers in the 1940 Census. We randomly draw a ratio of net business income to the mean earnings of wage workers from a normal distribution with mean equal to the prediction of the regression and standard deviation equal to the standard error of the prediction, given the self-employed worker's characteristics. Then we multiply this ratio by the mean earnings of wage workers in the same occupation of the self-employed worker in the 1940 Census. This provides a net business income value for each non-farmer, self-employed worker in the 1940 Census.

Our approach for self-employed workers differs from Collins and Wanamaker (2022), who determined the ratio of net business income of self-employed workers to the earnings of wage workers in the same occupation in the 1960 Census and applied this same ratio for all self-employed workers in the same occupation in the 1940 Census. For our purposes, it is important to allow for variation in net business income across individuals within a given occupation and thus led us to randomly assign different ratios to self-employed workers in the 1940 Census in a way that reflects the observed variation of these ratios in the 1960 Census.

(iii) Pre-tax money income outsides of wages, salaries and self-employed net income

The 1940 Census did not record other sources of income. Our only information about such income comes from an indicator for whether the individual received at least $50 from sources other than wages and salaries. We use this variable to impute an amount of non-wage income for individuals who are not farmers and are not self-employed workers (for whom we imputed non-wage income in the previous steps). To do so, we follow Chetty et al. (2017) in relying on the

[18] We do not attempt to distinguish net business income from other sources of non-wage income in the 1940 Census for self-employed workers.

1950 Decennial Census. Using the subset of individuals in the 1950 Census who are not farmers and are not self-employed, and who reported at least $50 of non-wage income, we regress the natural logarithm of their non-wage income on demographic variables including whether they belong to the primary family in a household, sex, race, age, state, and occupation. We note that only one individual per household in the 1950 Census was asked to report their income, limiting the sample size for the regression since we only rely on the income information from these "sample line" individuals. We then use these regression estimates to predict non-wage income for individuals in the 1940 Census who are neither farmers nor are self-employed, and who received at least $50 of non-wage income. For each of these individuals, we randomly draw a value of non-wage income from a normal distribution with mean equal to the prediction of the regression and standard deviation equal to the standard error of the prediction, based on the individual's own demographics. Finally, we adjust this non-wage income value downward by the ratio of the Consumer Price Index in 1939 (13.9) to the Consumer Price Index in 1949 (23.8).

Our approach for imputing non-wage income differs from Chetty et al. (2017). First, we only impute non-wage income to individuals who are neither self-employed nor farmers, because we view the approach taken by Collins and Wanamaker (2022) as more accurate for this purpose. Second, Chetty et al. (2017) impute non-wage income for individuals in the 1940 Census as the mean amount of non-wage income among individuals with the same demographic characteristics in the 1950 Census, adjusted for inflation. For our purposes, it is important to allow for variation in non-wage income across individuals with a given set of demographic characteristics, and thus led us to randomly assign different values of non-wage income to individuals in the 1940 Census in a way that reflects the observed variation of these values in the 1950 Census.

1950 Census

We use the 1950 Decennial Census (1% sample) to measure income in calendar year 1949. Unlike the 1940 Census, the 1950 Census records all sources of pre-tax money income. It asks for three separate income amounts of individuals including (i) wage and salary income, (ii) net business income, and (iii) all other pre-tax money income including interest, dividends, veteran's allowances, pensions, rents, and other income (see the income-related Census questions at the end of this appendix). The major limitation of the 1950 Census is that these income questions were only asked of one person in each household, i.e., the "sample line" person. Thus, we cannot

calculate household income by simply summing the individual income of all members of a household. We instead rely on a separate question asked only of household heads as to the amount of income received in aggregate by the primary family. Relying on the reported aggregate income of primary families leads to two separate issues we must confront. First, asking the household head about the aggregate income of all primary family members leads to underreporting of income, compared to asking each individual in the primary family about their individual income and summing the individual amounts.[19] Second, the reported income of the primary family ignores the income received by household members outside of the primary family.

For our final sample we are forced to drop all households in which the household head was not the sample line person. We re-weight the individuals in the remaining sample accordingly, since a household head is less likely to be the sample line person in larger households than in smaller households. For example, a household with 1 member is twice as likely to be retained in our sample as a household with 2 members. This reweighting is accomplished by using the household head's sample line weight for all household members.

We first address the problem of the underreporting of the primary family's income by household heads, relative to the income that would have been captured by recording the income of each primary family member individual and summing those amounts. We do so by scaling up the reported family income amounts based on aggregate underreporting that we can calculate in the 1950 Census. While we cannot calculate the amount of individually reported income received by all individuals within a given primary family, we can calculate the total amount of individually reported income received by all individuals within all primary families in the United States, a total of $152.5 billion. And we can calculate how much lower is the total amount of income received by primary families as reported by household heads, a total of $132.5 billion. Thus we scale up reported family income by $20.0 billion, in a way that reflects the total income we would expect a family to receive based on the characteristics of its individual members.

[19] This point was recognized by several authors in a 1958 NBER volume assessing the 1950 Decennial Census income data. In his introduction to the volume, Garvey (1958, p.8) states: "Several authors point out that underreporting is larger for families than for persons or one person families. The main reason for missing part of the family income was a failure to inquire about the income of each individual member of the family when obtaining family income data from its head (Pritzker-Sands, page 228; and Goldfield, page 57 if.)."

Using a logit model and the full sample of sample line persons in the 1950 Census, we first regress an indicator variable for whether an individual has strictly positive income on a set of demographic variables including an indicator variable for whether they are part of a primary family, sex, race, age, state, worker type (self-employed vs. wage worker vs. not employed) and occupation. Then we regress the natural logarithm of income on the same demographic variables, among sample line persons in the 1950 Census who reported strictly positive income. We use the estimates from the logit model to predict probabilities of strictly positive income of individuals who were not sample line persons themselves and based on those probabilities randomly assign individuals a strictly positive amount of income. For those individuals assigned strictly positive income, we randomly assign an amount drawing from a normal distribution with mean equal to the prediction of the regression and standard deviation equal to the standard error of the prediction given their individual demographic characteristics.

We create a new, imputed family income variable for each sample line household head that adds their own individual reported income with the imputed individual income of all other primary family members. We calculate the difference between imputed family income and the family income the household head reported. This gap represents our measure of potential underreporting of family income due to the household head reported an aggregate amount rather than summing individual reported income of all primary family members. The weighted sum of this gap—over all household heads for whom the gap is strictly positive—is $22.2 billion. We thus increase the reported family income of each household head by (i) the gap between their reported family income and imputed family income, multiplied by the ratio of (ii) the gap between aggregate dollars of family reported income and the aggregate dollars of individual reported income ($20.0 billion), to (iii) the aggregate gap between reported family income and imputed family income ($22.2 billion). Once scaled up in this manner for all primary families, aggregate primary family income equals $152.5 billion in 1949, the weighted sum of individual income reported in the 1950 Census.

We next impute the income of non-primary family members, whose income is not captured by the (scaled up) family income reported by household heads. For these individuals, we assign the imputed individual income we previously calculated.

Finally, we impute the value of perquisites for farmers, farm laborers, and farm managers. For household heads, we simply scale up their cash earnings by 27% for farmers, 18% for farm laborers and 23% for farm managers, applying the same approach Collins and Wanamaker (2022) used for 1939 and 1959.[20] However, we must also add the value of perquisites for other household members, since these perquisites are not included in the family pre-tax money income amount reported by the household head, nor are they included in the pre-tax money income amounts imputed in the previous step for household members outside of the primary family. For these individuals, we first impute their wage income (in the case of farm laborers and farm managers) or net farm income (in the case of farmers) and then apply the same scale-up factors to their imputed cash earnings. We impute the wage income of farm laborers and farm managers separately from the net business income of farmers but follow the same approach for both groups.

We start by using a logit model and the full sample of sample line farm laborers and farm managers in the 1950 Census. We regress an indicator variable for whether an individual has strictly positive wages on a set of demographic variables including an indicator variable for whether they are part of a primary family, sex, race, age, state, worker type (self-employed vs. wage worker vs. not employed) and occupation. Then we regress the natural logarithm of wages on the same demographic variables, among sample line farm laborers and farm managers in the 1950 Census who reported strictly positive wages. We use the estimates from the logit model to predict probabilities of strictly positive wages of farm laborers and farm managers who were not sample line persons themselves, and based on those probabilities randomly assign individuals a strictly positive amount of wages. For those individuals assigned strictly positive wages, we randomly assign an amount drawing from a normal distribution with mean equal to the prediction of the regression and standard deviation equal to the standard error of the prediction given their individual demographic characteristics. We follow the same approach for farmers,

[20] Collins and Wanamaker (2022) do not rely on the 1950 Census, and so we create the scale up factors using the same approach on the basis of the same U.S. Department of Agriculture report (USDA 1957). For farm laborers, total farm wages (including perquisites) in 1949 were $2.865 billion (Table 7) and cash wages alone were $2.418 billion (Table 7). For farmers, we divide non-money income of $2.725 billion (Table 4) by total cash receipts of $28.050 billion (Table 15) net of production expenses of $17.909 billion (Table 11). Following Collins and Wanamaker (2022), we calculate a scale up factor of 23% for farm managers, the average of the factor for farm laborers and farmers.

except that we do not include occupation as a predictor variable because all farmers have the same occupation.

We use the imputed earnings of farm laborers, farm managers, and farmers to impute the value of their perquisites (note that we do not use the imputed values of earnings themselves in our final income measure, because we instead rely on the total family pre-tax money income measure for primary families and the imputed total individual income measure for household members outside of primary families). As noted previously, the scale-up factors are 27% for farmers, 18% for farm laborers and 23% for farm managers.

Our approach for the 1950 Census differs from Collins and Wanamaker (2022), who do not use the dataset. Our sample restriction, which only includes households in which the household head was the sample line person, follows Chetty et al. (2017). In contrast, Chetty et al. (2017) do not account for underreporting of family income relative to individual reported income. They also do not impute the income of non-primary families within the household or the value of perquisites for farm occupations.

1960 Census

We use the 1960 Decennial Census (1% sample) to measure income in calendar year 1959. The 1960 Census records all sources of pre-tax money income. It asks for three separate income amounts of individuals including (i) wage and salary income, (ii) net business income, and (iii) all other pre-tax money income including Social security, pensions, veteran's payments, rent (minus expenses), interest or dividends, unemployment insurance, welfare payments, and other income (see the income-related Census questions at the end of this appendix). The only limitation of the 1960 Census is that, like the 1940 and 1950 Census, it does not include the value of perquisites. Following Collins and Wanamaker (2022), we scale up the reported amount of cash earnings by 35% for farmers, 19% for farm laborers, and 27% for farm managers, in order to account for perquisites.

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Income Questions in the 1940, 1950, and 1960 Decennial Census

Appendix Table B1. Relevant income variables in the 1940, 1950, and 1960 Decennial Census

1940	1950	1960
• Wage and salary income (INCWAGE) • Indicator for at least $50 of income from sources other than wage and salary income (INCNONWG)	• Pre-tax money income (INCTOT)* • Wage and salary income (INCWAGE)* • Business farm income (INCBUSFM)* • Other income (INCOTHER)* • Pre-tax money income of family (FTOTINC)** *Recorded only for sample line persons **Recorded only for sample line household heads	• Pre-tax money income (INCTOT) • Wage and salary income (INCWAGE) • Business and farm income (INCBUSFM) • Other income (INCOTHER)

Notes: IPUMS variable names are provided in parentheses.
Source: Ruggles et al. (2024)

Below, we provide the questionnaire text for the relevant income questions, which is copied directly from Ruggles et al. (2024).

1940 Decennial Census Income Questions:

Income in 1939
(12 months ended December 31, 1939):

32. Amount of money wages or salary received (including commissions).

33. Did this person receive income of $50 or more from sources other than money wages or salary (Yes or No).

1950 Decennial Census Income Questions:

31. Income received by this person in 1949:

31a. Last year (1949), how much money did he earn working as an employee for wages or salary?
(Enter amount before deductions for taxes, etc. or *None*)

31b. Last year, how much money did he earn working in his own business, professional practice, or farm? (Enter net income or *None*)

31c. Last year, how much money did he receive from interest, dividends, veteran's allowances, pensions, rents, or other income (aside from earnings)? (*$* or *None*)

32. If this person is a family head (see definition below) -- Income received by his relatives in this household:

32a. Last year (1949), how much money did his relatives in this household earn working for wages or salary? (Amount before deductions for taxes, etc. or *None*)

32b. Last year, how much money did his relatives in this household earn in own business, professional practice, or farm? (Net income or *None*)

32c. Last year, how much money did his relatives in this household receive from interest, dividends, veteran's allowances, pensions, rents, or other income (aside from earnings): (*$* or *None*)

1960 Decennial Census Income Questions:

P32. How much did this person earn in 1959 in wages, salary, commissions, or tips from all jobs? Before deductions for taxes, bonds, dues, or other items. *(Enter amount or check "None." If exact figure not known, give best estimate.)*

$_____.00
(Dollars only)
OR
[] None

P33. How much did he earn in 1959 in profits or fees from working in his own business, professional practice, partnership, or farm? Net income after business expenses. *(Enter amount or check "None." If exact figure not known, give lest estimate. If business or farm lost money, write "Loss" after amount.)*

$_____.00
(Dollars only)
OR
[] None

P34. Last year (1959), did this person receive any income from:

Social security
Pensions
Veteran's payments
Rent (minus expenses)
Interest or dividends

Unemployment insurance
Welfare payments
Any other source not already entered
[] Yes
[] No

What is the amount he received from these sources in 1959?
(If exact figure not known, give best estimate.)
$_____.00
(Dollars only)

Appendix C. Calculating Taxes in the 1940, 1950, and 1960 Decennial Census

This memo documents our approach for calculating taxes in the 1940, 1950, and 1960 Decennial Censuses. Because the Census neither asks respondents about taxes paid nor calculates them, we calculate taxes ourselves based on information reported in the survey. We assume each family is a separate tax unit. We impute for each tax unit their federal income tax liability and federal payroll tax liability. We set state income taxes to zero.[21]

Federal income tax

We calculate federal income taxes using the marginal tax rates and tax brackets in Tax Foundation (2021). We apply the exemptions and standard deductions reported in the IRS instructions for tax filers in each respective year. In 1939, there was an exemption of $1,000 for single filers, $2,500 for head of household and married filers, and $400 for each dependent under age 18. There was no standard deduction (Internal Revenue Service 1939). In 1949 and 1959, there was an exemption of $600 for single and head of household filers, $1,200 for married filers, $600 for dependents under age 19, and an extra $600 for individuals age 65 or older. There was a standard deduction equal to 10 percent of gross income, up to a maximum of $1,000 (Internal Revenue Service 1949; 1959).

We apply the federal income tax to all forms of pre-tax money income plus perquisites in the 1940, 1950, and 1960 Censuses. In each of these Censuses, all income aside from wages, salary, business and farm income is reported in a single category, precluding us from distinguishing between different tax treatment of different forms of income. We do not apply income taxes to perquisites, while noting ambiguity as to this modeling decision. Meals and living quarters are not taxable "if solely for the convenience of your employer, you are required to live or eat on his premises and the living quarters and meals are not furnished as compensation" (Internal Revenue Service 1949).

[21] Most states had a state income tax by 1939 (Drenkard 2014), but we are unaware of a source with historical annual state income tax parameters since 1939. Chetty et al. (2017) do not appear to calculate payroll taxes or state income taxes.

Federal payroll tax

For employees, the payroll tax owed was 1.0 percent of earnings in 1939 and 1949 and 2.5 percent of earnings in 1959; for the self-employed, there was no payroll tax in 1939 and 1949 and it was 3.75 percent of earnings in 1959 (Social Security Administration 2024b). The amount of earnings subject to the payroll tax was capped at $3,000 in 1939 and 1949, and $4,800 in 1959 (Social Security Administration 2024a).

We apply the payroll tax for employees to cash wages and salary income. We apply the payroll tax for the self-employed to cash business and farm income. We do not apply the payroll tax to perquisites.

For the 1950 Census only, it is necessary to impute the share of the tax unit's pre-tax money income that is from wages and salaries. The reason is in the 1950 Census, we use the family's pre-tax money income as reported by sample line household heads as an aggregate across all income sources. We do not observe the family's wages and salaries. However, we do observe the household head's individual wage and salary, along with their individual pre-tax money income. Thus, we assume that the ratio of the household head's wage and salary income to pre-tax money income is equal to the ratio of wage and salary income to pre-tax money income for the primary family as a whole. For non-primary families, we assume a fixed ratio of wage and salary income to pre-tax money income, equal to the aggregate wage and salary income received by non-primary family members in the 1950 Census, divided by the aggregate pre-tax money income received by non-primary family members in the 1950 Census. This ratio is equal to 0.87, which we apply to all non-primary families.

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Appendix D. Imputing In-Kind Transfers and Employer Provided Health Insurance in the 1940, 1950, and 1960 Decennial Census

This memo documents our approach for imputing in-kind transfers and employer provided health insurance in the 1940, 1950, and 1960 Decennial Censuses. Because the Census does not ask respondents about in-kind transfers or employer provided health insurance, we impute them based on information reported in the survey and administrative aggregate data.

Food Stamps

We do not impute Food Stamps in 1939, 1949, or 1959. The Food Stamp program began in 1939, with the first recipient using the benefit on May 16, 1939 (USDA 2024). It was structured differently than the modern program, with individuals purchasing their food stamps and receiving one dollar and fifty centers worth of stamps for every dollar paid (USDA 2024). The program ended in 1943, before being reinstituted as a pilot program in 1961 (USDA 2024). We do not attempt to impute Food Stamps in 1939, because the program was only just beginning to be implemented. There was no Food Stamps program in 1949 or 1959.

School Lunch

We impute school lunch to families each year using published aggregate data on federal spending and number of recipients. The number of children participating in the school lunch program was 2.5 million in 1940, 10.1 million in 1950, and 14.1 million in 1959 (United States Census Bureau 1965). Federal expenditures, excluding administrative costs, were $4.0 million in 1940, $55.2 million in 1950, and $109.5 million in 1959 (United States Census Bureau 1965).[22] These resources supplemented philanthropic and state and local support, which preceded federal efforts, and are not captured by our imputations (Gunderson 1971).

There is not a clear method for determining which school children benefited from the school lunch program in 1939-1959. Because the national school lunch program grew out of philanthropic and state and local efforts to provide meals to school children who would otherwise go hungry, and because federal legislation was similarly motivated to help children

[22] We use the published values for 1940 and 1950 because the 1939 and 1949 values are not published in Census Bureau (1965).

without sufficient resources to provide for their own meals, it is reasonable to assume that children from lower income families were more likely to receive subsidized meals (see Gunderson 1971 for a detailed history of the school lunch program). We assign school lunch receipt to the children with the lowest pre-tax household money income plus perquisites. As a result, school lunch receipt is assigned to children in households with income up to $250 in 1939, $1,906 in 1949, and $3,350 in 1959. While the threshold for 1939 is low due to the small number of children covered, the thresholds for 1949 and 1959 are notably similar to notions of a poverty threshold in those years. The Joint Economic Committee set a poverty threshold of $2,000 for families in 1949 (Joint Committee on the Economic Report 1950). President Johnson's Council of Economic Advisers set a poverty threshold of $3,000 for families in 1962 (Council of Economic Advisers 1964). Thus, in effect, we impute school lunch to all children near or below common notions of the poverty line in 1949 and 1959.

We assign each child who receives school lunch the same value. Thus, each covered child receives a value of $1.59 in 1939, $5.45 in 1949, and $7.76 in 1959. These values reflect only federal expenditures and understate the total value of school lunches provided.

Housing assistance

We impute rental housing assistance receipt each year using published aggregate data on federal spending and the number of recipients. Section 8 Housing Choice Vouchers and Project-Based Assistance were not yet implemented from 1939–1959. However, the U.S. Housing Act of 1937 instituted a federal public housing program (Olsen 2003), with the first public housing units recorded starting in 1941 (Collinson et al. 2016). Public housing units numbered 145,785 in 1949 and 401,467 in 1959 (Collinson et al. 2016). Federal spending on subsidized housing programs totaled $3 million in 1949 and $111 million in 1959 (OMB 2024). We note that these amounts represent federal expenditures only, excluding state and local expenditures and the value of land provided by government. Thus, our housing assistance values likely understate the value of housing provided to recipients.

In its early years, as today, public housing was allocated via waiting lists due to excess demand, and it targeted poor families (Hunt 2018). In this light, we randomly allocate housing assistance to households with children with pre-tax household money income plus perquisites below a poverty threshold set by the Council of Economic Advisers for 1962 (Council of Economic

Advisers 1964), and adjusted downward for 1949 and 1959 based on inflation using the Consumer Price Index – Urban Series. The poverty threshold by this measure was $2,398 in 1949 and $2,897 in 1959. Each recipient household is assigned the same annual value of public housing, $21 in 1949 and $276 in 1959. For context, the median monthly rent in the United States was $42 (or $504 for 12 months) in 1950 and $71 (or $852 for 12 months) in 1960 (United States Census Bureau n.d.).

Medicaid

Medicaid was passed into law in 1965. Thus, we do not impute Medicaid for 1939, 1949, or 1959. We also do not attempt to count the value of "charity hospitals" or other health care provided to low-income individuals.

Medicare

Medicare was passed into law in 1965. Thus, we do not impute Medicare for 1939, 1949, or 1959.

Employer Provided Health Insurance

We do not impute employer provided health insurance in 1939 because health insurance was typically not paid for by employers at that time.[23] We impute employer provided health insurance in 1949 and 1959 when it became more common. In 1950, 24.3 million employees were covered by employer provided health insurance, with total contributions of $856.3 million (Kolodrubetz 1972). In 1960, 40.6 million employees were covered, with total contributions of $4.257 billion (Kolodrubetz 1972).[24]

We assign employer provided health insurance to the 23.3 million families with a wage worker who worked at least 30 hours per week for at least 27 weeks in 1949, and to the 35.4 million such families in 1959. We assign coverage to all of these families because they are the most likely to have received employer-based health insurance on the basis of their hours and weeks

[23] In 1940, only about 10 percent of the U.S. population was covered by health insurance, typically paid for in full by individual enrollees as opposed to their employers (Scofea 1994). Employer provided coverage was spurred by national wage freezes that exempted employer contributions to health insurance (Institute of Medicine 1993).
[24] We use the published values for 1940 and 1950 because the 1939 and 1949 values are not published in Kolodrubetz (1972).

worked, and because these values are similar to the total number of employees receiving employer-provided health insurance in 1950 and 1960.

We assign different amounts of employer provided health insurance benefits based on the number of adults and presence of children in the family. Using the 1980 Current Population Survey Annual Social and Economic Supplement (CPS ASEC), the earliest year for which employer contributions are recorded in the survey, we calculate the mean employer contribution for (i) a single adult with no children, (ii) a single adult with at least one child, (iii) two adults with no children, and (iv) two adults with at least one child. Expressed as a ratio to the contributions for a single adult with no children, these values are 1, 1.43, 1.85, and 1.99, respectively. We then assign employer provided health insurance values to families of each type in 1949 and 1959, in accordance with these ratios and in a way that allocates all $856.3 million of contributions in 1949 and all $4.257 billion of contributions in 1959.

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Appendix E. Imputing Cash Transfers in the 1940, 1950, and 1960 Decennial Census

This memo documents our approach for imputing government cash transfers in the 1940, 1950, and 1960 Decennial Censuses. The Census in these years contains a single question about non-labor income which does not distinguish between cash income from market sources (e.g., interest, dividends, rental income) and government cash transfers (e.g., Old-Age, Survivors and Disability Insurance benefits, Unemployment Insurance, cash welfare). In the 1940 Census, the question about non-labor income only asks whether non-labor income exceeds $50. For individuals who say yes, we impute a non-labor money income amount based on information from the 1950 Census as previously described. For each individual with non-labor cash income (imputed or observed) in 1940, 1950 and 1960 Census, we also impute the portion that comes from government sources, which is necessary to impute market income, government income and dependency.

We impute each government income source according to individual characteristics, but we do not allow the individual's total government income to exceed the individual's non-labor income. For simplicity, and because we do not expect substantial overlap between the programs we impute, we do not allow a given individual to receive benefits from multiple programs. Of note, the order in which we impute each program could affect imputed government transfers to each individual.

Due to our inability to directly observe all information necessary to carry out our government cash transfer imputations for non-household heads in 1950 Census, we undertake two preliminary imputations for this year. For non-household heads, we first impute their labor income and non-labor income and second impute the number of weeks worked in the reference year. These variables are required to implement our later described imputations of government cash transfers in the 1950 Census.

Because the 1950 Census only includes non-labor income for the sample line individual, and we restrict the 1950 sample to cases in which the household head is the sample line individual, we do not observe non-labor income for individuals who are not the household head. Thus, we impute these non-labor income values for non-household heads. We first determine total

household income not received by the household head, equal to total household income minus the total income received by the household head. We assign this full amount of income to the oldest member of the household who is not the household head. We then impute the share of this total income amount that is from labor sources versus non-labor sources, using the sample line non-household heads in the 1950 Census. We calculate the share of total income that is from non-labor sources, for sample line non-household heads with strictly positive total income. We then use hot deck imputation, stratified by broad categories of total income, employment status, sex, and whether age 65 or older, to impute shares onto the non-household heads in our analysis sample. We then calculate dollars of labor income and non-labor income for the non-household heads.

We next impute the number of weeks worked for non-household heads in the 1950 Census. We again rely on the sample line non-household heads in the 1950 Census with labor income. Among those with labor income, we regress the natural logarithm of their weeks worked on their sex, race, age, state, employment type, occupation, and natural logarithm of their labor income. We then predict the natural logarithm of weeks worked among non-household heads in our analysis sample who we previously imputed received strictly positive labor income, from a normal distribution with mean and standard deviation derived from the regression estimates.

Prior to imputing government cash transfers, we also make small modifications to the 1940 and 1960 Census questions about work weeks to make them consistent across all years. In the 1940 Census, individuals were asked to report the number of full-time equivalent weeks worked (e.g., a respondent would report working 26 full-time equivalent weeks if they worked 20 hours per week for 52 weeks). Thus, we multiply full-time equivalent weeks by the ratio of 40 to the number of hours typically worked during a week to calculate the number of weeks worked, up to a maximum of 52 weeks. The 1940 Census also differed from the 1950 and 1960 Census by asking teachers not to count summer vacation as weeks of work. Thus, we assume teachers who reported working at least 36 weeks instead worked 52 weeks. Finally, the 1960 Census asks individuals to report ranges of work weeks instead of exact values. We take the mid-point of each range as the assumed number of work weeks.

After making these adjustments, we move onto imputing government cash transfers. We first impute government transfers to the elderly (those age 62 or 65 and older depending on the year

and program) and then to the general population. We start with programs that are targeted to specific populations we can reasonably identify in the census, and we order social insurance programs ahead of means tested programs (Federal Aid to the Aged, Blind and Disabled, AFDC, etc.). In our means-tested program imputations, we require an individual's family pre-tax money income to be less than the 30th percentile of family pre-tax money income since recipients of means-tested programs are likely to have relatively low levels of pre-tax money income, even when including their cash transfers.

In order to determine the aggregate number of recipients and dollars paid in benefits for each transfer program, we rely on the United States Census Statistical Abstracts. For Survivorship Insurance, Old Age Insurance, and Disability Insurance, we use national aggregates for recipients and benefits. For Unemployment Insurance, we use state aggregates of benefits paid. For all means tested programs, we use state aggregates of number of recipients and benefits paid, since states often had widely varying benefit levels.

We start with government transfers targeted at individuals aged 60 and older, including Survivorship Insurance, Old Age Insurance, and Old Age Public Assistance.

First, we impute Survivorship Insurance. We identify potential recipients as female widows at least 65 years of age in 1949 and at least 60 years of age in 1959, with strictly positive non-labor income.[25] We allocate Survivorship Insurance to the number of recipients according to administrative aggregates, allocating receipt to those with the highest amounts of non-labor income first. Then we allocate Survivorship Insurance amounts. Every recipient receives some fixed amount equal across all recipients or an amount equal to their individual total non-labor income, whichever is lower, with the fixed amount set such that the entire aggregate benefits are allocated to recipients.

Second, we impute Old Age Insurance. We identify potential recipients as individuals at least 65 years of age with strictly positive non-labor income who are not recipients of previously imputed programs. We allocate Old Age Insurance recipients and amounts in the same way as Survivorship Insurance.

[25] Social Security benefits were not first paid out until 1940. See Social Security Administration (2024) for history of eligibility rules. In 1959, it was possible to receive a reduced benefit if ages 60 or 61 and did not have a dependent child.

Third, we impute Old Age Public Assistance. We identify potential recipients as individuals at least 65 years of age with strictly positive non-labor income who are not recipients of previously imputed programs, and whose family pre-tax money income is less than the 30th percentile. By state, we allocate Old Age Public Assistance to the number of recipients according to administrative aggregates, allocating receipt to those with the highest amounts of non-labor income first. Then we allocate Old Age Public Assistance amounts. Every recipient receives some fixed amount equal across all recipients in the recipient's state or an amount equal to her total non-labor income, whichever is lower, with the fixed amount set such that the entire aggregate benefits in the state are allocated to recipients.

We turn next to programs targeted to individuals under age 65, including Unemployment Insurance, Aid to Dependent Children, Disability Insurance, Public Assistance for the Disabled, Public Assistance for the Blind, and General Assistance.

First, we impute Unemployment Insurance. We identify potential recipients as individuals with strictly positive non-labor income who worked less than 48 weeks in the reference year; who worked at least one week during the reference year or were otherwise unemployed at the time of the survey; did not work in agriculture, non-profit organizations or government at the time of the survey; and are not recipients of previously imputed programs.[26] We calculate potential weeks unemployed for each potential recipient as 52 minus reported weeks worked, up to a maximum of 26 weeks.[27] We calculate each individual's potential Unemployment Insurance benefit received as their total non-labor income or 50 percent of their average weekly wage the prior year times the number of potential weeks unemployed, whichever is lower. Then, by state, we order potential recipients, first those who were unemployed at the time of the survey, and then in order of potential weeks unemployed, from shortest to longest and allocate their potential Unemployment Insurance benefit in this order until the entire aggregate state Unemployment Insurance benefits have been allocated.

[26] We are unable to determine whether an individual working in a given industry at the time of the Census had been working in the same industry during the previous year. We assume that an individual employed in agriculture, non-profits or government was not covered by unemployment insurance in the previous calendar year, even though it is possible that they had been covered based on employment in a different industry prior to an unemployment spell experienced during the previous calendar year.

[27] See Price (1985) for a discussion of the history of Unemployment Insurance and early program parameters.

Second, we impute Aid to Dependent Children. We identify potential recipients as single mothers with at least one child under the age of 18, with strictly positive non-labor income, family pre-tax money income below the 30th percentile, and are not recipients of previously imputed programs. By state, we allocate Aid to Dependent Children to the number of recipients according to administrative aggregates, allocating receipt to those with the highest amounts of non-labor income first. Then we allocate Aid to Dependent Children amounts. Every recipient receives some fixed amount equal across all recipients in the recipient's state or an amount equal to her total non-labor income, whichever is lower, with the fixed amount set such that the entire aggregate benefits in the state are allocated to recipients.

Third, we impute Disability Insurance. We identify potential recipients as adults aged 50 to 64 with strictly positive non-labor income who are not recipients of previously imputed programs.[28] We allocate Disability Insurance to the number of recipients according to administrative aggregates, allocating receipt to those with the highest amounts of unearned income first. Then we allocate Disability Insurance amounts. Every recipient receives some fixed amount equal across all recipients or an amount equal to her total non-labor income, whichever is lower, with the fixed amount set such that the entire aggregate benefits in the state are allocated to recipients.

Fourth, we impute Public Assistance for the Disabled. We identify potential recipients as adults aged 18 to 64 with labor income less than $50 and strictly positive non-labor income whose family pre-tax money income is less than the 30th percentile, who are not recipients of previously imputed programs. By state, we allocate Public Assistance to the Disabled to the number of recipients according to administrative aggregates, allocating receipt to those with the highest amounts of non-labor income first. Then we allocate Public Assistance to the Disabled amounts. Every recipient receives some fixed amount equal across all recipients in the recipient's state or an amount equal to their individual total non-labor income, whichever is lower, with the fixed amount in a given state set such that the entire aggregate benefits are allocated to recipients.

Fifth, we impute Public Assistance for the Blind. We identify potential recipients as adults aged 18 to 64 with labor income less than $50 and strictly positive non-labor income whose family pre-tax money income is less than the 30th percentile, who are not recipients of previously

[28] This eligibility age range was later expanded (Social Security Administration 1986).

imputed programs. We allocate Public Assistance for the Blind recipients and amounts in the same way as Public Assistance for the Disabled.

Sixth, we impute General Assistance. We identify potential recipients as adults aged 18 to 64 with labor income less than $50 and strictly positive non-labor income whose family pre-tax money income is less than the 30th percentile, who are not recipients of previously imputed programs. We allocate General Assistance recipients and amounts in the same way as Public Assistance for the Disabled.

Appendix Table E1 reports the national aggregate recipients and spending for each imputed program, for 1939, 1949, and 1959. The values reported for Old Age Insurance, Survivorship Insurance, and Disability Insurance are used directly in our imputations, except that they are first adjusted downward based on the previously stated ratios so that the ratio of transfer income to total income in the survey is equal to the ratio of transfer income to total income according to national accounts. For all other programs, we use state-level values that are adjusted in the same way as the national values.

Appendix Table E2 compares the aggregate cash transfers imputed in the Decennial Census in each year with the administrative aggregates. Across all programs, the share of cash transfers according to administrative aggregates imputed in the Decennial Census is 81 percent in 1940, 67 percent in 1950, and 83 percent in 1960. The lower share in 1950 is mainly a result of the lower share of Unemployment Insurance captured in that year. It is also notable that no Old Age Public Assistance is captured in 1960. In each case, survey reported non-labor income was not high or widespread enough among the eligible population for a given program to assign all of the administrative aggregate.

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Appendix Table E1. National aggregate recipients and spending by program, 1939, 1949, and 1959

	1939		1949		1959	
Program	Recipients (1,000s)	Dollars ($ mil.)	Recipients (1,000s)	Dollars ($ mil.)	Recipients (1,000s)	Dollars ($ mil.)
Social Insurance Programs						
Old Age Insurance	—	—	1,918[a]	651[a]	9,631	7,607
Survivorship Insurance	—	—	1,094[a]	277[a]	3,189	2,063
Disability Insurance	—	—	—	—	378	457
Unemp. Insurance	—	429	—	1,740	—	2,279
Means Tested Programs						
Aid to Dep. Children	346[b]	132[b]	537[c]	414[d]	779[e]	1,002[f]
Old Age Public Assist.	1,970[b]	475[b]	2,626[c]	1,259[d]	2,394[e]	1,881[f]
Disabled Public Assist.	—	—	—	—	350[e]	259[f]
Blind Public Assist	72[b]	22[b]	89[c]	45[d]	109[e]	91[f]
General Assist.	1,373[b]	389[b]	461[c]	232[d]	399[e]	344[f]

[a] 1950 value reported. [b] June 1940 value reported, monthly dollar value multiplied by 12. [c] June 1949 value reported. [d] Fiscal year 1949 value reported. [e] December 1959 value reported. [f] Calculated by multiplying reported average monthly payment per recipient by number of recipients and by 12, then scaling such that total benefits across all programs equals total spending in 1959 according to 1960 Census Statistical Abstract, p. 291.

Sources: United States Census Bureau 1940, p. 376 (1939 Unemployment Insurance), p. 380-381 (1939 Means Tested Programs); United States Census Bureau 1950, p. 240 (1949 Unemployment Insurance), p. 250 (Means Tested Programs); United States Census Bureau 1960, p. 283 (1959 Unemployment Insurance), p. 290-201 (1959 Means Tested Programs); United States Census Bureau 1961, p. 264 (1949 and 1959 Old Age Insurance, Survivorship Insurance, and Disability Insurance)

Appendix Table E2. National aggregate spending by program, 1939, 1949, 1959: Survey and administrative aggregates and ratio (millions of nominal dollars)

	1939	1949	1959
Old Age Insurance			
Survey	—	651	7,610
Administrative	—	651	7,607
Ratio	—	1.00	1.00
Survivors Insurance			
Survey	—	277	2,060
Administrative	—	277	2,063
Ratio	—	1.00	1.00
Disability Insurance			
Survey	—	—	457
Administrative	—	—	457
Ratio	—	—	1.00
Unemployment Insurance			
Survey	393	902	1,862
Administrative	429	1,740	2,279
Ratio	0.92	0.52	0.82
Aid to Dependent Children			
Survey	75	182	670
Administrative	132	414	1,002
Ratio	0.57	0.44	0.67
Old Age Public Assistance			
Survey	391	796	0
Administrative	475	1,259	1,881
Ratio	0.82	0.63	0.00
Disabled Public Assistance			
Survey	—	—	263
Administrative	—	—	259
Ratio	—	—	1.02
Blind Public Assistance			
Survey	21	42	88
Administrative	22	45	91
Ratio	0.96	0.93	0.97
General Assistance			
Survey	295	227	294
Administrative	389	232	344
Ratio	0.76	0.98	0.85
All programs			
Survey	1,175	3,150	13,304
Administrative	1,447	4,618	15,983
Ratio	0.81	0.67	0.83

Note: “Survey” refers to aggregate imputed transfer in the Decennial Census. “Administrative” refers to aggregate amounts reported in Table E1.