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ADVANCE PUBLICATION

# Has Generational Progress Stalled? Income Growth Over Five Generations of Americans

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**ABSTRACT** Whether each generation of Americans continues to economically surpass the previous one has recently been called into question. We construct a posttax, post-transfer income measure from 1963 to 2023 based on the Current Population Survey Annual Social and Economic Supplement that allows us to consistently compare the economic well-being of five generations of Americans at ages 36–40. We find that Millennials had a real median household income that was 20% higher than that of the previous generation, a slowdown from the growth rate of the Silent Generation (36%) and Baby Boomers (26%), but similar to that of Generation X (16%). The slowdown for younger generations largely resulted from stalled growth in work hours among women. Progress for Millennials younger than 30 has also remained robust, though largely due to greater reliance on their parents. Additionally, lifetime income gains for younger generations far outweigh their higher educational costs.

**KEYWORDS** Full income • Growth • Generations • Mobility • Millennials

## Introduction

A defining aspect of the American Dream is that the economic well-being of each generation should surpass that of the previous one. Whether this condition holds for younger generations has recently been called into question. A 2022 Gallup poll found that just 42% of Americans expect that today's youth will have a better life than their parents—down from 71% in 1999 (Brenan 2022). Similarly, headlines in recent years have called Millennials (born from 1981 to 1996) the "unluckiest generation in U.S. history" (Van Dam 2020) and claimed that "many Millennials are worse off than their parents—a first in American history" (Luhby 2020).[1] Yet, when asked about their own financial situation compared with their parents at a similar age in the Federal Reserve's Survey of Household Economics and Decisionmaking, Millennial and Generation Z adults were nearly as likely as Baby Boomers to report doing better than

[1] That Millennials are the first generation to underperform their parent's generation is also the thesis of Filipovic (2020).

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their parents at the same age.[2] Hence, young adults appear to be more positive about their own financial progress than popular commentary suggests. Gaining an accurate understanding of changes in economic well-being across generations, in light of these narratives, is important for assessing the state of the American Dream.

In this article, we address three questions about generational progress. First, has income growth remained positive for recent generations of Americans relative to previous generations, or are the incomes of younger generations falling behind those of previous generations at the same age? Second, has the pace of generational progress slowed, and if so, when did the slowdown occur? Third, what factors contributed to the changing pace of generational progress over time?

We address these questions by comparing incomes for individuals from across seven generations—from the Lost Generation (born 1883–1900) to Generation Z (born 1997–2012)—using the Current Population Survey Annual Social and Economic Supplement (CPS ASEC) from Flood et al. (2022). For each generation, we construct the income distribution of generation members at every age. This approach allows us to track how members of each generation were faring at an equivalent stage of their lives and to do so over a longer period than has been used in previous analyses. We then zoom in on a focal age range in people's late 30s—an age at which we observe the five generations from the Greatest Generation (born 1901–1927) through the Millennial Generation (born 1981–1996)—and assess both whether generational progress is positive and the extent to which the rate of growth is speeding up or slowing down.[3]

Once we establish the patterns of generational progress, we explore several major factors contributing to income changes from one generation to the next. These include employment trends by generation, the rise in educational attainment and the corresponding increase in student loan debt, and the offsetting effects from rising home prices that could mitigate generational progress.

## Relation to Previous Research

This work builds on the previous research on economic progress across generations, including research by Twenge (2023), who found that generational income growth for Millennials in young adulthood far surpassed the growth for either Generation X or Baby Boomers, and by Fisher and Johnson (2022), who used the Panel Study of Income Dynamics to consider income, consumption, and wealth across generations for adults born before 1985. Similarly, Kurz et al. (2019) used the Panel Study of Income Dynamics to compare the individual earnings and family income of three generations of Americans in three snapshot years—1978, 1998, and 2014.[4] Relative to this research,

[2] In the 2023 survey, 49% of Millennial adults and 51% of Generation Z adults felt they were better off financially than their parents at the same age. Among Generation X, 53% felt they were better off, and among Baby Boomers, 56% did. In each of these generations an additional 21–22% said they were doing about the same as their parents financially (authors' calculations; Board of Governors of the Federal Reserve System 2024).

[3] We refer to income comparisons across these generations, as defined by their birth cohorts, as "generational" progress, reserving the term "intergenerational" progress for comparisons between children and their parents.

[4] Kurz et al. (2019) focused on tracking a broad set of characteristics of Millennials compared with previous generations, when they were relatively young.

we are able to look at a longer period and more recent generational cohorts, use broader income measures that incorporate taxes and transfers, and consider some of the underlying economic changes affecting income trends.

Our work also complements intergenerational progress research, which compares the economic well-being of adult children with that of their parents.[5] For example, Urahn et al. (2012) estimated the share of adults whose incomes exceed that of their parents at a constant age. Chetty et al. (2017) went further, combining cross-sectional survey data with tax records, allowing them to calculate absolute mobility trends over longer time periods. They found that the share of children who earn more than their parents fell from 92% among those born in 1940 to 50% among those born in 1984. Berman (2022) and Manduca et al. (2024) extended the Chetty et al. (2017) approach internationally and provided additional sensitivity analysis to reference ages and income concepts. Other studies have focused on relative mobility—the correlation between the position of individuals and their parents in the income distribution (Chetty et al. 2014; Lee and Solon 2009; Mayer and Lopoo 2005; Ward 2023).[6]

These complementary strands of research each provide different perspectives on whether progress is positive and if the pace of progress has shifted over generations. Some members of the current generation may compare themselves to their parents, whereas others may compare themselves to the wider distribution of members of previous generations, as we do in our analysis.[7]

An additional contribution of our study is that we evaluate trends in well-being using a comprehensive measure of income that adjusts for taxes and includes both cash and in-kind transfers.[8] The role of these tax and transfer programs has been underexplored in the existing research on generational and intergenerational progress despite their demonstrated importance in other settings that focus on trends in cross-sectional economic well-being (e.g., see Auten and Splinter 2024; Burkhauser et al. 2024; Larrimore et al. 2021; Piketty et al. 2018). Thus, using a broad income measure could change conclusions about whether younger generations have outperformed older generations at a similar age.

## Preview of Results

In our sample period (1963–2023) containing seven generations in their adult years, we can observe five generations at a focal age range of 36–40, allowing for consistent

[5] Other research has compared mobility in other outcomes, such as occupations (Long and Ferrie 2013; Song et al. 2020).

[6] Survey-based studies have found mixed results. Chetty et al. (2014) used linked tax records to compare the income of adults of approximately 30 years of age in 2011 and 2012 with their family income as children, finding that children whose parents are 10 percentile points higher up in the income distribution have, on average, a 3.4 percentile points higher income when they become adults.

[7] Comparisons to one's own parents also differ from comparisons across generations in that one's parents are not always in the previous generation. Because the age at which parents have their first child has increased (Mathews and Hamilton 2002), it produces more time for improvements from parent to child relative to the roughly constant length of societal generations.

[8] We emphasize, however, that the cost of earning the income can change as well, as more young adults are investing in college and the cost of higher education has risen over time. We discuss implications of changes to human capital accumulation on results later in this article.

comparisons of generational progress during prime working years. In this age range, broad income has risen for every generation relative to the previous one, though at a slower rate for Generation X and Millennials. The median 36–40-year-old from the Silent Generation had a household income that was 36% higher than the Greatest Generation's median person for the same age range. Baby Boomers in this age range had a median income that was 26% above that of the Silent Generation. The generational income growth rate was lower for Generation X (16%) and for Millennials (20%). Although the slowdown in generational progress was more pronounced when looking at market incomes than when looking at broader income measures accounting for taxes and transfers, Millennials in their late 30s still had a median market income that was 15% above that of Generation X.

The continued generational progress for individuals in their late 30s is not solely due to changing household formation rates. The improvements across generations for those in their late 30s are also apparent when looking at the incomes of individuals and couples, rather than households, which would not be affected by household formation trends.

A major contributor to the slowdown in generational progress for Generation X and Millennials is a slowdown in the growth of work hours for women. In their late 30s, female members of the Silent Generation and Baby Boomers worked more than 40% more hours on average than the previous generation, whereas female members of Generation X and Millennials worked just 1–4% more than the previous generation. The female work hours slowdown resulted from the stalling of female labor supply growth at the turn of the millennium, after which point Generation X and Millennials began to reach their late 30s. Men in their late 30s across all four generations, meanwhile, each worked on average 3–4% less than the previous generation. We find that the rise in female work hours explains a substantial amount of the income growth of the Baby Boom Generation and contributed far less to income growth in later generations.

Given the heightened concerns about student loan debt and the cost of college eroding income gains for younger cohorts of Americans, we also consider the magnitude of generational improvements relative to increases in the cost of higher education. Once we account for growing financial aid, we find that the increase in the cost of higher education for Millennials relative to Generation X represents less than three years of the increase in their household incomes. Over the entire life span, the increased cost of college thus represents a small share of the increase in lifetime income for Millennials relative to previous generations.

Although there are conceptual differences between our measure of median income growth by generation and measures of absolute intergenerational upward mobility (Chetty et al. 2017; Katz and Krueger 2017), we similarly find a slowdown in economic progress over time. However, in contrast to the intergenerational mobility results in these studies, we find that for Millennials this decline stopped and median income growth slightly increased. The sustained growth rates we observe for younger generations may result from conceptual differences between median income growth by generation and absolute intergenerational mobility.[9] Growth may also result from

[9] In addition to the distinction between comparing full generations to each other versus comparing parents to children, growth in inequality and intergenerational rank mobility contribute to absolute income mobility differently. Consequently, generational median income growth and intergenerational absolute income mobility trends will not always align.

our sample including later born cohorts (Millennials born through 1990 are in our focal age range, versus those born through 1984 observed by Chetty et al. (2017) and Katz and Krueger (2017)). Additionally, we adjust for inflation using the Personal Consumption Expenditures (PCE) price index, which among other differences allows for broader consumer substitution patterns than the traditional Consumer Price Index (CPI-U).[10] Our inclusion of all adults in the older comparison generation, rather than just parents, may also increase observed generational growth since, on average, parents in their late 30s have higher incomes than nonparents.[11]

We also observe greater generational progress than Fisher and Johnson (2022), who found using the Panel Study of Income Dynamics that those born between 1975 and 1984 had lower incomes in their mid-30s than those born between 1965 and 1974. The greater generational progress that we observe relative to Fisher and Johnson (2022) in part reflects our broader income measure, additional years of data, and the different inflation measures. Nonetheless, we also find that any acceleration is far smaller than that suggested by Twenge (2023), who observed that Millennials experienced nine times the generational income growth at ages 25–34 than either Baby Boomers or Generation X. The greater consistency in generational income growth that we observe relative to Twenge (2023) is evaluated in Table A1 (shown in the online appendix, along with all other tables and figures designated with an "A"), demonstrating that using all individuals instead of only household heads, adjusting for household size, and employing a consistent measure of inflation are the largest contributors to our differing results.[12]

Given that we observe only the oldest Millennials at our comparison age in our dataset, our results likely somewhat understate the generational progress of Millennials. This result counters some popular narratives that Millennials are worse off than previous generations but it also provides optimism that the American Dream may no longer be fading. This optimism is especially warranted if rather than comparing themselves only to their parents, Americans define progress on the basis of how they compare to the full distribution of Americans in the prior generation, as we do in this study.

## Data and Methodology

We use the CPS ASEC to construct our various income measures for each year from 1963 to 2023. The CPS ASEC is a nationally representative household survey used by the Census Bureau to produce official income and poverty statistics (Guzman and Kollar 2023; Shrider and Creamer 2023). It asks a large set of income questions and is available annually for approximately six decades. We use the CPS ASEC to

[10] The methodology of the CPI-U has changed over time. The Consumer Price Index retroactive series (CPI-U-RS) applies current methods to the historical CPI-U (see Stewart and Reed 1999). Therefore, when comparing results in this study to the CPI, we use the CPI-U-RS rather than the CPI-U.

[11] If one cares about the progress for all members of a generation relative to the previous one, focusing on one's own parents will overweight parents with multiple children and exclude those in older generations who do not have children.

[12] Twenge (2023) found stagnant growth for Baby Boomers and Generation X but substantial growth for Millennials. Notably, just switching from the CPI-U to the CPI-U-RS, which consistently applies the current CPI-U methodology historically, increases the income growth of Baby Boomers compared with the Silent Generation by 10 percentage points relative to that observed by Twenge (2023).

calculate for each individual or household two primary definitions of income—(1) market income and (2) posttax, posttransfer income.[13]

Our market income concept includes wages, salaries, self-employment income, retirement income (excluding Social Security and Veterans Administration benefits), pensions, interest, dividends, annuities, rent payments, child support received, alimony, and financial assistance from friends and relatives. Our posttax, posttransfer income concept begins with market income and subtracts federal income tax liabilities (net of tax credits), the employee-paid portion of the federal payroll tax, and state income tax liabilities, and it adds cash welfare, government retirement and disability benefits, and major nonmedical in-kind transfers, including the Supplemental Nutrition Assistance Program, school meals, and rental housing assistance.

Although the CPS ASEC is among the best sources of historical household income data, it lacks some of these income sources, especially in earlier years. The Census Bureau does not impute taxes prior to 2005 and does not capture the value of in-kind transfers prior to 1979. Thus, we impute these missing income sources following the approach in Burkhauser et al. (2024). We impute federal income taxes, state income taxes, and payroll taxes for all years using NBER TAXSIM 35 version 9 (Feenberg and Coutts 1993).[14] We use the imputed values of major nonmedical in-kind transfers—Supplemental Nutrition Assistance Program, rental housing assistance, and school lunch—from Burkhauser et al. (2024). These imputations rely on administrative data on aggregate caseload and spending data for each year, as well as predictions of recipients and benefit values based on CPS ASEC survey responses. We also correct for unemployment insurance underreporting in the CPS ASEC during the pandemic using tax-record-based imputations from Larrimore et al. (2023a).

As with all surveys, not all households sampled for the CPS ASEC complete the survey interview (survey nonresponse). This problem has recently grown, as survey response rates to the CPS ASEC have fallen from 90% in 2012 to 84% in 2018 to 69% in 2023 (Bee and Rothbaum 2023). The Census Bureau corrects for survey nonresponse using respondent weights, although Bee and Rothbaum found that while nonresponse bias is minor in pre-COVID years, the respondent weights do not fully correct for survey nonresponse during the pandemic. Therefore, we use the Census Bureau respondent weights in our estimates for years before 2020, and we correct for differential nonresponse during the pandemic using the corrected weights from Rothbaum and Bee (2021).

Another problem is that some survey respondents skip individual questions within the survey (item nonresponse). The Census Bureau imputes missing responses using a combination of relational imputations based on other characteristics of the person

[13] For income years 1963–1966, we exclude from market income all unearned income—both government income and interest, dividends, rent, and alimony—because all of these income sources are reported together as a single aggregate source. Excluding unearned market income leads us to understate market income in 1963–1966, and because these nongovernment income sources are counted as market income in all later years starting in 1967, their exclusion before then leads us to overstate growth in market income for our earliest generations. However, these unearned sources of income are relatively small for our focal age range (age 36–40), and thus the upward bias in market income growth is likely small as well.

[14] Because state tax laws prior to 1978 are not incorporated in TAXSIM, we apply state tax law as of 1978 to impute state income taxes for all years from 1963 to 1977, following the approach taken by Burkhauser et al. (2024).

or household, longitudinal edits based on previous surveys, and hot deck imputations based on other similar respondents (U.S. Bureau of Labor Statistics 2021). We use the Census Bureau's imputed values to correct for item nonresponse in all results.

A final concern with the CPS ASEC is that incomes at the top of the distribution are top-coded to protect respondent confidentiality, which leads to understatement of income at the top of the distribution, and changes in top-coding over time also affect the trends (Burkhauser et al. 2011). However, our focus on the median—and occasionally the 25th and 75th percentiles of the income distribution—instead of means allows us to avoid this source of bias.[15]

For our preferred specifications, we convert all nominal income values into 2019 dollars using the PCE price index. We use this index because unlike the CPI-U-RS, it accounts for the ability of consumers to substitute across broad categories of items, and because unlike the Chained CPI-U, the PCE price index is available for our entire sample period. In a sensitivity analysis we alternatively show major results using the CPI-U-RS.

We analyze two different sharing units. Our primary analysis takes the household as the sharing unit, reflecting all of the resources available to household members regardless of who brings the resources into the household. When using the household sharing unit, we equivalize resources using a square root equivalence scale to reflect economies of scale in consumption. In separate analyses we also consider the income of individuals and couples to distinguish between resources received by the members of a particular generation and the resources brought in by others, such as parents, and to separate income trends from shifts in resources that result from changing childbearing decisions. To the extent that adult children increasingly live with and rely on their parents financially (so called "boomerang children"), this distinction could affect trends in household income growth. For the income of individuals and couples, we follow Piketty et al. (2018) and Larrimore et al. (2023a), and we allocate half of the couple's resources to each individual without further adjustments for economies of scale. We allocate all market income such as earnings to the individual who earns it, and we allocate taxes equally within couples who are expected to jointly file a tax return. For cash transfer income captured in the CPS ASEC, we allocate the transfer income on the basis of the recipient recorded in the survey. For imputed in-kind transfer income, we allocate transfers to the householder identified in the CPS ASEC.

For analyses of individual and couple-level incomes, we determine relationships using IPUMS relationship status codes, which treat cohabiting partners as a couple when one of them is the householder since the Census Bureau began collecting information on unmarried partners in 1995 (Kennedy and Fitch 2012). Cohabitation is not directly observable in the data in earlier years. For the purposes of this study, whether cohabiting couples are treated independently or jointly has minimal effects on results. Because cohabiting couples reside together, there is no effect on household incomes.

[15] In addition to the issues described here, the CPS ASEC underwent a redesign in 2014 to improve accuracy of reported retirement income, pensions, annuities, and cash transfers. The redesign led to a 3.1% increase in median income relative to the old method. However, the improved income sources are less important for the median 36–40-year-old, who we focus on in our results. There may be modest effects for older individuals and, to a lesser extent, the 25th percentile of our focal age group, who may benefit from cash transfers.

Additionally, median individual/couple incomes of each generation in our focal age range of 36 to 40 are never affected by more than $125, and generational income growth is never affected by more than 0.3 percentage points.[16]

We group individuals into generations using birth years: the Lost Generation (1883–1900), the Greatest Generation (1901–1927), the Silent Generation (1928–1945), Baby Boomers (1946–1964), Generation X (1965–1980), Millennials (1981–1996), and Generation Z (1997–2012). These classifications from Pew Research (Dimock 2019) have been used in previous research, reports, and public commentary.[17] Each of the generations since the Silent Generation also spans a relatively similar amount of time, from 15 to 18 years, allowing for consistent comparisons. We compare generations by examining the distribution of income across all individuals in a given generation of a given age (or age range). Because each generation spans multiple years, members of the generation will be of a given age in different calendar years. For example, members of Generation X were 35 years old between 2000 (those born in 1965) and 2015 (those born in 1980).

Our sample period includes calendar years 1963 through 2023, and so we can only make comparisons of generations that reached a given age in some year during that range.[18] We focus on the age range 36–40, a prime working age after educational investments have been made that allows us to observe five generations—the latest born members of the Greatest Generation, all of the Silent Generation, Boomers and Generation X, and earlier born Millennials. Because we observe only the youngest members of the Greatest Generation, we likely overstate the incomes of all Greatest Generation members (most of whom reached age 36–40 before our data sample begins in 1963) and thus understate income growth from the Greatest Generation to the Silent Generation. And because we observe only the oldest Millennials, we are likely to understate the incomes of all Millennials (many of whom will reach age 36–40 after our data sample ends in 2023) and thus understate income growth from Generation X to Millennials. In online appendix B, we show the robustness of our results when adjusting for our incomplete coverage of Millennials at age 36–40 in our sample. We also show results using an expanded age range of 30–40 to confirm that the results for recent generations are robust to broader age ranges.[19]

In all specifications comparing generations within an age range, we adjust individual sample weights such that an equal number of weighted individuals are observed across each age within a given generation. Thus, even though we observe more 36-year old Millennials than 40-year old Millennials, for example, each of

[16] Because our individual and couple-level results use an equal-split approach of the unit's income, the generation's median income will be affected by the treatment of cohabiting couples only when either (1) one member of the couple has an above-median income and the other has a below-median income or (2) the members of the couple are of different ages or in different generations, which slightly shifts the income–age profiles. These effects do not cause a systematic bias in one direction, resulting in the minimal effects on results from the choice of how to treat cohabitation.

[17] Dimock (2019) did not provide a beginning year for the Greatest Generation or the span of the Lost Generation. We define the birth years for these generations as described in Strauss and Howe (1991).

[18] Figure A1 indicates the calendar years in which a generation's members were of a given age to demonstrate the ages at which we observe each generation in the period from 1963 to 2023.

[19] We do not observe the Greatest Generation over the entire 30–40 age range and so omit the comparison of the Greatest Generation and the Silent Generation when extending the age band.

these ages are weighted equally when estimating the median income of Millennials aged 36–40.

## Generational Progress

We begin by comparing income growth across five generations at our focal age range of 36–40 years old. Table 1 reports the percentage increase in income for each generation relative to the immediately preceding generation.[20] We use the individual/couple and the household sharing units and report results for market (i.e., pretax, pretransfer) income and posttax, posttransfer income. Standard errors are reported in Table A3 and, given our large number of years of data, are relatively small relative to the magnitude of generational income growth.

Focusing first on median market income, there are two notable takeaways that apply for both the individual/couple and the household sharing units. The first is that generational progress has clearly slowed since the Baby Boom Generation, although it remains positive. Second, despite the perception that slowing generational progress is a recent phenomenon, the substantial slowdown did not start with Millennials but began a generation earlier with Generation X. Generational progress at the median accelerated for Millennials, although not approaching the pace observed for the Baby Boom Generation.

Looking at the patterns for median household market income by generation, the income of Baby Boomers in their late 30s was 31% above that for similarly aged adults in the Silent Generation. Progress slowed substantially for Generation X—their incomes increased by 10% relative to Baby Boomers—and then ticked up for Millennials, whose incomes rose by 15% relative to Generation X. This slowdown in household incomes across generations is more pronounced than that seen for individual/couple-level incomes, which reflects the slowing of the decline in household size. A substantial decline in household size for Baby Boomers served to increase the growth rate of their household equivalized income, whereas a negligible decline in household size for Generation X and Millennials did little to boost their growth rates.[21]

Although market income is an important indicator of progress, it does not reflect the full set of resources that individuals have available for consumption.[22] The slowdown in generational progress is softened when accounting for taxes and transfers

[20] See Table A2 for sample sizes for each generation, overall and disaggregated by characteristics analyzed in later sections.

[21] Baby Boomers aged 36–40 experienced an 11.4% decline in average household size relative to Silent Generation members of the same age. Generation X members aged 36–40 experienced a 0.3% decline in average household size relative to Baby Boomers, and Millennials aged 36–40 experienced a 1.1% decline in average household size relative to Generation X members of the same age (authors' calculations; U.S. Census Bureau 2025).

[22] Market income should also not be interpreted as the incomes that individuals would receive in the absence of government interventions because individuals change their labor market decisions and businesses adjust their practices in response to government programs and some government interventions, such as minimum wages, affect market earnings directly.

**Table 1** Percentage increase in income from previous generation at ages 36–40 at various percentiles

| | Greatest | Silent | Boomer | Gen X | Millennials |
|---|---|---|---|---|---|
| 50th Percentile (median) | | | | | |
| Market income | | | | | |
| Individual/couple | — | 34.4 | 23.3 | 8.0 | 11.4 |
| Household | — | 45.1 | 31.3 | 10.0 | 14.9 |
| Posttax, posttransfer income (excluding health insurance) | | | | | |
| Individual/couple | — | 26.3 | 17.9 | 15.1 | 16.5 |
| Household | — | 35.6 | 26.1 | 16.0 | 20.0 |
| 25th Percentile | | | | | |
| Market income | | | | | |
| Individual/couple | — | 27.5 | 10.1 | –1.0 | 11.8 |
| Household | — | 38.9 | 21.1 | 0.9 | 13.7 |
| Posttax, posttransfer income (excluding health insurance) | | | | | |
| Individual/couple | — | 24.5 | 9.3 | 10.8 | 16.7 |
| Household | — | 33.9 | 20.1 | 11.9 | 21.3 |
| 75th Percentile | | | | | |
| Market income | | | | | |
| Individual/couple | — | 37.4 | 28.8 | 15.9 | 14.7 |
| Household | — | 48.0 | 35.9 | 17.1 | 17.6 |
| Posttax, posttransfer income (excluding health insurance) | | | | | |
| Individual/couple | — | 24.8 | 22.4 | 21.5 | 17.4 |
| Household | — | 34.1 | 29.2 | 21.5 | 21.4 |

*Notes:* Generations are defined by the following birth years: Greatest Generation (1901–1927), Silent Generation (1928–1945), Baby Boomers (1946–1964), Generation X (1965–1980), and Millennials (1981–1996). Individual/couple income refers to the total income received by the individual and, in the case of those who are married or in a cohabiting relationship, the total income received by both members of the couple divided by two. Household income refers to total income received by all members of the household, divided by the square root of the household size. Market income includes all sources of income not received from government sources, does not adjust for taxes, and excludes the value of health insurance. Posttax, posttransfer income includes market income as well as all nonmedical cash and in-kind transfers, adjusts for taxes, and excludes the value of health insurance. All income values are converted to real 2019 dollars using the Personal Consumption Expenditures price index.

*Sources:* Current Population Survey Annual Social and Economic Supplement, 1964–2024; Burkhauser et al. (2024); and authors' calculations.

(excluding health insurance), consistent with the increase in transfers and the decrease in tax rates for most adults over the past several decades. The growth rate for posttax, posttransfer median income was similar for the Millennial, Generation X, and Baby Boom generations if looking at individual/couple-level incomes. For each of the three generations, incomes of people in their late 30s increased between 15% and 18% relative to similarly aged adults in the prior generation. Again reflecting changes in household size, there is a greater slowdown in household income growth than was observed when looking at the equal-split incomes of couples and single individuals.

Patterns of generational progress could depend on where in the income distribution we focus. We therefore also consider the progress for those at the 25th percentile and the 75th percentile in Table 1.[23]

[23] In Tables A4 and A5 we show the 10th and 90th percentiles.

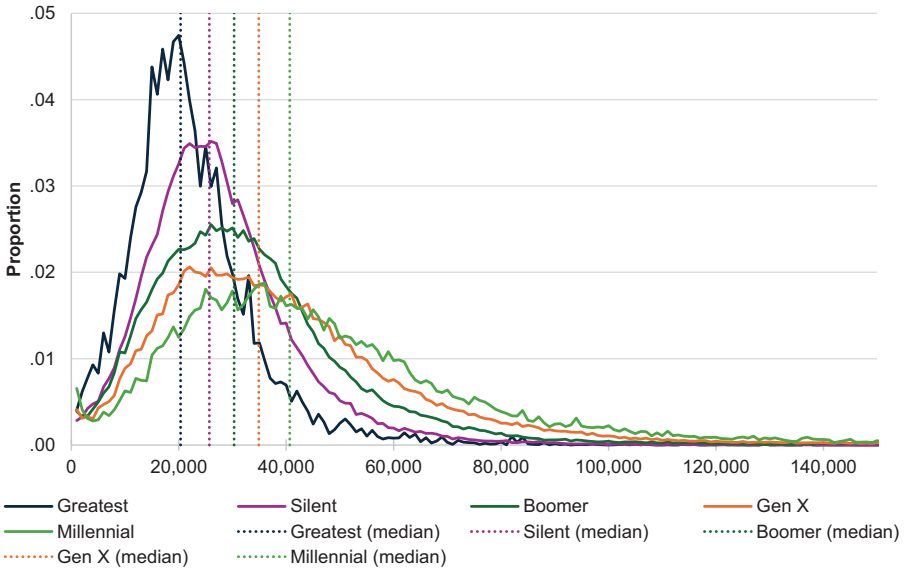


**Fig. 1** Distribution of posttax, posttransfer income of individuals/couples by generation, at ages 36–40. Generations are defined by the following birth years: Greatest Generation (1901–1927), Silent Generation (1928–1945), Baby Boomers (1946–1964), Generation X (1965–1980), and Millennials (1981–1996). Posttax, posttransfer income includes market income as well as all nonmedical cash and in-kind transfers, adjusts for taxes, and excludes the value of health insurance. Income for each individual includes income received by the individual and, in the case of those who are married or in a cohabiting relationship, the total income received by both members of the couple divided by two. All income values are converted to real 2019 dollars using the Personal Consumption Expenditures price index. *Sources:* Current Population Survey Annual Social and Economic Supplement, 1964–2024; Burkhauser et al. (2024); and authors' calculations.

As with the median (50th percentile), generational progress at these other percentiles has generally remained positive despite slowing relative to earlier generations. Looking at Generation X, those at the 25th percentile of the distribution had approximately zero generational progress in market incomes (at either the household or individual/couple sharing unit level) relative to Baby Boomers, whereas those at the 75th percentile saw market income growth of 16–17%. Nevertheless, once accounting for taxes and transfers, we again see growth in 25th percentile incomes for those in Generation X. For Millennials, income growth accelerated at the 25th percentile, while modestly continuing its slowdown at the 75th percentile, for each income and sharing unit definition. This acceleration for Millennials at the 25th percentile was particularly notable for market income, which grew by 14% at the household level for Millennials compared with just 1% for Generation X. Figure 1 shows that the entire distribution of posttax, posttransfer income of individual/couples for each generation stochastically dominates the previous one.

These patterns observed for ages 36–40 are broadly consistent throughout the observable life course. As seen in panels a and c of Figure 2, among those in their late 20s or older, each generation is outperforming the previous generation, although improvements are more modest and came slightly later for Generation X and Millennials than was the case for earlier generations. This trend is true using either

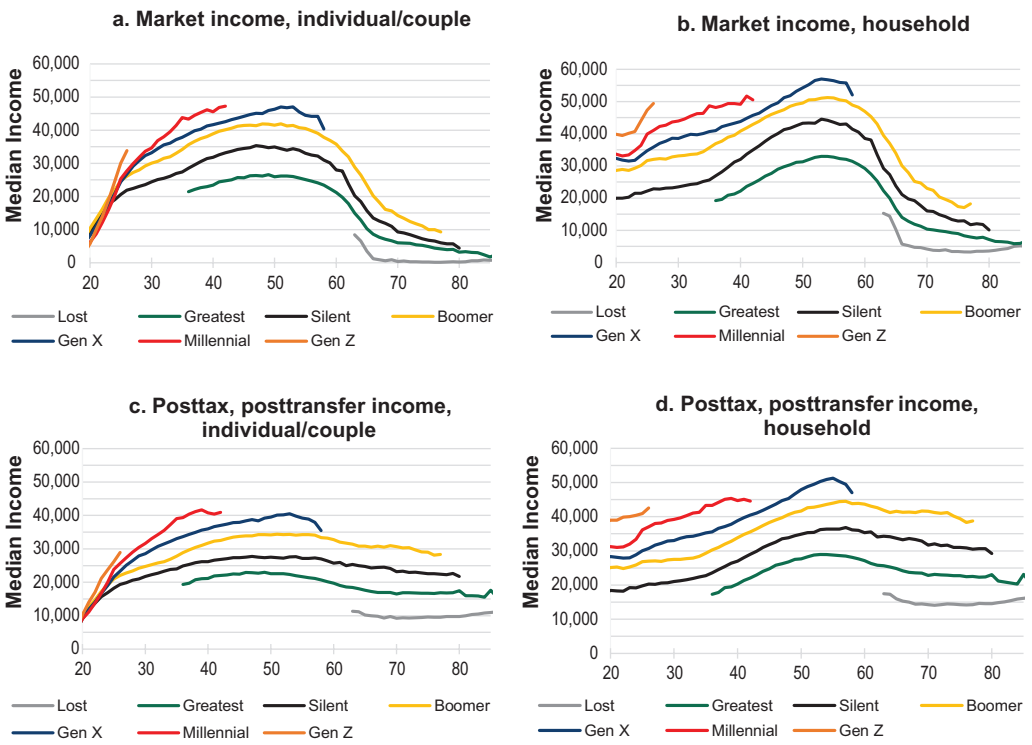


**Fig. 2** Median market income and posttax, posttransfer income by age and generation, according to sharing unit. Generations are defined by the following birth years: Lost Generation (1883–1900), Greatest Generation (1901–1927), Silent Generation (1928–1945), Baby Boomers (1946–1964), Generation X (1965–1980), Millennials (1981–1996), and Generation Z (1997–2012). Individual/couple income refers to the total income received by the individual and, in the case of those who are married or in a cohabiting relationship, the total income received by both members of the couple divided by two. Household income refers to total income received by all members of the household, divided by the square root of the household size. Market income includes all sources of income not received from government sources, does not adjust for taxes, and excludes the value of health insurance. Posttax, posttransfer income includes market income as well as all nonmedical cash and in-kind transfers, adjusts for taxes, and excludes the value of health insurance. All income values are converted to real 2019 dollars using the Personal Consumption Expenditures price index. *Sources:* Current Population Survey Annual Social and Economic Supplement, 1964–2024; Burkhauser et al. (2024); and authors' calculations.

income definition. Yet, it will be important to continue monitoring the age–income profile of Millennials in future years to see if the income growth they established in their mid-30s is maintained as they age.[24]

[24] We caution against overinterpreting the downturn seen in the oldest year of some cohorts. As discussed further in online appendix B, the oldest birth year in each generation typically has lower incomes than latter birth years of the generation because incomes rise over time. Hence, the generation's observed income at that age should increase once observing additional birth years. Additionally, although we have large sample sizes and small standard errors for entire generations at ages 36 to 40 (as seen in Tables A3, A9, and A10) and for a single age once multiple birth years of the cohort are observed, the final age of each cohort series includes only a single year of the generation at a single age and so has additional variance in the estimates.

As seen in panels b and d of Figure 2, when switching to a household sharing unit, generational improvements in income are even clearer at all age ranges, including young adulthood. These improvements are partly due to individuals increasingly living with their parents and sharing in their resources well into their 20s, although improvements from relying on parental resources do not reflect the same type of financial progress as improvements from one's own income.[25] The share of each generation who were dependent on their parents in their 20s and 30s—defined as living in a household in which their parents or their spouse's parents received over half of the household's income—has risen with each generation (see Figure A2). The share of a generation's members who were dependent on their parents fell below 10% for the first time by age 26 for Baby Boomers, by age 28 for Generation X, and by age 31 for Millennials. Despite their delayed independence, Millennials saw their household incomes continue to rise well into their 30s. They were able to achieve a higher financial standard of living than previous generations by sharing resources in their 20s (perhaps while continuing their education) and then continued to maintain this higher standard of living when setting off on their own in their 30s.

The preceding analyses use the PCE price index to adjust for inflation, because unlike the CPI-U-RS it accounts for the ability of consumers to substitute across broad categories of items, and because unlike the Chained CPI-U, the PCE price index is available for our entire sample period. The Congressional Budget Office uses the PCE price index for measuring household income trends, and the Census Bureau has used the similar Chained CPI-U for measuring median household income since 2000.[26] Nevertheless, there is substantial disagreement about which inflation series best represents long-run price changes.[27]

In light of this debate, we provide in Table 2 a sensitivity analysis that shows how real income has grown for each generation using the CPI-U-RS, alongside the results using the PCE price index. Adjusting for inflation using the CPI-U-RS mutes generational income growth for every generation. It reduces the apparent market income growth for Generation X by at least half—from 8% growth for individuals and couples using the PCE to 2% using the CPI and from 10% at the household level using PCE to 4% using the CPI. Hence, the Generation X slowdown is more substantial when using CPI inflation, although growth remained positive for each of our primary

[25] Nearly half of adults ages 22 to 24 lived with a parent in 2019, as did more than one fourth of 25–29-year-olds (Canilang et al. 2020). Increases in the share of young adults who live with their parents may be due to financial reasons, although nonfinancial factors may play a role as well, such as the rising age of first marriage (Julian 2022).

[26] In 2023, the Census Bureau began using the Chained CPI-U to adjust incomes for inflation, rather than a version of the CPI-U that applies current methods historically (CPI-U-RS), arguing that it is a better measure of actual consumer inflation experiences (Guzman and Kollar 2023). The Chained CPI-U is available only since 2000, so it cannot be used in earlier years. Because the PCE price index and Chained CPI-U find similar rates of inflation, and the PCE price index is available from the beginning of our series, we use the PCE price index for all years.

[27] Some researchers note that even after allowing for broad substitution patterns, the PCE price index still overstates inflation because it does not adequately account for new products and quality changes (Meyer and Sullivan 2012; Moulton 2018). However, Jaravel and Lashkari (2024) showed that nonhomotheticity of preferences can lead commonly used inflation measures to understate inflation, particularly among lower income consumers. In addition, much of the prior research has used the CPI-U-RS because it was used by the Census Bureau for their inflation adjustments until 2023.

**Table 2** Percentage increase in median income from previous generation at ages 36–40 using alternative measures of inflation

| | Greatest | Silent | Boomer | Gen X | Millennials |
|---|---|---|---|---|---|
| A. Market Income Using CPI-U-RS | | | | | |
| Individual/couple | — | 30.5 | 19.8 | 1.8 | 7.3 |
| Household | — | 40.5 | 27.9 | 3.7 | 10.6 |
| B. Posttax, Posttransfer Income (excluding health insurance) Using CPI-U-RS | | | | | |
| Individual/couple | — | 22.4 | 15.0 | 8.5 | 12.2 |
| Household | — | 31.3 | 22.9 | 9.4 | 15.6 |
| C. Market Income Using PCE | | | | | |
| Individual/couple | — | 34.4 | 23.3 | 8.0 | 11.4 |
| Household | — | 45.1 | 31.3 | 10.0 | 14.9 |
| D. Posttax, Posttransfer Income (excluding health insurance) Using PCE | | | | | |
| Individual/couple | — | 26.3 | 17.9 | 15.1 | 16.5 |
| Household | — | 35.6 | 26.1 | 16.0 | 20.0 |

*Notes:* See Table 1 notes for generation, income, and sharing unit definitions. All income values in panels A and B are converted to real dollars using the Consumer Price Index retroactive series (CPI-U-RS). All income values in panels C and D are converted to real 2019 dollars using the Personal Consumption Expenditures (PCE) price index.

*Sources:* Current Population Survey Annual Social and Economic Supplement, 1964–2024; Burkhauser et al. (2024); and authors' calculations.

income measures. We also continue to see a rebound in market income growth from Generation X to Millennials when using CPI inflation. Figure 3 shows that using the CPI-U-RS mutes growth across the full age distribution.

## Changes in Work Hours

Work behavior changed dramatically over the period we study (1963–2023), especially as a result of the rise in female labor force participation until the turn of the millennium, when it levels off, along with the steady decline in male labor force participation.[28] If growth in work effort explains the rise in income we documented for older generations, then their higher income growth may not fully reflect an increase in welfare since their leisure time or home production fell even as they could consume more market goods and services. Ramey (2009) found that weekly home production among women age 18–64 decreased by 12 hours between 1965 and 2005. Meanwhile, income growth without work effort changes would reflect higher productivity, allowing for greater consumption of goods and services without reducing leisure time.

Figure 4 reports the labor force participation rate of prime age adults (aged 25–54) from 1963 to 2023. The dashed horizontal black lines indicate the mean labor force participation rate of all prime age adults (not only the adults who were actually members of the generation) during the time period in which each generation had members

[28] See Goldin (1990) for an analysis of the factors driving the change in female employment, and see Eberstadt (2016) for male employment.

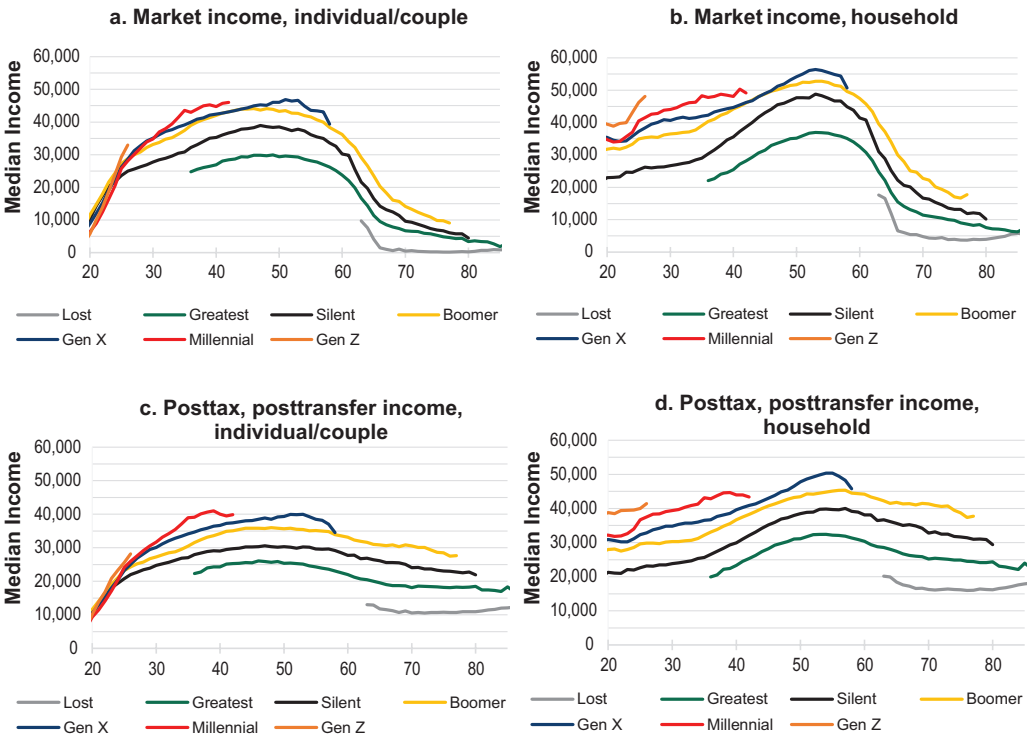


**Fig. 3** Median market income and posttax, posttransfer income by age and generation, according to sharing unit, using CPI-U-RS inflation. Generations are defined by the following birth years: Lost Generation (1883–1900), Greatest Generation (1901–1927), Silent Generation (1928–1945), Baby Boomers (1946–1964), Generation X (1965–1980), Millennials (1981–1996), and Generation Z (1997–2012). See Figure 2 legend for income and sharing unit definitions. All income values are converted to real dollars using the Consumer Price Index retroactive series. *Sources:* Current Population Survey Annual Social and Economic Supplement, 1964–2024; Burkhauser et al. (2024); and authors' calculations.

aged 36–40. Prime age labor force participation rose from 70% when the Greatest Generation was observed in their late 30s to 75% when the Silent Generation was in their late 30s and further to 83% when Baby Boomers were in their late 30s. Prime age labor force participation then decreased slightly to 82% when Generation X and Millennials were in their late 30s. These changes suggest that structural labor market trends over the past six decades, particularly among women, served to boost work effort for the Silent Generation and Baby Boomers, before stalling for Generation X and Millennials.

In Table 3, we report the mean hours worked by members of each generation between the ages of 36 and 40.[29] On average, members of the Silent Generation worked 6% more hours and Baby Boomers worked 13% more hours than the previous generation, respectively. This growth occurred entirely among women, who worked 47% and 44% more than the previous generations, respectively, in the Silent

[29] We do not condition on work participation for inclusion in the sample.

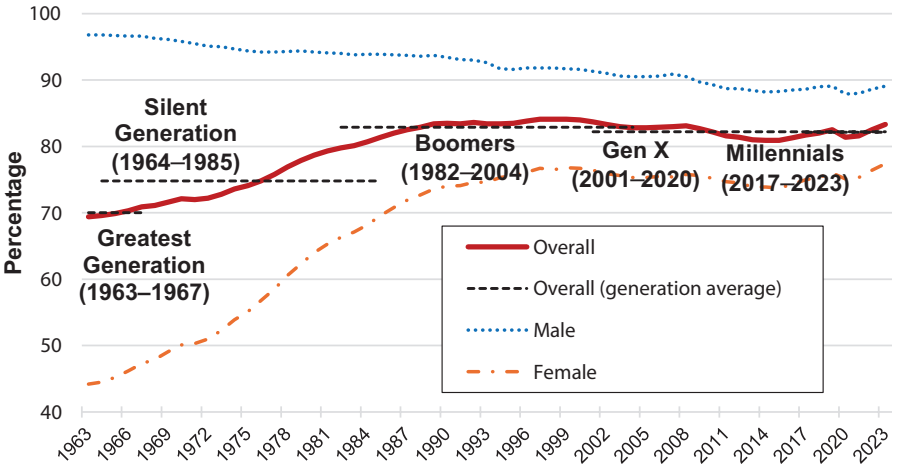


**Fig. 4** Labor force participation rate among adults aged 25–54 by sex, and mean rate when each generation was aged 36–40, 1963–2023. Solid red line indicates the overall prime age (25–54) labor force participation rate in the United States in each year. Dashed black lines span the period when a given generation's members were aged 36–40, and their level indicates the mean overall prime age labor force participation rate during those years. Generations are defined by the following birth years: Greatest Generation (1901–1927), Silent Generation (1928–1945), Baby Boomers (1946–1964), Generation X (1965–1980), and Millennials (1981–1996). Dotted blue line indicates the male prime age labor force participation rate, and dash-dotted orange line indicates the female prime age labor force participation rate. *Sources:* U.S. Bureau of Labor Statistics, retrieved from FRED, Federal Reserve Bank of St. Louis; and authors' calculations.

Generation and the Baby Boom Generation. Growth in work hours stalled for the younger generations, with Generation X working on average 2% fewer hours than Baby Boomers and Millennials experiencing no change relative to Generation X, as the decline in male hours offset the rise in female hours.[30]

We next quantify the extent to which the higher growth rates in work hours by the Silent Generation and Baby Boomers explain their higher rates of generational income growth. We use a quantile regression of the form

$$m_{i,g} = \alpha_g + \beta_{g,m} h_{i,g,m} + \beta_{g,f} h_{i,g,f} + \epsilon_{i,g}, \quad (1)$$

where $m_{i,g}$ is the market income of individual/couple $i$ in generation $g$. $\alpha_g$ is a generation fixed effect. $h_{i,g,m}$ and $h_{i,g,f}$ are the annual hours worked by males and females, respectively. $\beta_{g,m}$ and $\beta_{g,f}$ are generation-specific coefficients on hours worked for males and females, and $\epsilon_{i,g}$ is the error term.[31] This specification allows the implied

[30] Figure A3 shows the mean hours of work for men and women in each generation for their prime working years (ages 25–54). These results are broadly consistent with results in Table 3. We focus on hours worked rather than the implied hourly wage because we do not observe hourly wages for those who are not working and can therefore consider only hourly wages among workers. In Table A6 we provide the implied hourly wages among those working at the individual level in each generation.

[31] In a related exercise, Kurz et al. (2019) used linear regressions to compare the economic well-being of each generation, after controlling for various individual characteristics. Our focus in this section is the extent to which generational growth in median income can be explained solely by changes in work hours.

**Table 3** Hours of paid work per year and change in market income by individual and their partner, by generation at ages 36–40

| | Greatest | Silent | Boomer | Gen X | Millennial |
|---|---|---|---|---|---|
| Mean Hours of Paid Work per Year | | | | | |
| All | 1,416 | 1,504 | 1,692 | 1,657 | 1,658 |
| Men | 2,185 | 2,089 | 2,034 | 1,947 | 1,884 |
| Women | 641 | 945 | 1,358 | 1,375 | 1,434 |
| Percentage Change in Mean Hours per Year From Previous Generation | | | | | |
| All | | 6.2 | 12.5 | –2.1 | 0.0 |
| Men | | 4.4 | –2.6 | –4.3 | –3.2 |
| Women | | 47.4 | 43.7 | 1.2 | 4.3 |
| Percentage Change in Median Market Income | | | | | |
| Actual | | 34.4 | 23.3 | 8.0 | 11.4 |
| Due to male hours change | | –3.5 | –3.3 | –3.0 | –1.7 |
| Due to female hours change | | 9.2 | 13.1 | 2.0 | 1.6 |
| Due to any work hours change | | 5.8 | 9.8 | –0.9 | –0.1 |

*Notes:* See Table 1 notes for generation, income, and sharing unit definitions. Hours represent the total number of paid hours worked per year by the member of the generation aged 36–40. Inclusion in the sample is not conditioned on participation in work. Market income for married and cohabiting couples refers to total income received by both members of the married couple divided by two, and for single individuals refers to total market income received by the individual. All income values are converted to real 2019 dollars using the Personal Consumption Expenditures price index. Market income due to work hours changing counterfactually assumes the younger generation and older generation both worked the mean number of actual hours worked, among men and women separately, in the middle quintile of the older generation in each pairwise comparison of generations and compares this to that seen in the same regression when work hours for the middle quintile change across generations.

*Sources:* Current Population Survey Annual Social and Economic Supplement, 1964–2024, and authors' calculations.

hourly wage for males and females to vary across generations. We use the estimated parameters of Eq. (1) to estimate the growth rate in market income from one generation to the next, holding work hours constant. For each pairwise comparison of generational progress, we estimate the mean hours worked among men and the mean hours worked among women in the middle quintile of the market income distribution in the older generation. Then we predict the market income of each of the older and younger generations applying that same level of hours worked among men and women. We focus on market income because taxes and transfers are directly linked to work through earnings, making it difficult to determine how taxes and transfers would change if work hours had counterfactually matched the work hours of the previous generation. We retain our focus on 36–40-year-old members of each generation. The bottom panel of Table 3 reports the extent to which changes in work hours affect generational growth in the market income of individuals/couples. The first row of the bottom panel reports the actual generational increases in median market income, as previously reported in Table 1. The next row reports the percentage increase in median market income of each generation due to male hours changing (estimated as the difference between that seen when hours change and that seen when holding male hours constant). In each generation, the slowdown in male hours modestly reduced

generational income growth (by 2–4 percentage points). The subsequent row reports the percentage increase in median market income due to female hours changing. The rapid expansion of female work hours in the Silent and Baby Boom generations accelerated generational progress by 9 and 13 percentage points, respectively.[32] As the growth of female work hours slowed with Generation X, the contribution to median market income growth slowed to around 2 percentage points.

The final row of Table 3 reports the percentage increase in market income due to the change in male and female work hours combined. The rise in work hours explains 17% of the market income growth for the Silent Generation and 42% for Baby Boomers, while explaining none of the increase for Millennials. This suggests that a substantial share of the higher income growth of older generations was earned through a decrease in home production or leisure time, whereas the income growth of younger generations, though slower, was a result of increased worker productivity in paid employment.

## Generational Progress by Education

Income growth across generations is also a reflection of rising human capital investment. At our focal ages of 36–40, 27% of Baby Boomers had at least a bachelor's degree, as did 43% of Millennials (Table A7). Although increased educational investments may have contributed to rising incomes for Millennials in their late 30s, it is possible that the rising cost of college (see National Center for Education Statistics 2023) outweighs these gains.

We first explore this possibility by considering the generational income growth for those with the same level of educational attainment, in Table 4. For those with a high school degree or less in their late 30s, incomes rose from one generation to the next, although the gains were relatively small for Generation X.[33] Among those with at least a bachelor's degree, rates of income growth across generations are higher, although growth has still slowed.[34] Millennials with a bachelor's degree, but no graduate education, earned 11% more than similarly educated members of Generation X in their late 30s, using individual or couple-level incomes. Yet this is less income progress than the 16% growth in incomes that Baby Boomers with a bachelor's degree experienced relative to the Silent Generation.[35]

In dollar terms, the median Millennial aged 36–40 with a bachelor's degree had annual equal-split individual/couple income that was $5,000 higher than is seen

[32] The positive contribution of female hours worked to generational earnings growth during the Baby Boom Generation that we find is consistent with findings by Guvenen et al. (2022) that lifetime earnings of men born in 1958 (in the Baby Boom Generation) fell relative to those born in 1932 (in the Silent Generation), while the lifetime earnings of women increased across these cohorts.

[33] See Figure A4 for the entire life span of income among each generation by educational status.

[34] Compositional changes in who attends college will affect these comparisons. As more students attend college, this can decrease the earnings growth of the "high school degree or less" group by shifting higher earners into the "some college or more" groups. But if these additional enrollees also have lower earnings potential than other college attendees, it can also slow observed growth among college attendees.

[35] Standard errors are reported in Table A9.

**Table 4** Percentage increase in median posttax, posttransfer income from previous generation at ages 36–40, by educational attainment

| | Greatest | Silent | Boomer | Gen X | Millennials |
|---|---|---|---|---|---|
| Individual/Couple Sharing Unit | | | | | |
| High school or less | — | 22.6 | 4.7 | 1.9 | 13.4 |
| Some college or associate degree | — | 19.8 | 9.4 | 7.2 | 9.9 |
| Bachelor's degree | — | 20.5 | 15.8 | 17.3 | 10.8 |
| Graduate degree | — | 22.9 | 19.6 | 24.7 | 12.5 |
| Household Sharing Unit | | | | | |
| High school or less | — | 32.5 | 13.6 | 4.1 | 18.1 |
| Some college or associate degree | — | 28.4 | 16.0 | 7.1 | 14.0 |
| Bachelor's degree | — | 24.4 | 23.9 | 17.8 | 14.2 |
| Graduate degree | — | 29.1 | 26.5 | 23.7 | 16.3 |

*Notes:* See Table 1 notes for generation, income, and sharing unit definitions. All income values are converted to real 2019 dollars using the Personal Consumption Expenditures price index.

*Sources:* Current Population Survey Annual Social and Economic Supplement, 1964–2024; Burkhauser et al. (2024); and authors' calculations.

for Generation X.[36] The median for Generation X was $6,900 above that of Baby Boomers. Zooming out, over the 34-year period for each individual from age 25 to age 58—the oldest age at which we can observe members of Generation X—an individual in Generation X with a bachelor's degree who earns the median equal-split couple or individual income for their generation at each age would have a total income that exceeds that of the median similarly educated person in the Baby Boom Generation by $213,000.

In 1975–1976, when a Baby Boomer born in the middle of the generation turned 21, the average annual net price for tuition, fees, room, and board in the United States, after accounting for grant aid and tax benefits, was approximately $4,500 (in 2019 dollars), as reported in Table A8.[37] This compares to an average net price of about $8,200 when a member of Generation X in the middle of their generation turned 21, and an average net price of about $11,300 when the middle of the Millennial Generation turned 21 in 2010. Hence, for a four-year education, after accounting for

[36] Individual/couple income is used here to focus on the individual's own earnings rather than support from others in the household. Additionally, since we use an equal split for couple income, the dollar values can be directly compared to the costs of education, which cannot be done with size-adjusted incomes. When using size-adjusted household incomes, the results are qualitatively similar except that Millennials in their 20s had greater improvements over previous generations that are more likely to exceed increases in education costs.

[37] The National Center for Education Statistics does not provide grant aid or student loan amounts split by degree type prior to 1991. From 1991 to 1995, the average grant aid and tax benefits per undergraduate student was within 1% of that for all students, so to estimate a net price of tuition for undergraduates prior to 1991, we estimate that the grant benefits and tax benefits for undergraduate students in each year match the average value for all students. However, we acknowledge additional uncertainty in the net tuition prices for these earlier years. If focusing only on published tuition prices, rather than net prices, we also find that the generational income gains far exceed the increases in the costs of higher education from one generation to the next.

grants and tax benefits, someone in the middle of the Generation X cohort would spend approximately $14,800 more than someone in the middle of the Baby Boomer Generation and a member of the Millennial Generation would have spent $12,400 more than a member of Generation X ($27,200 more than a Baby Boomer).[38]

This growth in the net cost of four years of higher education between the Baby Boom Generation and Generation X represents 7% of the $213,000 34-year income gain for Generation X over Baby Boomers with a bachelor's degree through age 58. Although we do not yet observe Millennials older than 42, the higher annual incomes of Millennials suggests that their income gains over Generation X will also far outweigh their higher educational investments. Despite Millennials having many working years left, between ages 25 and 42 alone the income of a Millennial with the median income at each age exceeded that for Generation X by $71,000—far exceeding the increase in education costs between these generations.

Nevertheless, young adults may also not feel the benefits of these gains early in their career because of the timing of student loan repayments. As shown in Table A8, the average loans also increased through around 2010 when the middle of the Millennial Generation was attending college. Consequently, the average real student loan debt accrued per year of college in 2010 was almost four times that in the early 1990s. A $25,000 student loan accrued over all years of college (roughly the median student loan debt held in 2019) at 6% interest with a typical 10-year repayment term would require annual payments of $3,300.[39] This additional expense can contribute to the feeling of generational stagnation for those with student loans, even if there is likely to be progress over their lifetime after the completion of student loan repayments.

## Generational Progress by Race

Generational progress may also look different across races and ethnicities. Although ideally we would examine a full set of races and ethnicities, changes to their classification over time in the CPS ASEC only allow us to consistently compare the generational progress for Black Americans and White Americans over our entire time period.[40]

Consistent with the full-population results, generational income progress in their late 30s has been positive for both Black and White adults for each of the past four generations (Table 5).[41] However, there has been a greater slowdown in generational

[38] For additional discussion of higher education costs and financing, see Dynarski et al. (2022).

[39] The median student loan debt for those with outstanding balances in 2019 when a person born in the middle of the Millennial Generation turned 30 was $25,500, up from $13,300 in 2001 when a person born in the middle of Generation X turned 30 (authors' calculations; Board of Governors of the Federal Reserve System 2023a).

[40] The CPS ASEC through 1987 only allowed respondents to identify as "Black," "White," or "Other." As other racial groups such as American Indians and Asians were added in 1988, it is unclear whether such individuals had identified as "Other" or "White" in previous years, which could create inconsistencies in the "White" group over time. However, results are similar regardless of racial definitions, and thus we adopt the conventional "Black" and "White" categories. We also note that individuals of Hispanic ethnicity may be included in the "Black" or "White" racial categories, or identified as "Other" and thus excluded from our comparison of "Black" and "White" individuals, per their racial identification in the survey.

[41] Standard errors are reported in Table A10. Results for the full age profile are reported in Figure A5.

**Table 5** Percentage increase in median posttax posttransfer income from previous generation at ages 36–40, by race

| | Greatest | Silent | Boomer | Gen X | Millennials |
|---|---|---|---|---|---|
| A. Black | | | | | |
| Individual/couple | — | 53.9 | 24.0 | 21.1 | 16.9 |
| Household | — | 71.2 | 35.3 | 19.7 | 21.9 |
| B. White | | | | | |
| Individual/couple | — | 24.4 | 18.4 | 14.5 | 16.3 |
| Household | — | 33.3 | 26.6 | 15.7 | 19.1 |

*Notes:* See Table 1 notes for generation, income, and sharing unit definitions. Because of small sample sizes, individuals who are neither Black nor White are excluded from this table. All income values are converted to real 2019 dollars using the Personal Consumption Expenditures price index.

*Sources:* Current Population Survey Annual Social and Economic Supplement, 1964–2024; Burkhauser et al. (2024); and authors' calculations.

progress for Black Americans than White Americans. Black Baby Boomers saw household (posttax, posttransfer) incomes that were 35% above Black members of the Silent Generation at the same age. The generational income growth for Black Millennials was 22 percentage points lower (13% growth across generations). Among White adults, there was a smaller 8-percentage-point slowdown in household income growth rates between these two generations (27% income growth for Baby Boomers and 19% for Millennials). Consequently, although generational income growth was substantially faster for Black adults in the Silent and Baby Boom generations than among White adults in those generations, for the Millennial Generation the generational growth rates across racial groups are more similar.

Faster generational income growth for Black adults than for White adults has shrunk the gap in their household incomes. Black members of the Greatest Generation in their late 30s had household incomes that were 41% below that of White members. The gap shrunk to 28% in the Silent Generation, 26% in the Baby Boom Generation, 24% in Generation X, and 22% among Millennials. The convergence of generational income growth rates has slowed progress in closing the racial income gap. At the current rate of a 2-percentage-point reduction in the gap per generation, it would take another 11 generations to achieve household income parity between Black and White members of the same generation.

## Discussion

Each of the past four generations of Americans was better off than the previous one. Millennials had a median household income at age 36–40 that was 20% higher than that of the previous generation at the same age. This rate of generational progress was slower than that experienced for the Silent Generation (36%) and Baby Boomers (26%), but slightly faster than that experienced by Generation X (16%). The slower progress for younger generations is largely a result of their stalled growth in hours worked. Close to half of the generational market income gains for Baby Boomers

resulted from their working 13% more hours on average than the previous generation, whereas the growth for Millennials was achieved with no increase in work hours. Moreover, the Millennial growth rate will likely increase further as time passes, because we capture only the oldest Millennials in our comparisons and there will continue to be Millennials aged 36–40 until the year 2036, during which time incomes are likely to grow further.[42]

Our results are robust to alternative specifications, reported in detail in online appendix B. When accounting for our incomplete observation of Millennials by focusing only on the oldest members of each generation, or when splitting each generation into two halves—reducing the impact of incomplete generations—we continue to find generational income growth that has slowed over time. Changes to the sample—expanding the age range to 30–40, excluding first-generation immigrants (who may not compare themselves to the previous generation in the United States), or including the institutionalized population—do not affect the qualitative results. When including the market value of health insurance in our income measure, generational income growth remains uniformly positive, somewhat strengthening income growth for Generation X and weakening it for Millennials. And as reported in Table 2, when replacing the PCE price index with the CPI-U-RS to adjust for inflation, generational progress is slower but still positive.

Our optimistic results contradict a perception that Millennials are falling behind previous generations. This perception could result from a focus on a lack of relative rather than absolute progress, although it is not clear that relative mobility has actually been falling in the United States (Ward 2023). Alternatively, any increases in inequality (e.g., see Auten and Splinter 2024; Piketty et al. 2018) could drive pessimistic perceptions. However, this would not explain why individuals tend to respond pessimistically even when explicitly asked about absolute measures of progress. One possible explanation is that the rate of growth has slowed for higher income Millennials even as it sped up for lower income Millennials. For the 25th percentile 36–40-year-old, income growth relative to the previous generation was 79% (9 percentage points) faster for Millennials than for Generation X, while for the 75th percentile 36–40-year-old, growth was nearly the same for Millennials as for Generation X. Higher income Millennials who compare themselves with higher income members of Generation X would accurately sense that the pace of generational progress has stalled for their socioeconomic group even though the growth rate remained positive.[43]

Focus on salient markers of affordability, such as rising home prices and rents relative to incomes in expensive coastal cities, have also fueled concern about the success of Millennials. Figure A6a reports that the share of expenditures on shelter and utilities among adults aged 35–44 grew from about 20% in the mid-1970s to more

[42] The Congressional Budget Office projects that real per capita personal income will grow by 17% over the next decade, 2023–2033 (authors' calculations; Congressional Budget Office 2023).

[43] Another salient comparison group is one's gender or sex. As discussed by Twenge (2023), while women's earnings have risen across generations, men's earnings have not. This difference can contribute to feelings of stagnation for men who may compare themselves to men of earlier generations. When looking at individual/couple-level and household-level incomes, generational income growth is similar for men and women in their mid-30s (Table A11) because a majority of people in all generations are married at these ages, although changes in individual earnings power can still affect perceptions of stagnation.

than 25% from the mid-1990s through 2022 when Generation X and Millennials reached their late 30s. But higher housing expenditure shares have been counterbalanced by the rising affordability of food—adults aged 35–44 spent more than 20% on food in 1972 compared with only 13% in 2022. Taken as a whole, basic necessities, including shelter, utilities, and food, have remained relatively constant as a share of spending for this age group, falling slightly from 40% in 1972 to 39% in 2022.[44] Of course, expenditure shares do not account for changes in the quantity or quality consumed of these basic items or other goods, and so to track improvements in living standards of each generation, we need to adjust changes in income for changes in the prices of all items. Our use of a general inflation measure accomplishes this purpose, and although the prices of some items have risen faster than overall inflation, they are counterbalanced by the prices of other items that have grown more slowly.

Another possible explanation for the perception that Millennials are falling behind is that when focusing on individual/spouse incomes, they did not begin to pull away from Generation X until around age 30. By contrast, Generation X began to pull away from Baby Boomers around their mid-20s, and Baby Boomers began to pull away from the Silent Generation in their early 20s. Although Millennials' household income exceeded that from Generation X from the beginning of adulthood, most of the income boost in their 20s is a result of living in households with higher income individuals (i.e., their parents) rather than the effects of market income or transfers received by Millennials themselves—perhaps contributing to the perception of stagnation even though they surpass earlier generations without the support of their parents in their 30s.

Millennials also spent more time investing in human capital, which has associated costs. Millennials in their late 30s were 7 percentage points more likely to have earned at least a bachelor's degree than Generation X and 4 percentage points more likely to earn a graduate degree. Especially early in adulthood, student loans from this education may offset some or all of the income gains for those who borrowed to attend college. Nevertheless, as Millennials enter their 30s and 40s, we can rule out the possibility that paying back their higher student loans accumulated via increased educational investment will be large enough to outweigh their income gains at the median of the distribution. Millennials in their late 30s with a bachelor's degree had annual couple-level incomes that were about $5,000 higher than Generation X and $11,800 higher than Baby Boomers. After accounting for student aid, it takes less than three years for Millennials to offset their higher college costs with their higher midcareer income relative to Generation X.

Despite the observed income growth from one generation to the next, Millennials still fell behind previous generations in certain areas, including homeownership. In 2022 (when the oldest Millennials were age 41), 61% of individuals aged 35–44 owned a home, down from 66% in 1989 (when the oldest Baby Boomers were age 43) (Board of Governors of the Federal Reserve System 2023b). This decline is consistent with rising housing prices making it more difficult for young adults to purchase their first home. Yet, the share of 35–44-year-olds who hold stocks reached

[44] Because the expenditure share on basic necessities has been relatively constant while real incomes have risen, the total amount that 35–44-year-olds spend in real terms on all other items has increased over time (Figure A6b).

64% in 2022, up from 39% in 1989 (Board of Governors of the Federal Reserve System 2023b). In Figure A7, we use the Survey of Consumer Finances to evaluate generational wealth changes and whether changes were driven by changes in home equity versus other forms of wealth. At ages 36–40, Millennials' mean net worth was about $95,000 higher than that of Generation X. Their home equity was $30,000 higher and nonhousing wealth was about $65,000 higher. Thus, although homeownership among Millennials has declined, home values have increased enough among those who own homes to increase mean home equity, while their nonhousing wealth has grown as well. Our findings of generational increases in wealth echo those previously found by Horpedahl (2021, 2024).

Two additional caveats merit mentioning. First, worsening income underreporting in surveys—including for earnings (e.g., Bollinger et al. 2019), taxes (e.g., Meyer et al. 2020), and transfer programs (e.g., Meyer et al. 2015)—would tend to bias our estimates of generational progress downward, especially for more recent generations.[45] Thus, the generational progress of Millennials likely compares more favorably to the generational progress of preceding generations than we report. Second, we include three years of data around the COVID-19 pandemic, encompassing the historic rise in unemployment in 2020 that led to severe reductions in earnings for many workers, as well as government policies including expanded and more generous unemployment insurance, three rounds of Economic Impact Payments, and a temporary expansion of the Child Tax Credit.[46] However, these recent years of data do not appear to drive our results—analyses using data only through 2019 exhibit similar patterns.[47]

## Conclusion

Using data from 1963 to 2023, we evaluate whether younger generations are experiencing slower income growth relative to prior generations. Generational progress has slowed, except for Millennials, who saw their incomes grow slightly faster than Generation X but still more slowly than Baby Boomers and the Silent Generation. Generational progress has remained positive for all generations, including for Generation X and Millennials despite their stalled growth in hours worked.

We investigate potential explanations for perceptions of worsening outcomes for Millennials despite their observed income growth relative to previous generations. First, we find that the higher household incomes of Millennials relative to Generation

[45] Although our focus on the median largely avoids problems with the growing underreporting of means-tested transfers, misreporting could still bias our results. For example, Corinth et al. (2022) found that between 1995 and 2016, the share of aggregate earnings reported in the CPS ASEC fell by 3 percentage points, the share of unemployment insurance fell by 27 percentage points, and the share of Earned Income Tax Credit dollars fell by 7 percentage points. Underreporting of other sources, such as retirement income, has grown as well (Bee and Mitchell 2017), although they are less important than earnings for individuals aged 36–40.

[46] These programs substantially reduced poverty rates while in effect (Shrider and Creamer 2023), and although many COVID-related government benefits ended by 2022, the pandemic recovery was also notably progressive in its distribution (Larrimore et al. 2023b).

[47] This also suggests that growing nonresponse bias starting in 2020, noted by Bee and Rothbaum (2023), does not drive our major findings.

X, until reaching their 30s, is a result of dependence on their parents rather than a rise in their own market incomes. Second, we find that the rising net cost of college offsets only a small portion of the income gains achieved by Millennials. Future research should continue to consider alternative measures of well-being for evaluating generational progress, including consumption, wealth, and social well-being. ■

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