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Philipp Jaeger and Philip Schacht[1]

The Rise and Fall of Median Wealth in the U.S.: A Birth-cohort Story

Abstract

We use recently published long-run microdata (SCF+) to investigate generational wealth dynamics in the U.S. over the last seven decades. We document that the median wealth of people born in the first half of the 20th century increased from one ten-year birth cohort to the next. For people born in the second half of the century, median wealth successively declined from cohort to cohort while wealth inequality within birth cohorts increased markedly. A synthetic saving approach reveals that the trend reversal is mainly caused by changes in savings, which are a result of stagnating income levels and, importantly, declining saving rates. We find no evidence that shifts in wealth accumulation preferences, observable household characteristics or other demographic changes can explain our findings.

JEL-Codes: D14, D31,E21,J10

Keywords: Wealth inequality; cohorts; synthetic saving, United States

November 2023

1 Philipp Jaeger, RWI and BMAS; Philip Schacht, RUB and RWI. *- We thank Jakob Nitschke and Sonja Weber for outstanding research assistance. We thank the participants at the ESPE 2022, IIPF 2022, DIW SOEP Brown Bag and the RGS Doctoral Conference 2022 for their valuable feedback and suggestions. We are grateful to Ronald Bachmann, Robin Jessen and Johannes König for their helpful comments.* *– All correspondence to: Philip Schacht, RWI, Hohenzollernstr. 1/3, 45128 Essen, Germany, e-mail: philip.schacht@rwi-essen.de*

1 Introduction

Wealth inequality in the United States has been increasing for decades (Saez and Zucman, 2016; Kuhn et al., 2020). Recent studies (Gibson-Davis and Percheski, 2018; Bauluz and Meyer, 2022) emphasize the demographic dimension of rising wealth inequality: The wealth gap between old and young people has increased substantially since the 1980s. So far, it is less clear to what extent the growing demographic wealth gap simply reflects a steepening of the age-wealth profile (i.e. wealth rises faster with age) or, in contrast, is driven by lower wealth levels of more recent generations at every age. The distinction is essential. A permanent level shift is arguably more concerning because it implies that the average young American today might never reach the wealth level of previous generations.

In this paper, we descriptively investigate trends in wealth by birth cohort using data spanning seven decades (1949-2019). In contrast to previous research, the SCF+ —a newly available dataset collected by Kuhn et al. (2020) merging historic and modern waves of the Survey of Consumer Finances—allows us to track multiple birth cohorts across their life-cycle. We analyze the entire wealth distribution while our main object of study is the median.[1] We find that for cohorts born until the 1940s, median wealth, at every age, increased from one ten-year birth cohort to another. Moreover, the age-wealth profile continuously steepened. For cohorts born after the 1940s, however, median wealth has started to decline from one cohort to the next and the steepening of the age-wealth profile has stopped, suggesting that the average young American today will not reach the wealth level of previous generations. Partitioning the portfolio reveals that the wealth decline is driven by lower housing wealth and, to a lesser degree, non-housing wealth. Wealth trends, however, differ across the wealth distribution. While the average wealth of the top 10% in each birth cohort continues to rise, the average wealth for the

[1] We focus on the median, rather than the mean because the distribution of wealth is highly skewed (see figure A.1 in the appendix), making the median a better measure of the wealth held by the average American.

bottom 50% has declined even more than median wealth. As a result, inequality within cohorts has accelerated.

Using a synthetic saving approach, we document that the growing wealth gap across and within cohorts is largely driven by differences in savings, and much less by changes in capital gains or received wealth transfers (e.g. inheritances). This result seems to contrast with Kuhn et al. (2020) who emphasize the role of capital gains in wealth inequality using the same dataset. Kuhn et al. (2020) show that capital gains are important due to large portfolio differences across the wealth distribution. Portfolios, however, differ much less across birth cohorts, which is the focus of our study (cf. section 3.2). Furthermore, we show that stagnating incomes and, more importantly, lower saving rates can explain the decline in savings. These findings are in line with the recent literature documenting decreases in median lifetime incomes (Guvenen et al., 2022) and heterogeneous saving rates across the wealth and income distribution (e.g. Saez and Zucman, 2016; Mian et al., 2020). Our results are concerning because wealth serves as an important buffer against adverse life events and is related to political representation (Bonica et al., 2013). We find no evidence that the wealth decline is driven by a lower desire of recent generations to accumulate wealth nor that the decline merely reflects compositional or demographic shifts in the American society.

Our study adds to the extensive literature using the Survey of Consumer Finances (SCF) to investigate wealth trends across generations (e.g. Gale and Pence, 2006; Steuerle et al., 2013; Dettling et al., 2014; Kurz et al., 2019; Feiveson and Sabelhaus, 2019; Gale et al., 2020). We fill a gap as previous studies were constrained by data availability and typically relied on survey waves starting from 1989 only. For instance, Gale et al. (2020), have exploited the SCF from 1989 to 2016 to conclude that millennials have accumulated less wealth than previous generations at the same age. Using the SCF+, we can show that the intergenerational decline in median wealth actually started much earlier, with the baby boomer cohorts born after the 1940s. Our empirical study also complements more structural work (Kapteyn et al., 2005; Crawford and Sturrock, 2019) documenting that declining wealth levels across generations, e.g. due to stagnant earnings, can be rationalized in life-cycle models. A study most comparable to ours is the one by (Bauluz and Meyer, 2022), who also use the SCF+ to investigate generational wealth trends in the U.S.. They document that the age-wealth profile has steepened in more recent cohorts and, consistent with our finding, that inequality within birth cohorts has increased. We add to their research by analyzing median wealth —instead of mean wealth-to-income ratios —revealing a turning point in the evolution of the average Americanâs wealth profile. Based on this finding, we disentangle why cohorts born after the 1940s have accumulated less wealth than their predecessors.

The remainder of this paper is structured as follows. Section 2 briefly summarizes the underlying data. Section 3 presents novel stylized facts on the generational component of wealth inequality. We disentangle wealth accumulation by source (capital gains, wealth transfers and savings) in section 4. Section 5 discusses the implications of our results and section 6 concludes.

2 Data

The most common data set for studying wealth in the U.S. is the Survey of Consumer Finances (SCF). The SCF is a harmonized representative cross-sectional household survey conducted every three years and easily available online for waves from 1989 to 2019. Recently, Kuhn et al. (2020) have harmonized the contemporary SCF with historical waves back to 1949 (SCF+), which allows us to track the generational component of wealth in the U.S. over seven decades (1949-2019). Apart from the long time frame, the oversampling of wealthy households and the extensive coverage of business wealth make the SCF+ well-suited to study the wealth distribution. Although the richest families do not appear in the SCF due to data protection mandates (Bricker et al., 2016), Kuhn et al. (2020) show that the SCF+ matches the aggregate of the top 1% quite well.[2] In addition, the SCF+ includes information on the age of the household head

[2]For a detailed comparison of the SCF top wealth estimates with those from the estate tax- and the capitalized income method see Smith et al. (2021).

and other household characteristics, which is not part of wealth data derived from income tax records such as in Saez and Zucman (2016).

We construct birth cohorts based on the age of the household reference person and follow these birth cohorts over their life cycle. We group cohorts by decade (1900s-1980s) and ten-year age group (30s-70s). Our analysis includes in total 81,318 households in the relevant age and cohort groups, with at least 1,933 and at most 5,544 observations per survey wave. Some of our analyses require additional variables, which are not available in the SCF+. Therefore, we augment the SCF+ with the contemporary SCF waves from 1989 to 2019.

Our main variable of interest is net wealth. We are interested in wealth that can be converted into (current and future) consumption. Thus, we follow Kuhn et al. (2020) and limit wealth to its marketable component, excluding non-marketable social security claims. Assets include financial assets (stocks and business equity, mutual funds, sum of checking accounts, savings accounts, call/money market accounts and certificates of deposits, bonds, other financial assets, defined-contribution retirement plans and cash value of life insurance) and non-financial assets (business wealth, owner-occupied housing wealth, other real estate, vehicles and other non-financial assets). Debt consists of housing debt[3] and personal debt (car loans, education loans, and other consumer loans). To study wealth per person, we divide household wealth by the number of adults. Furthermore, we deflate wealth using the consumer price index (all reported values are in 2016 prices). We construct net household wealth by subtracting the sum of debt from the sum of assets.

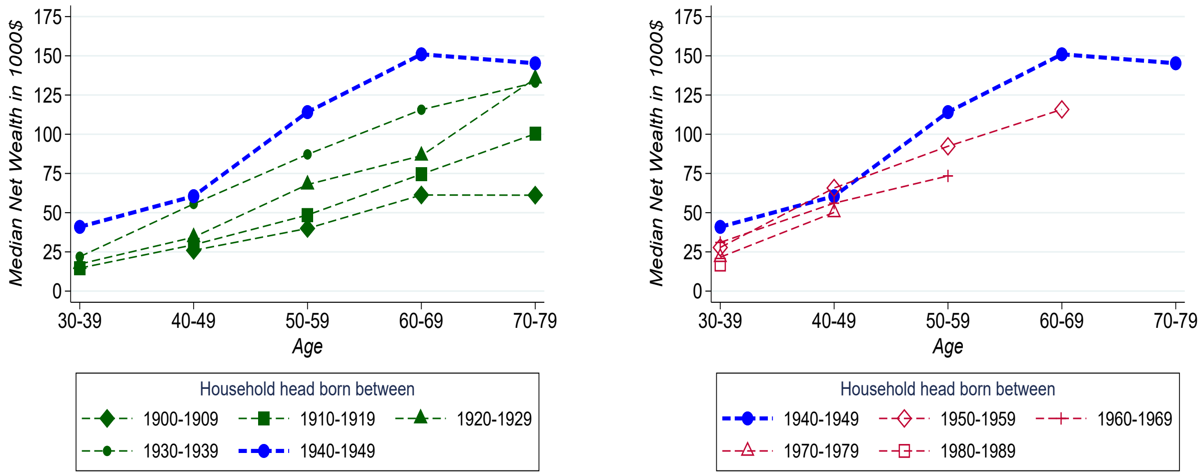
[3]Housing debt only contains debt on owner-occupied houses. Other real estate is directly included as a net position.

3 Generational Wealth Trends

3.1 Median and Mean Wealth

In this section, we show the evolution of wealth for cohorts born in the 20th century. Median household wealth, weighted by adults, was highest for people born in the 1940s and has been declining ever since. The left panel of figure 1 shows that median wealth for all cohorts born between the 1900s and the 1940s has been increasing over the entire life cycle from one cohort to the next. Meanwhile, the age-wealth profile steepened over the generations. For generations born after the 1940s (right panel), the trend reversed and the median wealth of later-born cohorts started to decline at young ages. At the same time, the age-wealth profiles did not steepen further, and thus, no catch-up has materialized at old ages. Table 1 summarizes the absolute wealth differences between cohorts. While the median net household wealth of heads in their 50s increased by 8,883 US $ (in 2016 prices) between the 1910s and 1900s cohort, it fell by 19,982 US $ between the 1950s and 1940s cohort. Without exception, cohorts of the first half of the 20th century are more wealthy at any point in life as compared to their direct predecessor generation. With two small exceptions, cohorts born in the second half become successively less wealthy.

Figure 1: Median Net Wealth by Cohort and Age of Household Head



(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US$ as of 2016 and per adult.

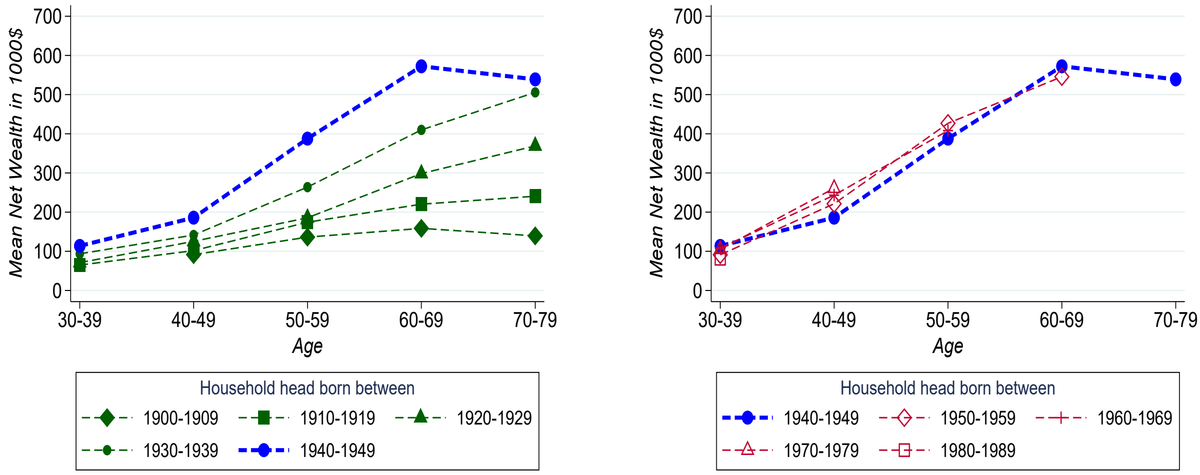
Table 1: Median Wealth Difference from Cohort to Cohort

Cohort	Age of Household Head				
	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79
1900-1909	.	.	+ 5,722	+ 17,484	+ 5,970
1910-1919	.	+ 3,546	+ 8,558	+ 13,259	+ 39,136
1920-1929	+ 2,593	+ 4,871	+ 19,415	+ 11,778	+ 35,206
1930-1939	+ 4,682	+ 21,215	+ 19,225	+ 29,318	- 2,578
1940-1949	+ 19,005	+ 4,930	+ 26,966	+ 35,322	+ 12,313
1950-1959	- 13,138	+ 5,199	- 21,789	- 35,130	.
1960-1969	+ 3,226	- 9,660	- 18,894	.	.
1970-1979	- 9,424	- 5,910	.	.	.
1980-1989	- 4,709	.	.	.	.

Note: Values indicate the difference in the median wealth of each cohort as compared to its direct predecessor at a given age. The horizontal line following the 1940s cohort reflects a structural break in terms of a cohort's median net wealth in comparison to its direct predecessor. All values are in US $ as of 2016 and per adult.

Figure 2 shows that average generational wealth has been stable among cohorts born after the 1940s. In young and old ages (below 40 and above 60) average wealth held by later-born cohorts lagged behind although it still increased somewhat in middle ages (40s to 60s). However, due to the highly skewed distribution of wealth, measures of average wealth are mainly driven by the richest 1% (cf. figure A.1 in the appendix and section 3.3). The average does not tell much about the wealth held by the average American. The median is more informative in this regard.

Figure 2: Mean Net Wealth by Cohort and Age of Household Head



(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US$ as of 2016 and per adult.

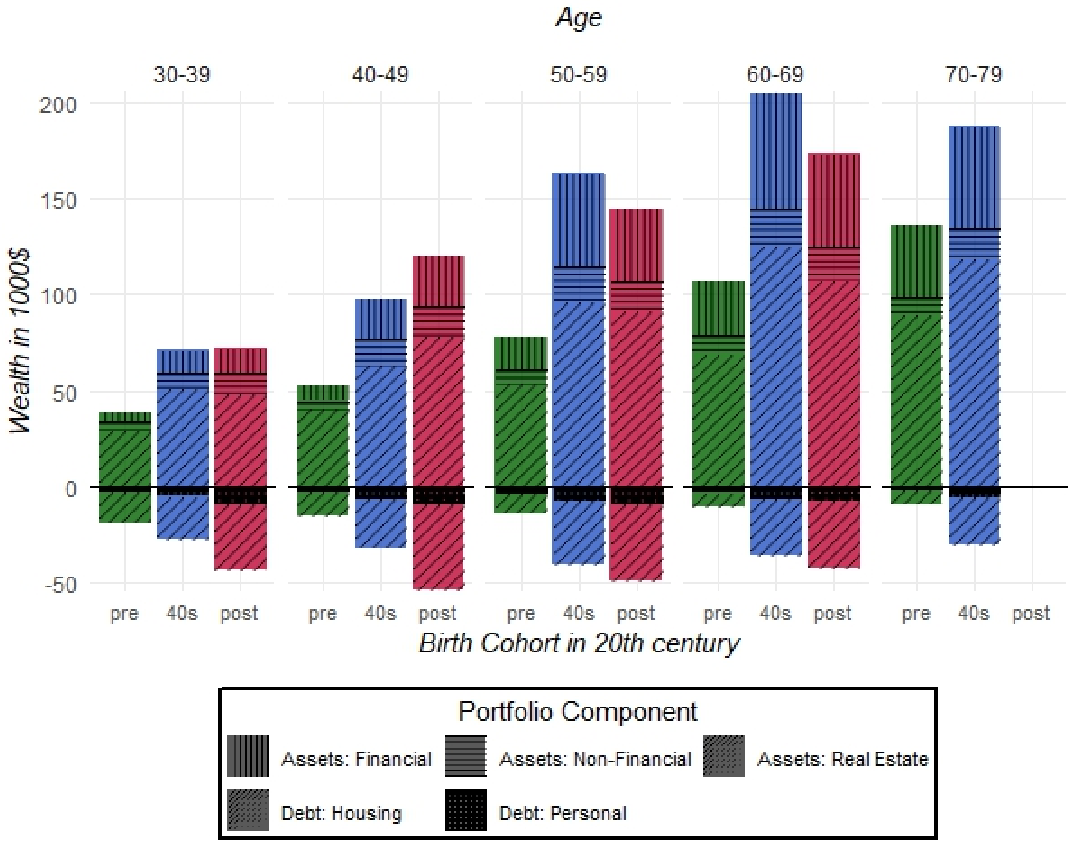
3.2 Wealth Portfolio at the Median

A portfolio decomposition reveals that the poor wealth performance of more recent cohorts at the median stems mainly from higher (housing) debt at younger ages and lower assets at age 50+. To illustrate this point, we aggregate the cohorts into three groups: those born before- (1900-1939), after- (1950-1989) and in the 1940s.[4] Since decomposing the wealth portfolio of the (one) median wealth household over time will provide very noisy results, we track the average portfolio of people in the 30th to 70th wealth percentile instead, which is a good approximation of the cohort's median wealth (cf. figure A.3 in the appendix). Figure 3 shows that, in contrast to wealth, assets of post-1940s cohorts are higher than those owned by the 1940s co-

[4]See figure A.2 for our main graph with only these three cohorts

hort, up until the age of 50+. This pattern is similar among all ten-year cohorts born after the 1940s (see figure A.4 in the appendix). In line with (Bartscher et al., 2020), we find that debt levels of younger cohorts are higher at all ages. Housing debt constitutes the major share of debt in all cohorts, whereas credit card and educational debt (summarized in personal debt) are much less important.

Figure 3: Wealth Portfolios of pre-1940s, the 1940s and post-1940s Birth Cohorts at the Median



Note: pre denotes cohorts born 1900-1939 and *post* those born between 1950-1989. We calculate the mean possession of each portfolio component for those between the wealth distribution's 30th and 70th percentile to approximate the median. All values in US $ as of 2016 and per adult.

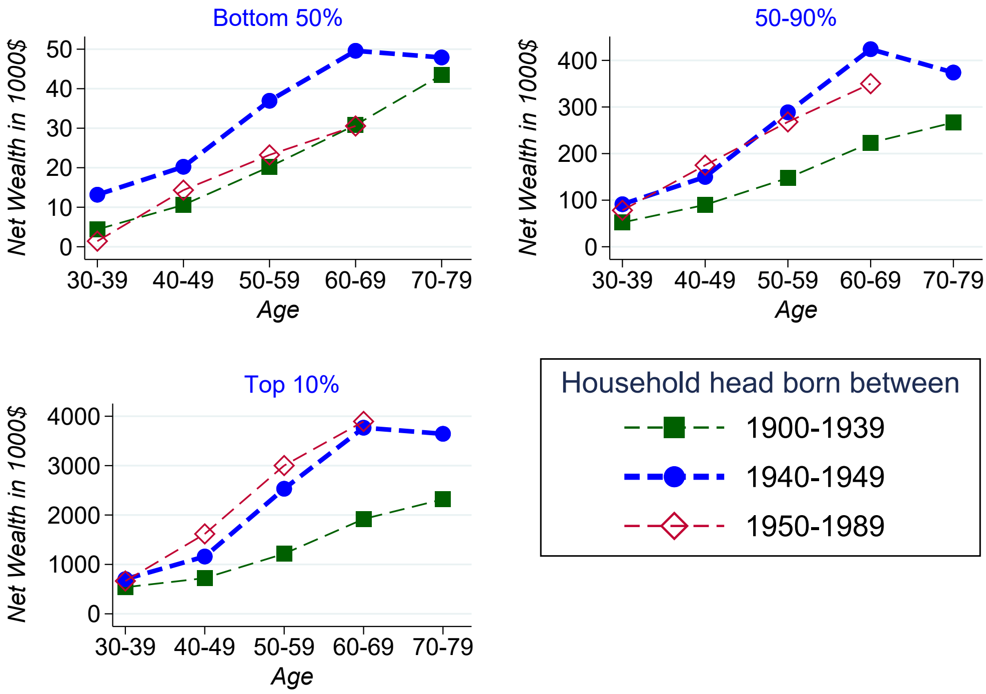
Housing is the most important component of net wealth for all ages and cohorts. However, other portfolio components are also quantitatively important and show similar patterns, which suggests that the poor wealth performance in recent cohorts is not exclusively driven by real estate wealth. Figure A.5 in the appendix illustrates this point by fixing housing or non-housing net wealth of the post-1940s cohorts at the level of the 1940s cohort. If net housing wealth had been the same, the post-1940s cohorts would be wealthier, especially at older ages, but there would still be a wealth gap as compared to the 1940s cohort.

3.3 Intra-Cohort Wealth Inequality

Next, we show that wealth inequality within cohorts has increased for those born after the 1940s. Therefore, we calculate mean wealth for three wealth groups: the bottom 50%, the 50th to 90th percentile and the top 10%. For clarity's sake, we again aggregate our ten-year birth cohorts into three groups, the pre-1940s, the 1940s and the post-1940s birth cohort. Figure 4 reveals a striking heterogeneity across the wealth distribution, which is consistent with the findings of Bauluz and Meyer (2022).[5] Mean wealth for the bottom 50% is substantially lower for the post-1940s cohorts compared to the 1940s cohorts. In fact, wealth for the post-1940s cohorts is very similar to the pre-1940s cohorts. Between the 50th to 90th percentile, wealth for the post-1940s cohorts has at best stagnated at the 1940s cohort level. Only the top 10% of the post-1940s birth cohorts outperform their predecessor generations, however, the wealth increase is also fairly limited.

[5] The median net wealth graph with three cohorts is depicted in A.2.

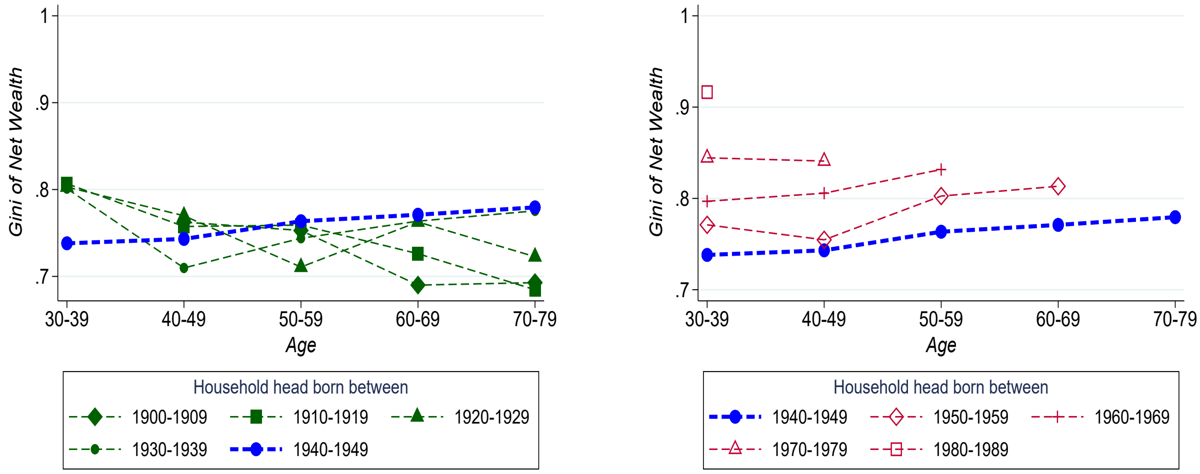
Figure 4: Mean Wealth for three Wealth Groups



Note: All values in US $ as of 2016 and per adult.

The heterogeneity in wealth performance across wealth groups results in a stark increase in intra-generational inequality. Figure 5 shows that the level of the wealth Gini coefficient was relatively similar for the cohorts born between 1900 and 1950 (left panel), but successively increased for later-born cohorts (right panel). At the same time, intra-cohort wealth inequality decreased over the life cycle only for cohorts born prior to the 1940s. The result is validated by an alternative inequality measure: the ratio between the mean wealth at the top 10% and the bottom 50% of the distribution (figure 6).

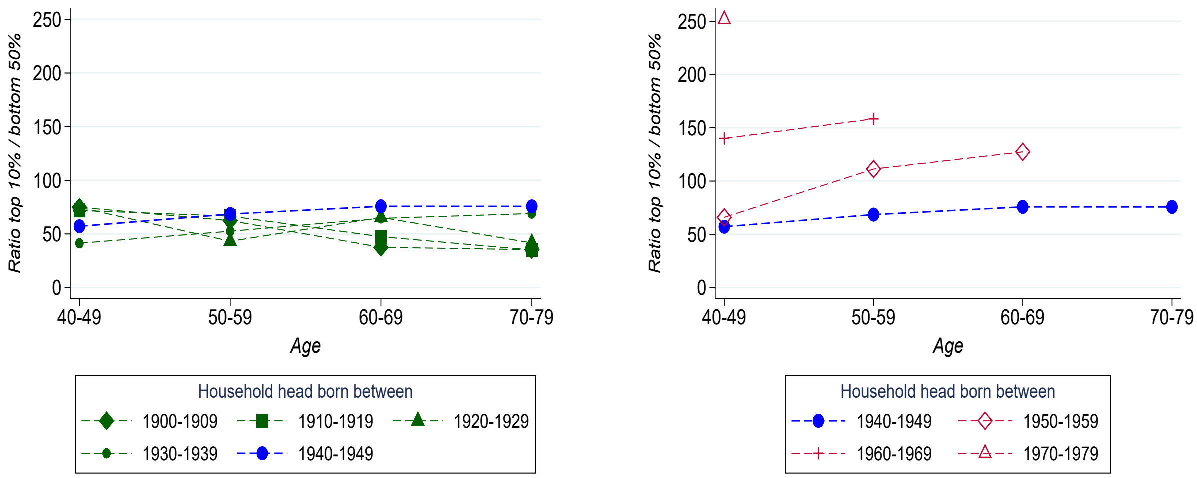
Figure 5: Wealth Gini Coefficient



(a) Birth Cohort: 1940-1949 vs. 1900-1939 (b) Birth Cohort: 1940-1949 vs. 1900-1989

Note: Before computing the Gini, all values were transformed into US \$ as of 2016 and per adult.

Figure 6: Ratio of Mean Wealth of the Top 10% relative to the Bottom 50%



(a) Birth Cohort: 1940-1949 vs. 1900-1939 (b) Birth Cohort: 1940-1949 vs. 1900-1989

Note: Before computing the ratio, all values were transformed into US \$ as of 2016 and per adult. The sample was restricted to those aged 40 and above to avoid negative wealth at the bottom of the distribution at younger ages.

3.4 Robustness Checks

We conduct a range of robustness checks. Most importantly, our findings are not driven by the fact that people in more recent cohorts are younger conditional on their age group. In fact, the average age of survey respondents, within an age group, is very similar across cohorts as shown by figure A.6 in the appendix. Furthermore, we document in the appendix (section A.2) that the poor wealth performance of recent generations is not only driven by the Great Recession. We also show in the appendix that the wealth patterns are statistically significant at the 5% level and robust to different levels of analysis, namely household wealth and wealth adjusted for the OECD equivalence scale, instead of per person wealth. In addition, results are also robust to adjusting for differential mortality, including defined benefit pensions, deflating by means of the Personal Consumption Expenditures Price Index (PCE) instead of the consumer price index (CPI) and excluding the 1950s survey waves where the age variable is not continuous.[6]

4 Disentangling the Wealth Gap

In this chapter, we argue that the poor median wealth performance of the post-1940s cohorts is mostly caused by lower savings, driven by lower saving rates, as opposed to capital gains and received wealth transfers (inheritances and gifts).

4.1 The Synthetic Saving Approach

In the absence of consumption data in the SCF, we construct household saving based on a synthetic saving framework similar to Mian et al. (2021) and Bauluz and Meyer (2022). The methodology rests on the zero crossing assumption and is, hence, ill-suited to assess wealth flows at any particular point of the distribution (e.g. the median).[7] Hence, we approximate the

[6]We provide information on the technical details in the appendix.

[7]The zero crossing assumption implies that households remain in the same wealth group over their life cycle. It is very unlikely that this assumption holds for a single point of the distribution, e.g. the median. The larger the

median, as in section 3.2, by the mean for those between the 30th and the 70th percentile of the wealth distribution.

The synthetic saving approach is derived from the wealth accumulation equation:

$$W_{c,age} = \overbrace{W_{c,age-1} * (1 + r_{c,age})}^{\text{Capital Gains}} + \overbrace{s_{c,age} * I_{c,age}}^{\text{Saving}} + T_{c,age} \tag{1}$$

where W = Wealth, r = real returns attributable to capital gains, s = saving rate, I = income (excluding realized and unrealized capital gains) and T = received wealth transfers. Subscript c denotes birth cohort and *age* age group. Intuitively, wealth accumulates either due to valuation gains from existing wealth ($W_{c,age-1} * (1 + r_{c,age})$), saving out of household income ($s_{c,age} * I_{c,age}$) or due to received wealth transfers. On account of data availability, we calculate asset-wise capital gains first and obtain s, the saving rate out of pre-tax income (excl. capital gains), as the residual. We use data provided by Mian et al. (2021) to unveil mutual funds, retirement accounts and life insurance into their fixed income (part of I) and equity component. We also follow Mian et al. (2021) and model debt default as valuation gains instead of saving. We further calculate capital gains using two distinct approaches with different strengths and weaknesses. First, we use the realized and unrealized capital gains directly recorded in the SCF and calculate capital gains separately for four asset groups. We follow Mian et al. (2020) and assume zero nominal capital gains for fixed-income assets (e.g. bank deposits, bonds), which typically results in substantial negative valuation effects in real terms. For equity (e.g. stocks and business wealth) as well as real estate, we use the sum of the change in unrealized and realized capital gains as recorded in the SCF.[8] For assets where this information is missing in the SCF, we multiply the wealth stock in the previous age group by the respective real cumulative capital gain returns based on the Jorda-Schularick-Taylor Macrohistory Database (Jordà et al.,

group, however, the less restrictive is this assumption. For larger groups, the assumption is commonly made in the literature and motivated by the continuity of people's position in the wealth distribution over time (Saez and Zucman, 2016; Kuhn et al., 2020; Mian et al., 2021).

[8]Given that we use ten-year age groups, we multiply the annual realized capital gains income by ten.

2016).[9] Other non-financial assets are assumed to have real capital gains of zero, except for vehicles, for which we use an annual real depreciation rate of 10%. Second, we construct capital gains by multiplying the entire observed stock of assets and debt in the previous age group ($W_{c,age-1}$) in the SCF by average capital gains $(1 + r_{c,age})$ at the national level. In other words, here we apply the way we calculate capital gains that are not recorded in the SCF in the first approach to all portfolio components. Thereby, we account for the potential underreporting of capital gains in the SCF and are able to equalize the relative returns $(1 + r_{c,age})$ across generations. The drawback of this method is that we must assume that households only hold assets in the U.S. and that returns, for a given asset group, are the same across wealth and age groups. We conduct a sensitivity analysis where we relax the second assumption and allow capital gains to vary by wealth group. Since results are quantitatively similar, we focus on capital gains based on self-reported SCF values in the main text and present the alternative computations in the appendix section A.3.

We explicitly model received wealth transfers, as part of the wealth accumulation equation. For simplicity, wealth transfers given (bequests, gifts) are part of consumption. Thus, a one-off increase in wealth transfers given would, in our setting, reduce saving of donor households. Since capital gains and received wealth transfers are only available in the contemporary SCF, we focus on the waves from 1989 to 2019.[10]

[9]Therefore, we assign each birth cohort-age group combination to one year (the average year they were surveyed) and calculate the cumulative real returns over the previous ten years. Due to the survey interval, the average age difference between two age groups within a cohort is often unequal to ten. Hypothetically, people aged 40-49 might be, on average, observed in 1980, whereas people aged 50-59 in the same cohort, could be observed in 1989. Thus, the respective age group would have on average only nine years (instead of ten) to accumulate capital gains. In a robustness check, we use the actual mean difference in survey years across age groups to calculate accumulated returns. The results are very similar and presented in the appendix A.3.

[10]In order to conduct the analysis for the entire age range of the 1940s birth cohort, we have to make an assumption about received wealth transfers and capital gains when they were young. Transfers and capital gains are only available in the contemporary SCF and thus not available for the 1940s cohort before their 40s. We use data from more recent cohorts at age of 30-39 as a proxy for the 1940s cohort at age 30-39. Given that inheritances and capital gains are on average quite low below the age of 40, this assumption does not drive our results.

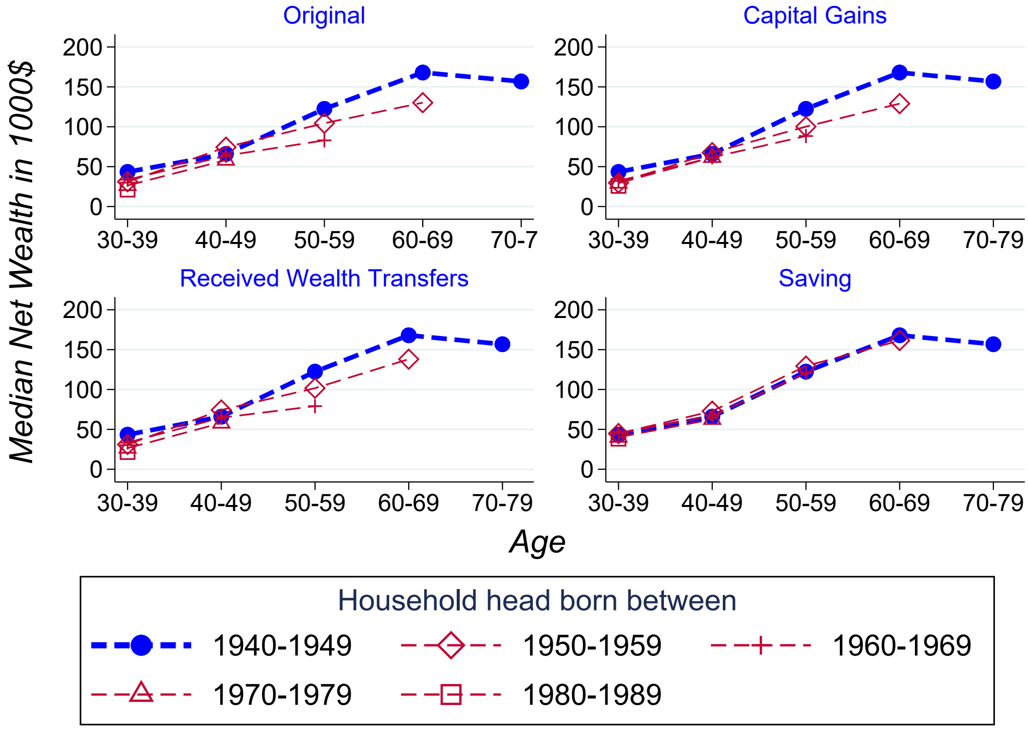
4.2 The Role of Capital Gains, Wealth Transfers and Saving

To better understand the exceptional wealth performance of the 40s cohort, we answer the following counterfactual question: How would more recent cohort's wealth have evolved if they had started their adult lives with the same wealth, and experienced the same capital gains, wealth transfers, or savings as the 1940s birth cohort? We attribute the intergenerational wealth gap entirely to these sources and assess which source has contributed most to the increase in intra-cohort wealth inequality.

The cohort born in the 1940s enjoyed historically high capital gains up until their late 50s due to large increases in asset prices (especially for equity) between 1980 and 2000. Capital gains were smaller and often even negative in later ages due to the stock market crash of 2000/2001 and the Great Recession of 2007/2008. In contrast, later-born cohorts did not benefit to the same degree from the high returns of the 1980s and 1990s. At that time, these cohorts were younger and therefore, held fewer assets, despite the fact that more recent birth cohorts tend to be more leveraged. Equalizing the absolute amount of capital gains thus mostly increases wealth levels of later-born cohorts across the wealth distribution.[11] However, the effect on median net wealth is relatively modest, as depicted in the top right panel of figure 7. Since capital gains are a more important source of wealth accumulation for the upper parts of the wealth spectrum in more recent cohorts, counterfactual wealth inequality within more recent cohorts, as measured by the ratio of mean wealth at the top 10% compared to the bottom 50%, is slightly lower after equalizing capital gains (top right panel of figure 8). We focus on absolute instead of relative capital gains (equalizing returns on the stock of wealth) since this approach allows us to trace back the entire inter-generational differences in wealth to any one source. However, for interested readers, we equalize relative capital gains in the appendix section A.3. Overall, our analysis suggests that changes in capital gains are not the main driver of the decline in median wealth and increase in intra-generational inequality among more recent cohorts.

[11] As stated above, note that figure 7 shows capital gains as directly obtained from the modern SCF. For alternative modes of computing capital gains see the appendix section A.3.

Figure 7: Median Wealth after Equalizing Capital Gains, Saving or Wealth Transfers

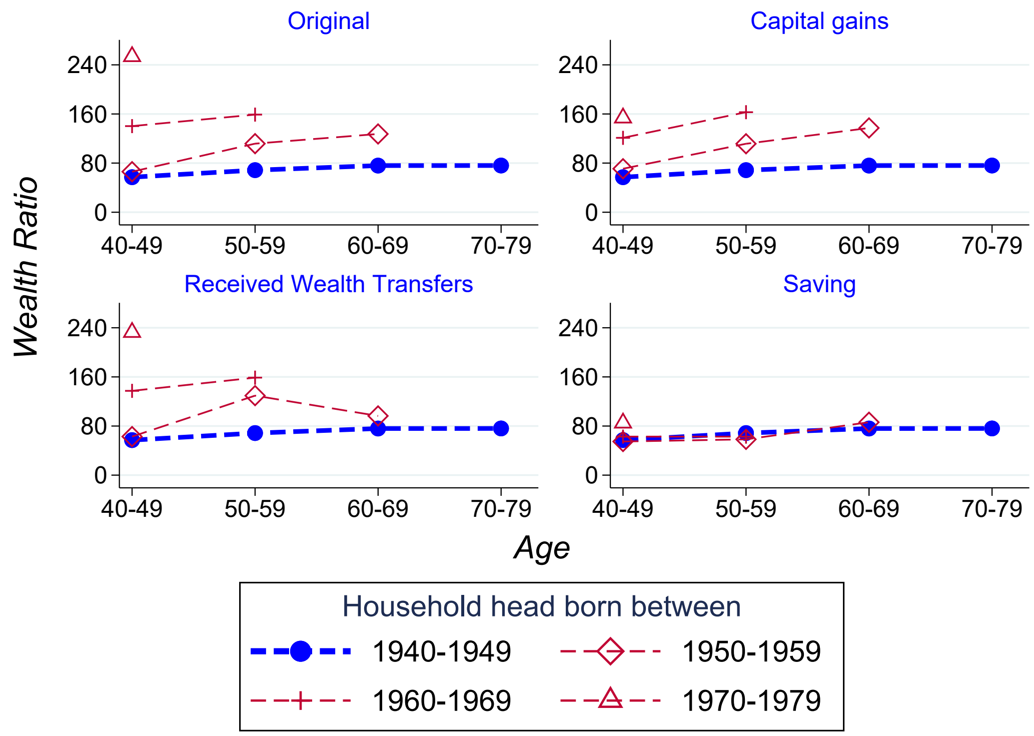


Note: Graph represents median net wealth under the assumption that either absolute capital gains, saving or wealth transfers would have evolved for all cohorts as for the 1940s cohort. To approximate the median, we use the mean for those between the wealth distribution's 30th and 70th percentile. Capital gains are calculated based on observed values in the SCF and calculated under the assumption that more current birth cohorts would have also started with the same wealth level at age 20-29 as the 1940 birth cohort. For capital gains of the 1940s cohort at age 20-29 and 30-39, and for the 1950 cohorts at 20-29, we use the values of the 1960s cohort. Given that capital gains at that age are very low at the median, this assumption has little practical influence. All values in US $ as of 2016 and per adult.

Received wealth transfer and inheritances also only play a very limited role in the weak wealth performance of later generations (bottom right panel of figure 7 and figure 8). Neither wealth inequality across nor within generations is substantially driven by shifts in received wealth transfers. There is also no evidence to expect major shifts in the future, as the share of households expecting an inheritance is relatively stable across cohorts (figure A.7 in the appendix). This finding is in line with previous work showing that, compared to other developed countries, the share of transfer wealth in total wealth is rather low in the U.S. (Nolan et al., 2021). Additionally, there is evidence for an inequality-reducing effect of wealth transfers (Wolff, 2002; Wolff and Gittleman, 2014; Bönke et al., 2017). However, previous research also shows non-monetary transfers within families, i.e. human capital as early education or savings' preferences, to be of great importance for (the increase of) overall wealth inequality (De Nardi, 2004; Boserup et al., 2018; Black et al., 2022). Those transfers would most likely materialize in income or saving rate differentials (see section 4.3).

Our synthetic saving approach suggests that households in the middle of the wealth distribution of the 1940s birth cohort accumulated historically high savings. Equalizing synthetic saving almost completely closes the inter-generational wealth gap at the median (bottom right panel of figure 7). Based on the fact that synthetic saving has become more unequal within younger cohorts —with the bottom saving less and the top saving more —equalizing saving also almost completely reverses the increase in intra-generational inequality (bottom left panel of figure 8).

Figure 8: Wealth Inequality after Equalizing Capital Gains, Saving or Wealth Transfers. Wealth Ratio Top 10% to Bottom 50%



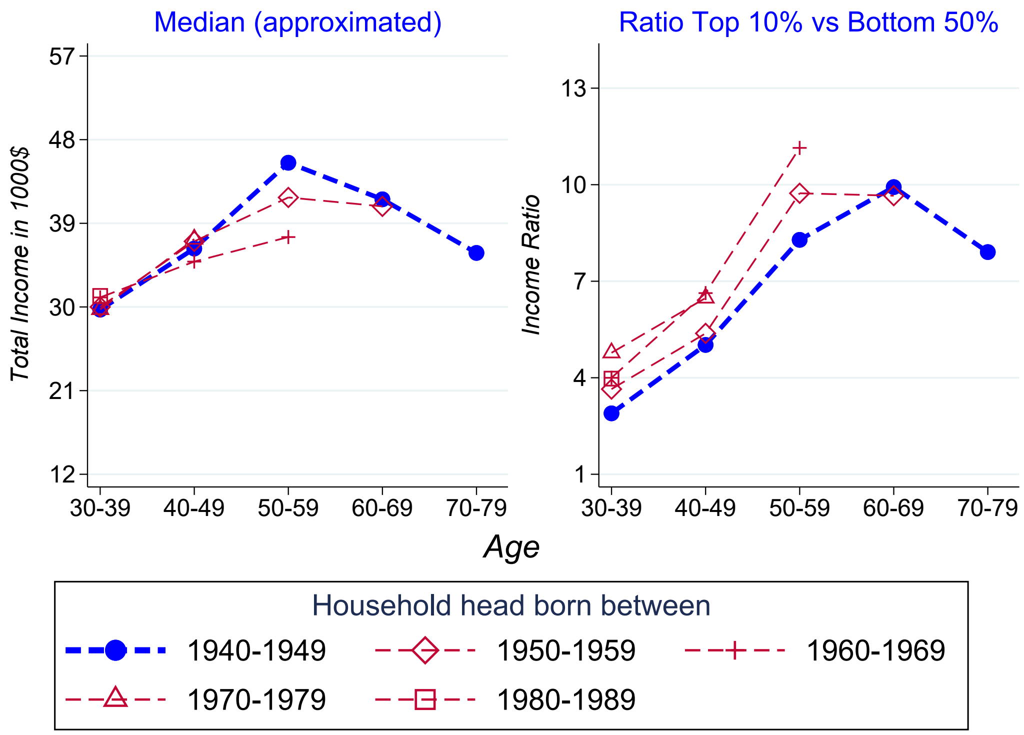
Note: Graph represents the wealth ratio under the assumption that either capital gains, saving or wealth transfers would have evolved for all cohorts as for the 1940s cohort. All values in US $ as of 2016 and per adult.

The results are broadly in line with Bauluz and Meyer (2022), in that both papers still see saving as the most important source of wealth accumulation. Our focus on the generational turning point in median wealth —instead of mean wealth-to-income ratios —explains the different importance attributed to capital gains. While capital gains are generally important for wealth accumulation, the differences between cohorts are not large enough to explain the lag in median wealth of the youngest cohorts.

4.3 Shifts in Savings are Mostly Driven by Changes in Saving Rates

The most straightforward explanation for changes in saving patterns is a shift in income levels. Figure 9 shows that people at the median of the wealth distribution (left panel) have seen their incomes stagnating or even decrease compared to the 1940s cohort, which likely contributed to their poor wealth performance. At the same time, incomes at the top of the wealth distribution have risen substantially, resulting in a growing income gap between the bottom and top of the wealth distribution (right panel). The poor income performance of median wealth households as well as the growing inequality is consistent with Guvenen et al. (2022) who document that lifetime earnings of men born after the 1940s are declining at the median but growing at the top. It is also consistent with Borella et al. (2019), who shows that white, non-college-educated Americans born in the 1960s face lower wages per unit of human capital relative to those born in the 1940s.

Figure 9: Income for Wealth Groups, Median and Ratio

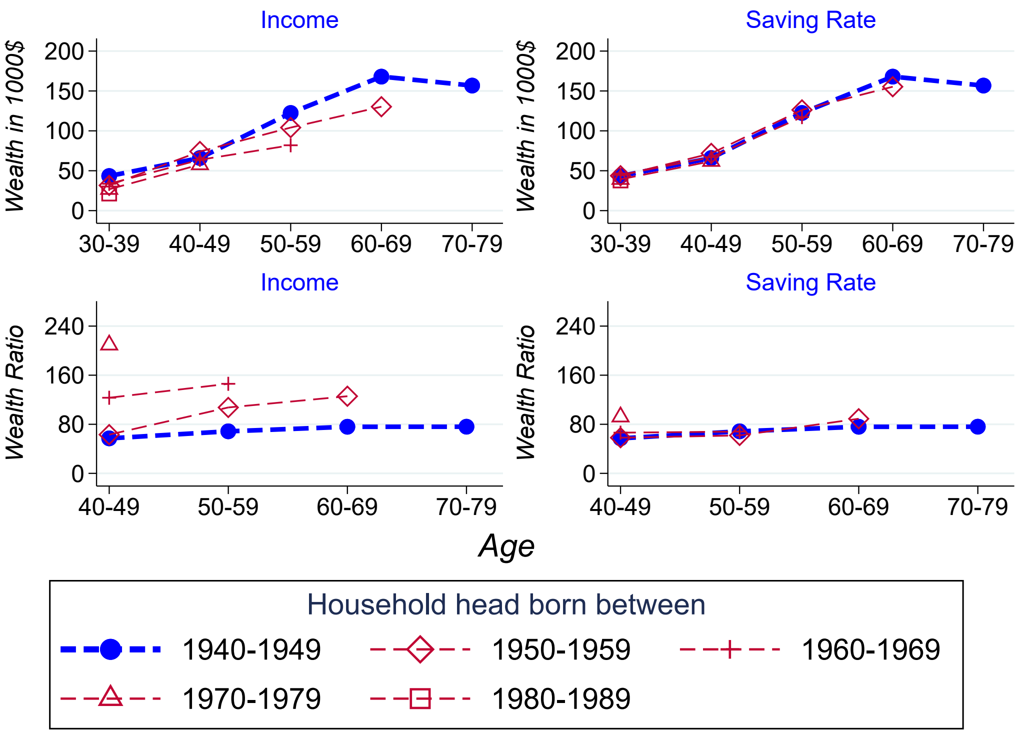


Note: Left panel: average income of median wealth owners per age group and cohort. To approximate the median, we use the mean for those between the 30th and the 70th percentile of the wealth distribution. Right panel: ratio of the average income of wealth owners at the top vs. the bottom of the distribution. All values in US $ as of 2016 and per adult.

While figure 9 strongly suggests that the changes in saving patterns are driven by shifts in income levels, it does not answer how quantitatively important these income shifts are compared to movements in saving rates. Therefore, we expand our counterfactual analysis from the previous chapter, but now either hold real incomes or synthetic saving rates fixed at the level of the 1940s cohort. We consider this exercise to be of analytical value, even though it disregards that income and saving rates are in reality simultaneously determined (if incomes change, saving rates would likely change too).

Figure 10 suggests that shifts in synthetic saving rates are indeed very important. At the median, almost the entire inter-generational wealth gap would have closed if more recent cohorts had saved the same share of their pre-tax income as the 1940s cohort. Likewise, the saving rate is also of great importance for intra-generational wealth inequality. If synthetic saving rates had been the same, the top 10% to bottom 50% wealth ratio in more recent generations would have been almost identical to the one of the 1940s cohort.

Figure 10: Wealth after Equalizing Income vs. Saving Rate, Median and Ratio

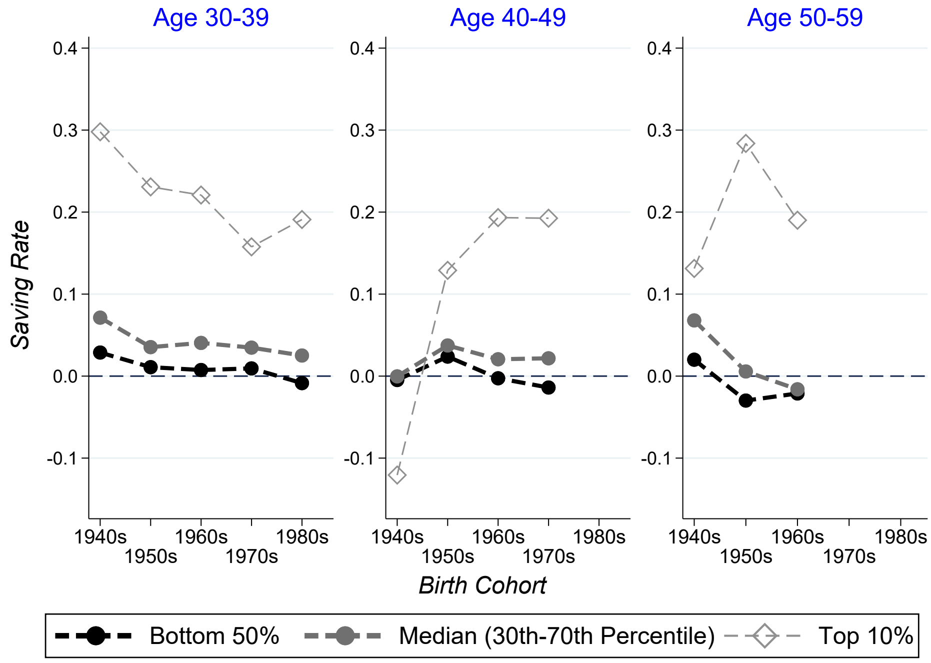


Note: Graph represents median net wealth (top panels) and wealth ratio (bottom panels) under the assumption that income (left panels) or the saving rate (right panels) would have evolved for all cohorts as for the 1940s cohort. To approximate the median, we use the mean for those between the wealth distribution's 30th and 70th percentile. All values in US $ as of 2016 and per adult.

Equalizing incomes has a very small effect because synthetic saving rates at the median and bottom of the wealth distribution are generally low and have declined substantially especially at age 50 to 59 (figure 11), the age when the wealth gaps start to widen. In contrast, synthetic saving rates at the top of the wealth distribution remain high in recent times and have even increased for ages 40-49 and 50-59. Our finding of lower saving rates at the median at age 50 to 59 is in line with self-reported ex-post saving in the SCF. Figure A.8 in the appendix shows the extensive margin of saving, that is the share of respondents who had saved in the last 12 months. The left panel indicates that this share is lower at the age of 50 to 59 in the middle of the wealth spectrum in younger cohorts as compared to older cohorts. Likewise, the share of households for which spending exceeds income is higher, as depicted in the appendix figure A.9 (left panel). In line with our synthetic saving results, saving inequality based on reported savings in the last 12 months has also increased around age 50 to 59 (right panel figure A.8 in the appendix).

Heterogeneous saving rates and a marginal propensity to save which increases in wealth are in line with previous empirical evidence (Dynan et al., 2004; Saez and Zucman, 2016; Mian et al., 2020). Moreover, they fit the theoretical literature showing that heterogeneous saving rates are important as homothetic saving rates, even if complemented by stochastic earnings and returns, are insufficient to derive the empirical wealth distribution from the income distribution (Benhabib and Bisin, 2018; De Nardi and Fella, 2017; Benhabib et al., 2017). Note that our saving rates refer to saving out of pre-tax income. Whereas conventional in the literature, it neglects the potential effects of changes in the tax and social security system on cohorts' ability to save. In appendix section A.4 we provide evidence for the argument that changes in the tax and social security system have not contributed to lower savings of younger cohorts.

Figure 11: Synthetic Household Saving Rates



Note: Synthetic household saving rates are calculated as the residual from equation 1.

5 Discussion

Our main finding —the average young American today holds less wealth than previous generations did at the same age—would, from an equity of opportunity point of view, be less troubling, if it is driven by a lower preference for wealth accumulation among current generations. The decline in median wealth might also be less of a concern if it merely reflected shifts in the composition of the American society (e.g. towards more single-person households), other demographic trends (such as later labor market entry and exit) or different degrees of intertemporal consumption smoothing. However, we find little evidence that shifts in preferences, the composition of the society or differences in life cycle patterns can explain the emerging wealth gap. First, we show that self-reported wealth accumulation preferences do not differ substantially between the generations. We group hypothetical saving motives[12] into those that lead to sustainable wealth accumulation (e.g. real estate or retirement financing) and those that do not, e.g. saving for the next holiday. Figure 12 shows that, at the median of the wealth distribution, saving preferences that yield persistent wealth accumulation have become if anything, more, not less, important for later-born cohorts. Second, we reweight our sample based on observable household characteristics, such as education, gender, race, household size, etc. (for details see appendix section A.5.1) using the method pioneered by DiNardo et al. (1996). The results, presented in the appendix figure A.33, show that shifts in observable household characteristics can barely explain why more recent cohorts lag behind and why more recent cohorts have become more unequal. Third, we investigate heterogeneous life cycles across generations. Neither the inter-generational wealth gap nor the rise in intra-generational inequality can be fully accounted for by the increases in average life expectancy or the trend of longer educational careers (see appendix section A.5.2). Lastly, intergenerational welfare would be stable if wealth differences were merely the result of different degrees of intertemporal consumption smoothing. However, figure 9 shows relatively stable age-income profiles across generations. If anything, very comparable income in younger ages and lower income in older ages would require younger generations to save more not less in order to smooth consumption over the life cycle.

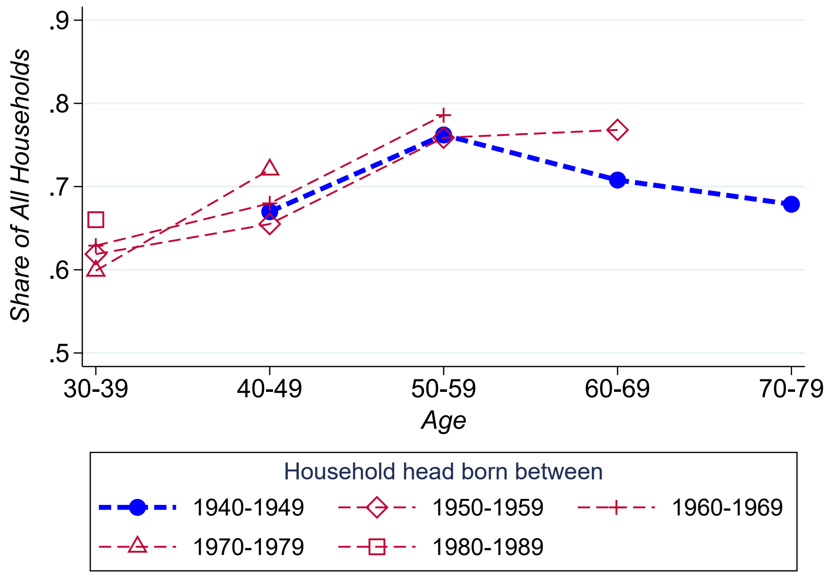
Thus, our findings raise intergenerational equity concerns. In fact, in a growing economy (real GDP per capita almost doubled since the beginning of the 1980s) one would expect later-born cohorts to acquire more, not less, wealth, especially given the challenge of population aging lying ahead.[13] Declining median wealth and growing wealth inequality within cohorts might also have additional detrimental consequences at the individual and political levels. On the individual level, wealth serves as insurance against adverse life events. Previous studies also

[12] The modern SCF asks for the most important motive to save. Specifically, the SCF asks "What are your most important reasons for saving?" if the respondent is currently unable to save, the interviewer rephrases the question to: "If you were saving now, what would be the most important reason you would have to save?"

[13] Given that, at least over the last decades, life expectancy has risen faster than (effective) retirement ages, the younger generation has to prepare for longer retirement spans. Moreover, the growing share of elderly people in the U.S. will pressure social security spending and could ultimately result in lower benefits making private retirement savings even more important.

suggest that less wealth worsens health outcomes (Hajat et al., 2011; Fichera and Gathergood, 2016; Glei et al., 2022), reduces fertility (Lovenheim and Mumford, 2013) and makes it less likely to succeed in entrepreneurship (Bellon et al., 2021). On the political level, growing wealth inequality poses a threat to social cohesion and potentially distorts the political system (Bonica et al., 2013). Declining wealth, combined with the growing number of older voters, reduces the likelihood that the interests of the median young American today are adequately represented in the political sphere.

Figure 12: Share of Saving Motives Yielding Persistent Wealth Accumulation



Note: Saving motives are captured by the SCF variable X3006 and, in case the first response was "I cannot save", in the variable X3007. The variable reports the saving motive considered most important for the respondent. We group the following saving motives into the category "Wealth Accumulation": savings to buy a house, to move, improve the house, buy or invest into a business, for retirement/old age, to pay off the house, save for investment, for contractual commitments (debt repayment, insurance, taxes, etc.), reserves in case of unemployment or illness, save for emergencies, to buy a car or if one simply likes to save or does not want to spend more. These correspond to the variable codes 9, 11, 12, 13, 14, 21, 22, 23, 24, 25, 26, 27, 33, 40, 90 and 92. We evaluate the average share of wealth accumulation saving motives at the median (30th - 70th percentile) of the wealth distribution.

6 Conclusion

In this paper, we document, for the first time, that median wealth for people born in the first half of the 20th century used to increase from (ten-year) birth cohort to birth cohort. On the contrary, the median wealth for cohorts born after the 1940s successively declined compared to their predecessors and wealth inequality within cohorts started to accelerate. The average young American today is therefore not on track to reach the wealth level of previous generations.

We argue that the wealth decline among more recent cohorts is mainly caused by lower savings, driven by a decline in saving rates. We find no evidence that the emerging wealth gap can sufficiently be explained by intergenerational shifts in preferences, the tax and transfer system or observable characteristics (e.g. household characteristics, life expectancy length of educational paths). Thus, our results raise intergenerational equity concerns and are important from a political economy perspective.

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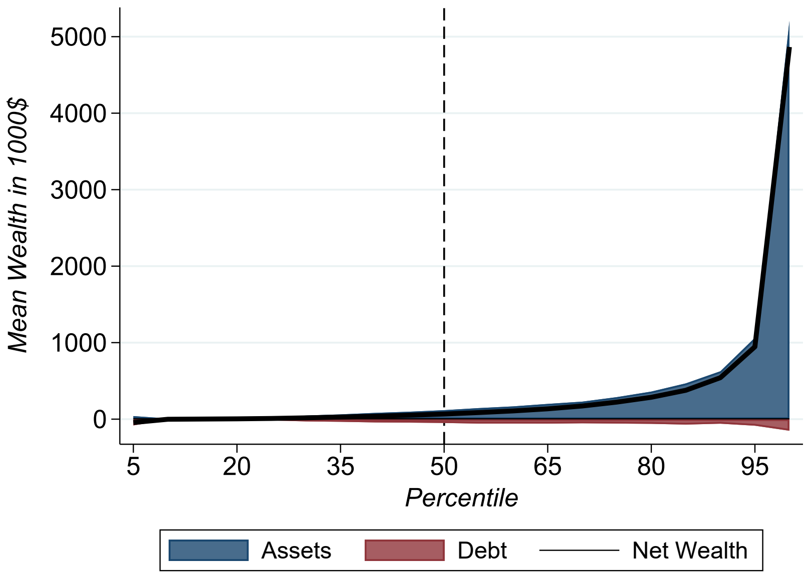
A Appendix

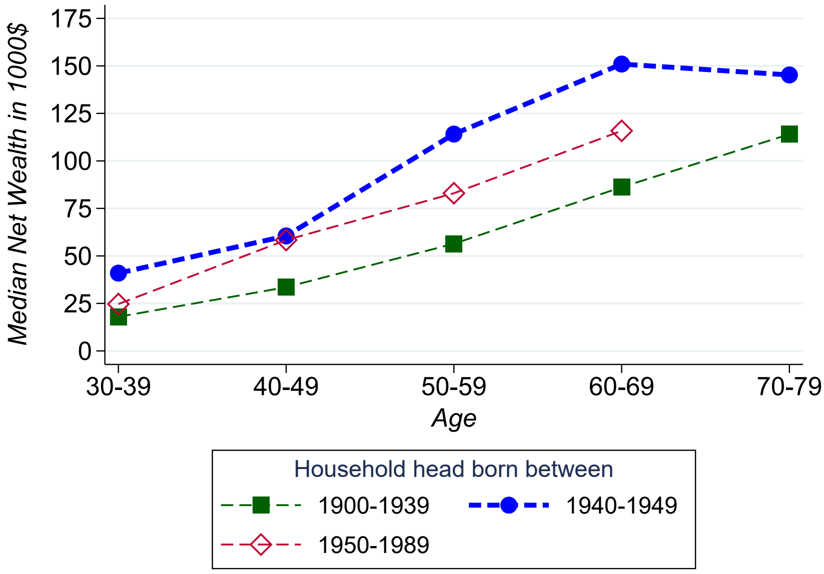
A.1 Additional Figures

Figure A.1: Net Wealth Distribution in 2019



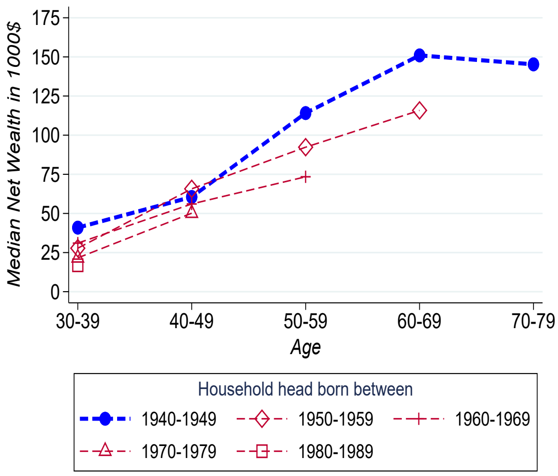
Note: All values in US $ as of 2016 and per adult.

Figure A.2: Median Net Wealth of Three Aggregated Cohorts

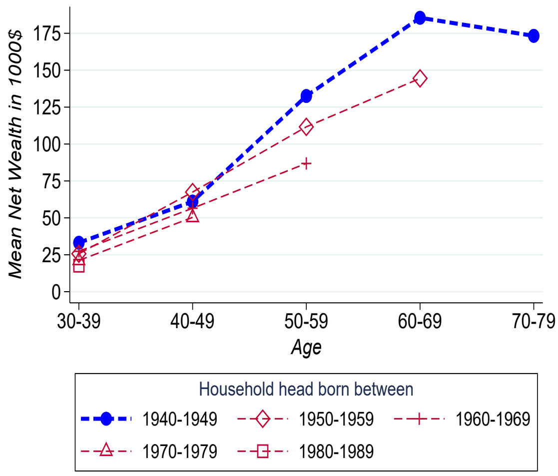


Note: All values in US $ as of 2016 and per adult.

Figure A.3: Median Net Wealth vs. Mean of Percentile Interval



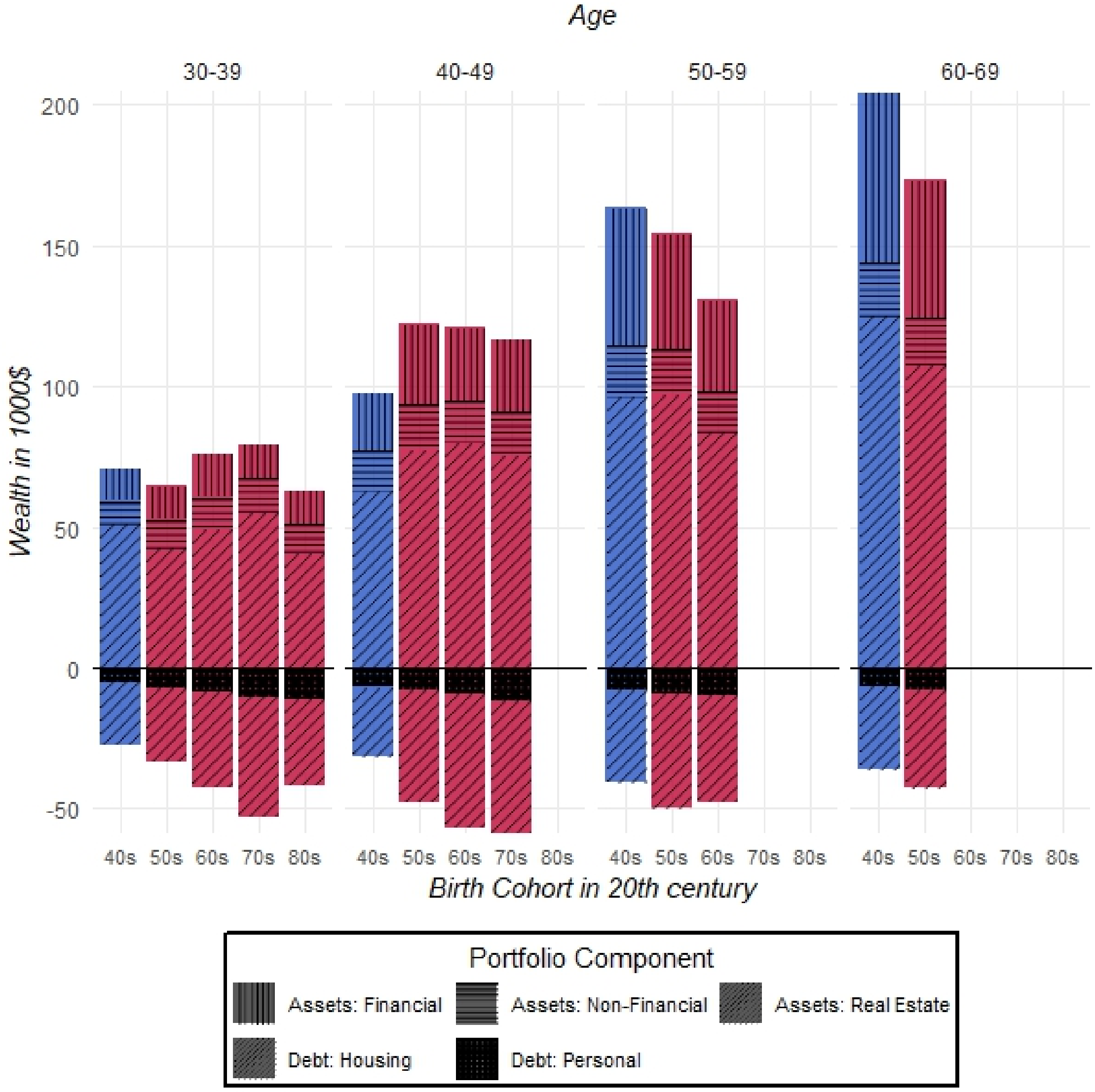
(a) Median Net Wealth



(b) Mean Wealth between 30th and 70th Percentile

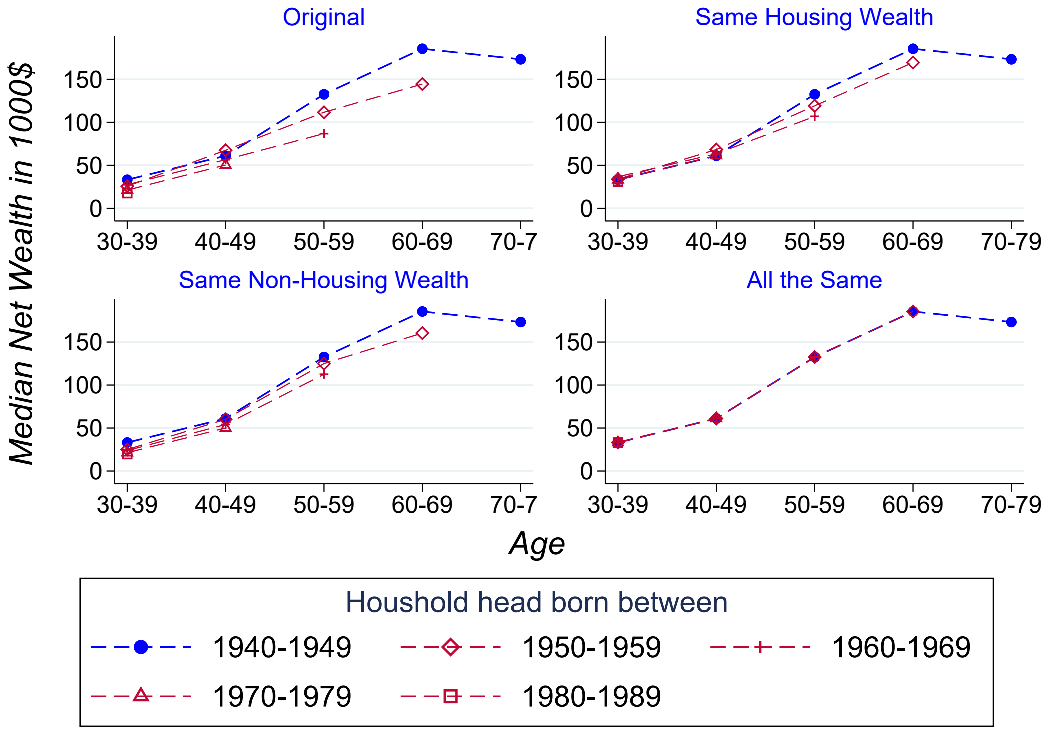
Note: The left panel shows the "true" median wealth distribution per cohort and age group. In the right panel, the median is approximated by the mean wealth of those between the 30th and the 70th percentile of the wealth distribution. All values in US $ as of 2016 and per adult.

Figure A.4: Wealth Portfolios of Four Post-1940 Cohorts



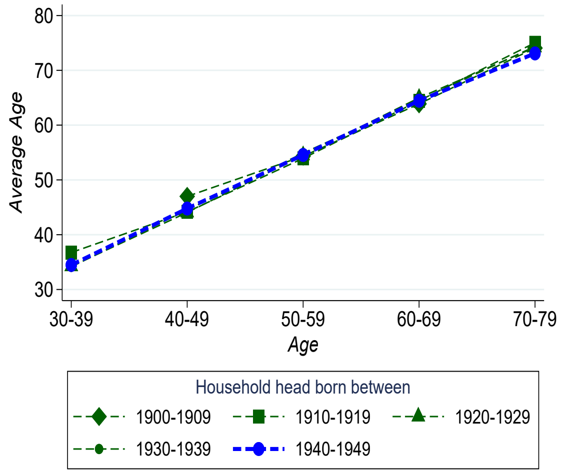
Note: We calculate the mean possession of each portfolio component for those between the wealth distribution's 30th and 70th percentile to approximate the median. All values in US $ as of 2016 and per adult.

Figure A.5: Median Wealth after Equalizing Housing or Non-Housing Wealth

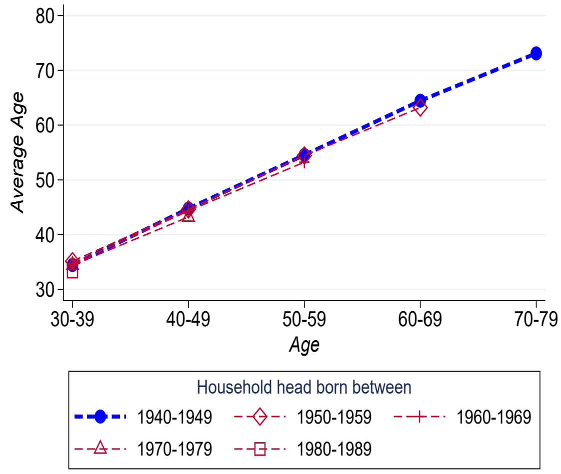


Note: We equalize net positions (assets-debt) of housing and non-housing wealth to the level of the 1940s cohort. To approximate the median, we use the mean for those between the wealth distribution's 30th and 70th percentile. Net Wealth in US $ as of 2016 and per adult.

Figure A.6: Average Age by Cohort

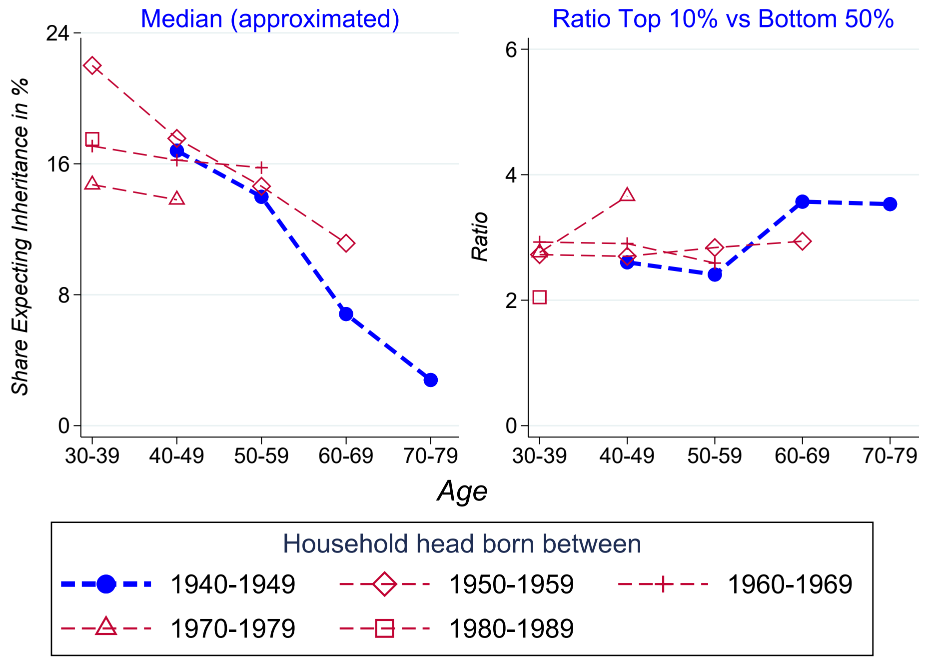


(a) Birth Cohort: 1940-1949 vs. 1900-1939



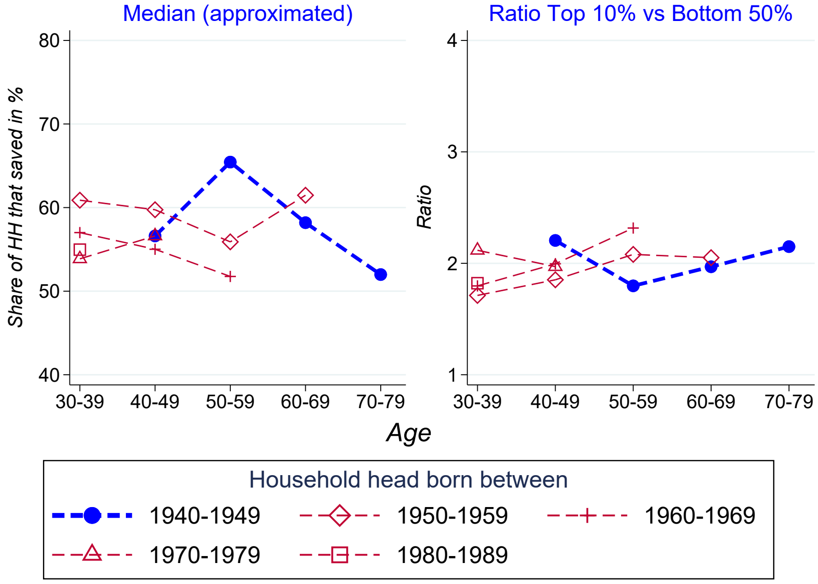
(b) Birth Cohort: 1940-1949 vs. 1950-1989

Figure A.7: Share of Households Expecting an Inheritance in the Future



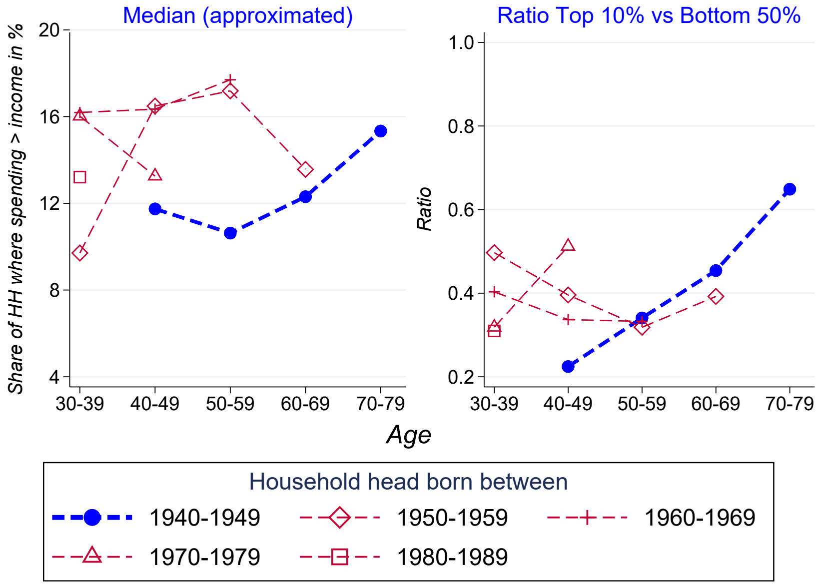
Note: The modern SCF contains information on whether or not the household expects to "receive a substantial inheritance or transfer of assets in the future". Left panel: Share of households that do expect to receive a substantial asset in the future. To approximate the median, we use the mean for those between the 30th and the 70th percentile of the wealth distribution. Right panel: Ratio of the share of households that expect to receive an asset at the top vs. the bottom of the distribution.

Figure A.8: Share of Households That Did Save



Note: Results are obtained from the SCF summary variable "SAVED". Left panel: Share of households that did save. To approximate the median, we use the mean for those between the 30th and the 70th percentile of the wealth distribution. Right panel: Ratio of the share of households that did save at the top vs. the bottom of the distribution. To approximate the median, we use the mean for those between the 30th and the 70th percentile of the wealth distribution.

Figure A.9: Share of Households for which Spending Exceeds Income



Note: Results are obtained from the SCF summary variable "WSAVED". Left panel: Share of households for whom spending exceeded income. To approximate the median, we use the mean for those between the 30th and the 70th percentile of the wealth distribution. Right panel: Ratio of the share of households for whom spending exceeded income at the top vs. the bottom of the distribution.

A.2 Robustness Checks

We conduct a range of robustness checks with regard to both, the cohort's median net wealth and the Gini coefficient.

Previous research has shown that the Great Recession persistently depressed the earnings of younger workers (Rinz, 2022). In addition, asset devaluations caused the lower parts of the distribution to get stuck in debt, intensifying inequalities and delaying macroeconomic recovery (Cynamon and Fazzari, 2016; Del Bono and Morando, 2022). Wealth losses were relatively more pronounced among younger parts of the society (Pfeffer et al., 2013). To investigate the importance of the Great Recession for long-run generational wealth trends, we repeat our main analysis excluding the survey waves after 2007. Figures A.10 and A.11 show that the decline in median wealth and the increase in wealth inequality started before the crisis. However, both developments gained substantial momentum after the Great Recession.

Further robustness checks include calculating confidence intervals for our median estimates. Figure A.12 indicates that our findings are statistically significant at a 5% level. In figure A.13 we display the cohort's median net wealth on the household, instead of the individual level. Results indicate an even stronger structural break for households' median net wealth. In figure A.15 we adjust wealth by means of the OECD equivalence scale including children as well as adults. Results are hardly different. Figure A.14 and A.16 reveal that wealth inequality within cohorts is hardly affected by the level of analysis.

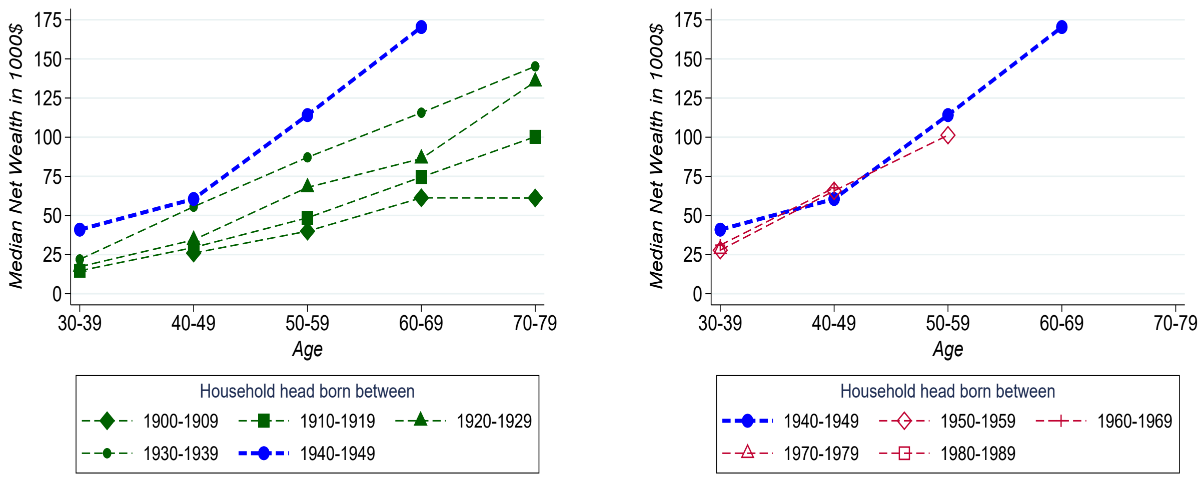
Next, we adjust cohorts for the fact that wealthier individuals tend to live longer, which could result in sizeable upward bias at older ages (Attanasio and Hoynes, 2000). Thus, we reweight adults by their survival probabilities using the data from Saez and Zucman (2016) for the survival probabilities of the 10% and whole population. The effect of differential mortality on the median wealth distribution (figure A.17) as well as on the Gini (figure A.18), however, is negligible in our setting.

Despite its broad coverage of wealth portfolios, one central component of it is missing in the SCF+, namely defined benefit pensions (DB pensions). Sabelhaus and Volz (2020) provide the additional variable for the modern SCF (from 1989 onwards). The authors show that the importance of DB pensions for total wealth is higher for lower percentiles of the wealth distribution and has increased for more recent cohorts. We follow Mian et al. (2021) as we include DB pension data in our analysis. Despite that both findings of Sabelhaus and Volz (2020) counteract our main finding, results for the median net wealth do not look much different if DB pensions are included (figure A.19). They do in fact differ somewhat for intra-cohort inequality in particular in the youngest cohorts, as can be seen in figure A.20.

As an additional robustness check, we deflate all values by means of the PCE instead of the CPI deflator. Figure A.21 reveals the robustness of our findings with respect to the alternative inflation measure. Intra-cohort inequality is even higher as depicted in figure A.22.

Measurement error may result from the fact that age is recorded in ten-year bins in all SCF+ survey waves prior to 1960. In contrast to Bauluz and Meyer (2022), who explore cohort trends continuously for all years, this is less of a concern for our setting where we group ages in ten-year age groups anyway. However, for additional validation, figure A.23 and A.24 show that dropping all years prior to 1960 results in a few data points less, however, those remaining do not change.

Figure A.10: Median Net Wealth based on all Years prior to 2007

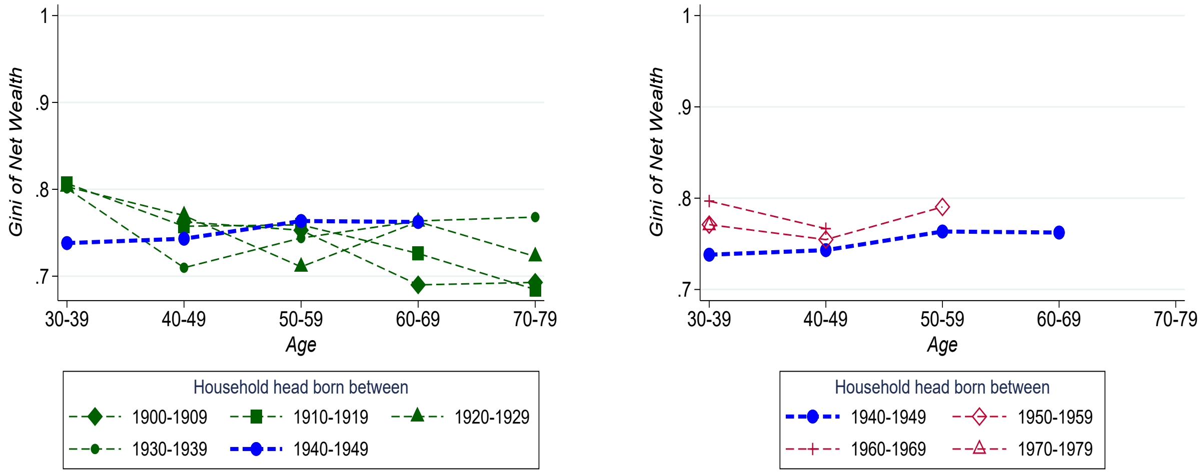


(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1900-1939

Note: All values in US $ as of 2016 and per adult.

Figure A.11: Gini based on all Years prior to 2007

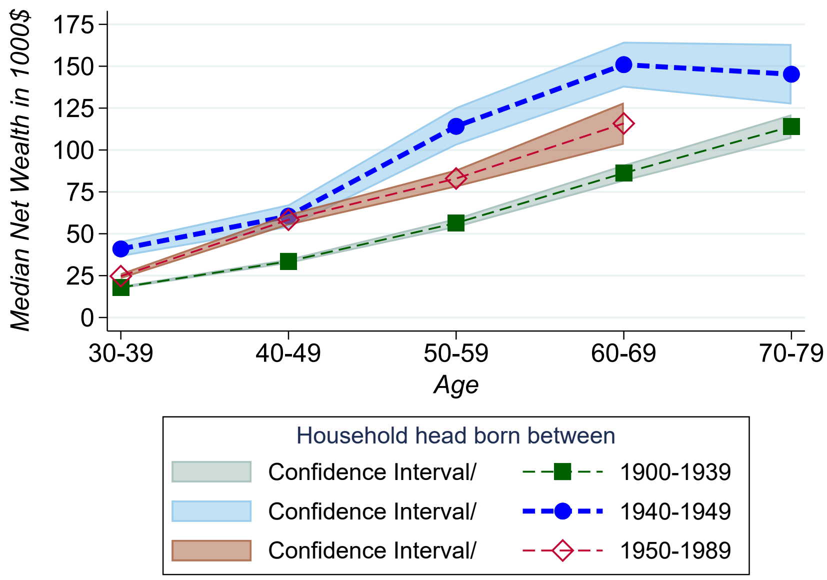


(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1900-1939

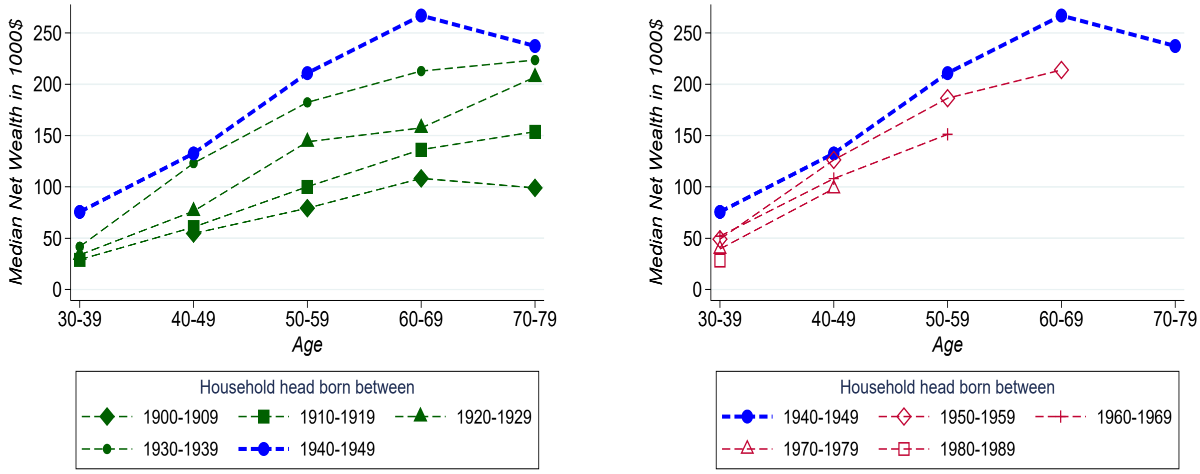
Note: All values transformed to US $ as of 2016 and adjusted by the OECD household equivalence scale before Gini calculation.

Figure A.12: Median Wealth with Confidence Bands



Note: All values in US $ as of 2016 and per adult. Confidence bands represent a 95% confidence level.

Figure A.13: Median Wealth per Household (not per person)

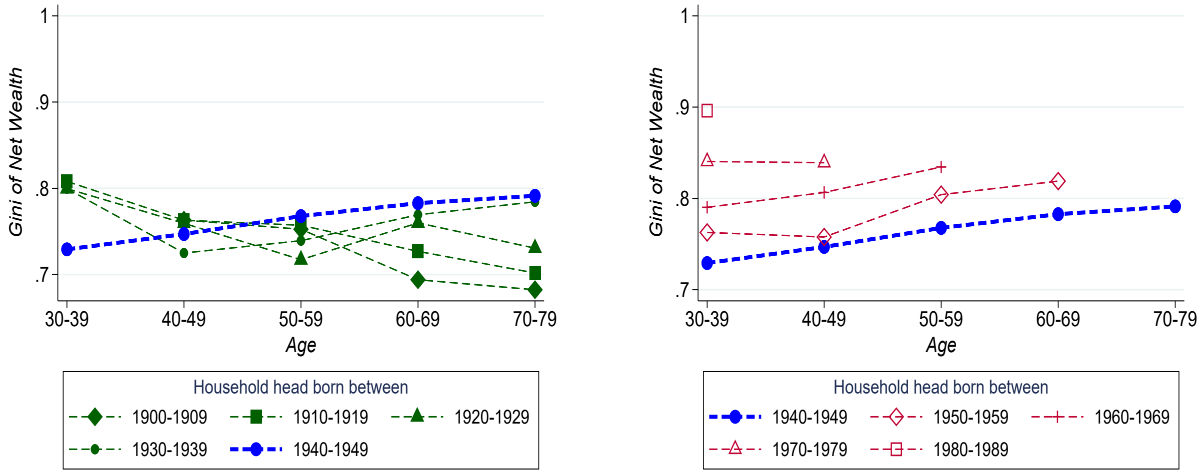


(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US \$ as of 2016.

Figure A.14: Wealth Gini Coefficient not Corrected for Members (not per person)

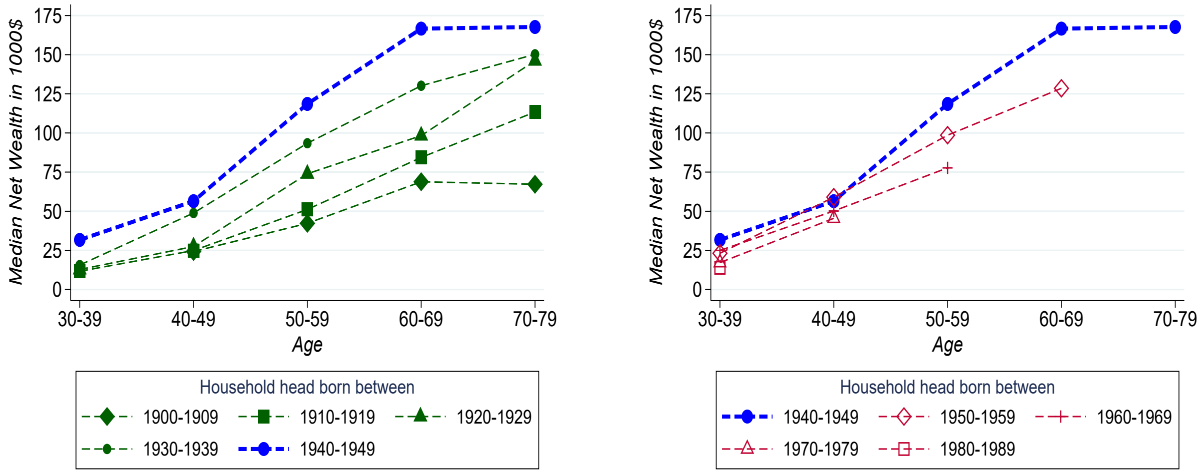


(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values were transformed in US \$ as of 2016 and per adult before Gini calculation.

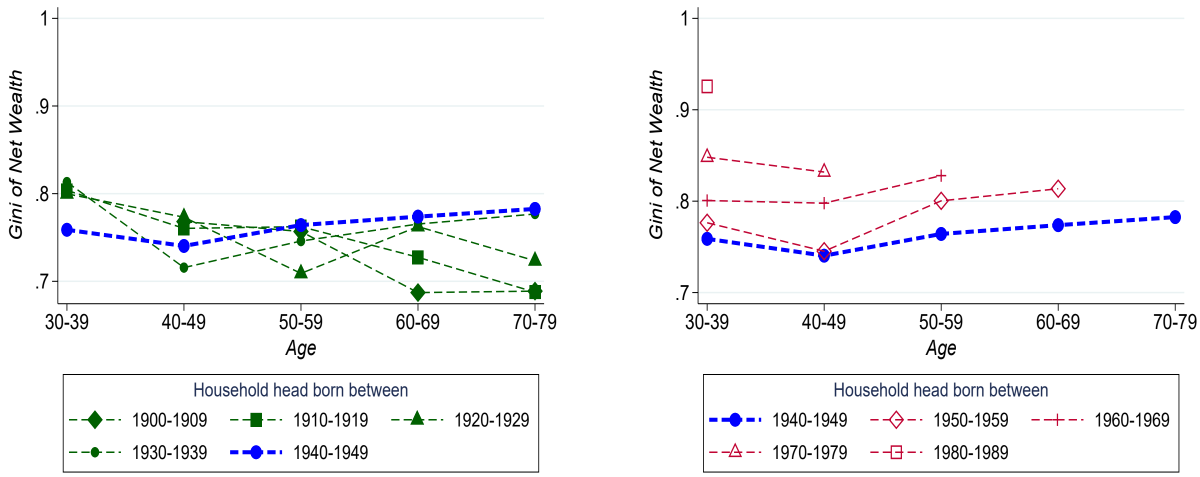
Figure A.15: Median Wealth per OECD Household Equivalence Scale



(a) Birth Cohort: 1940-1949 vs. 1900-1939 (b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US $ as of 2016 and adjusted by the OECD household equivalence scale.

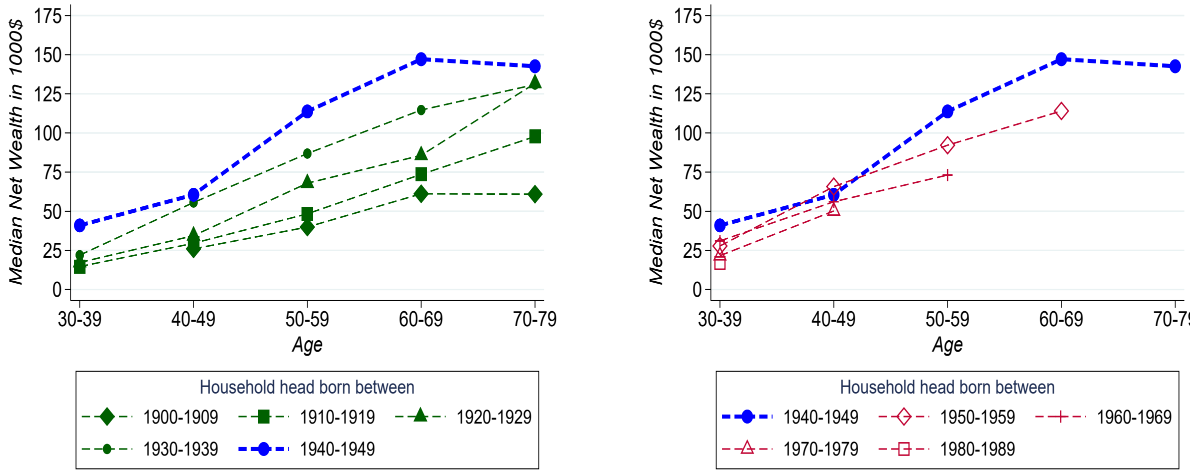
Figure A.16: Wealth Gini Coefficient per OECD Household Equivalence Scale



(a) Birth Cohort: 1940-1949 vs. 1900-1939 (b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values transformed to US $ as of 2016 and adjusted by the OECD household equivalence scale before Gini calculation.

Figure A.17: Median Wealth Adjusted for Differential Mortality

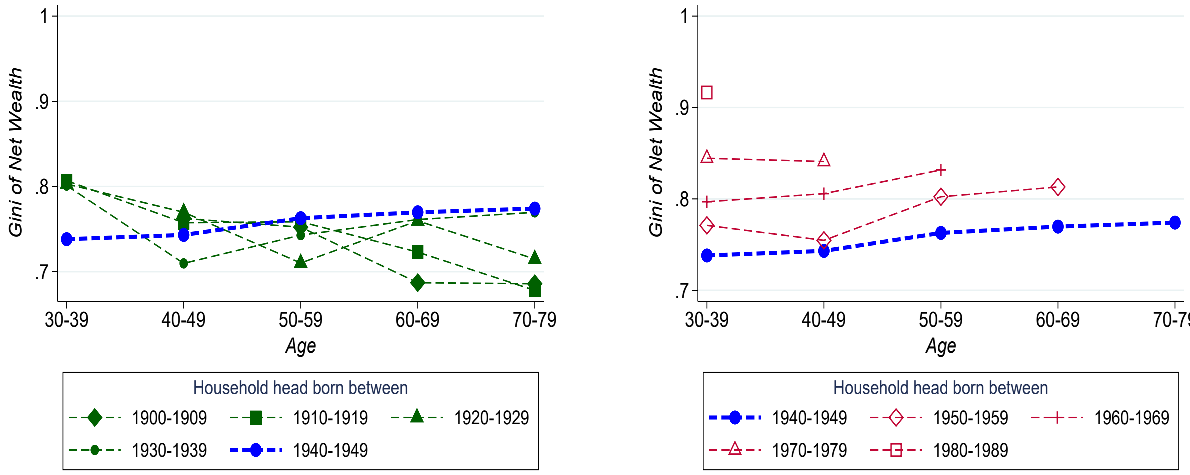


(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: We adjust for differential mortality by reweighting the population by their survival probability using the data from Saez and Zucman (2016). All values in US $ as of 2016 and per adult.

Figure A.18: Wealth Gini Coefficient Adjusted for Differential Mortality

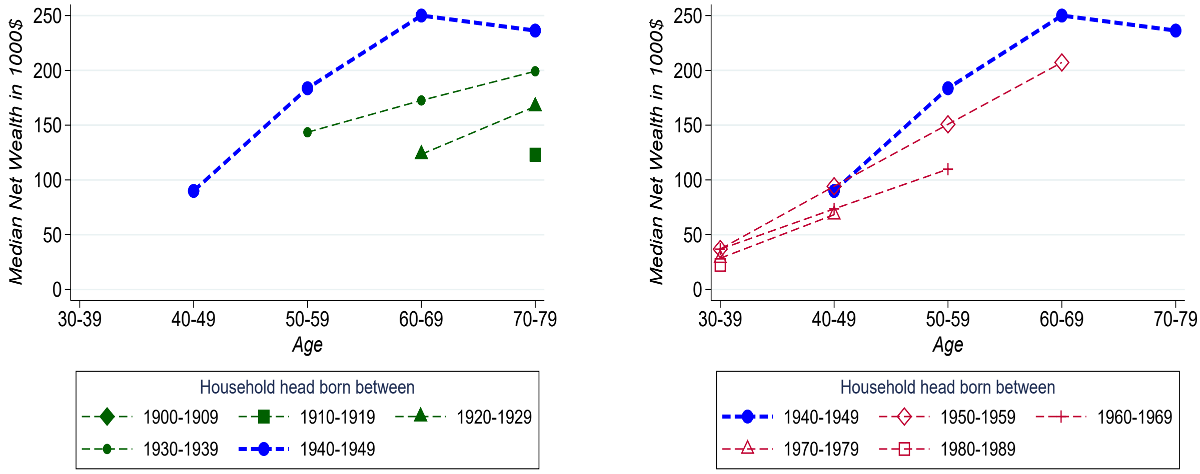


(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: We adjust for differential mortality by reweighting the population by their survival probability using the data from Saez and Zucman (2016). All values transformed to US $ as of 2016 and adjusted by the OECD household equivalence scale before Gini calculation.

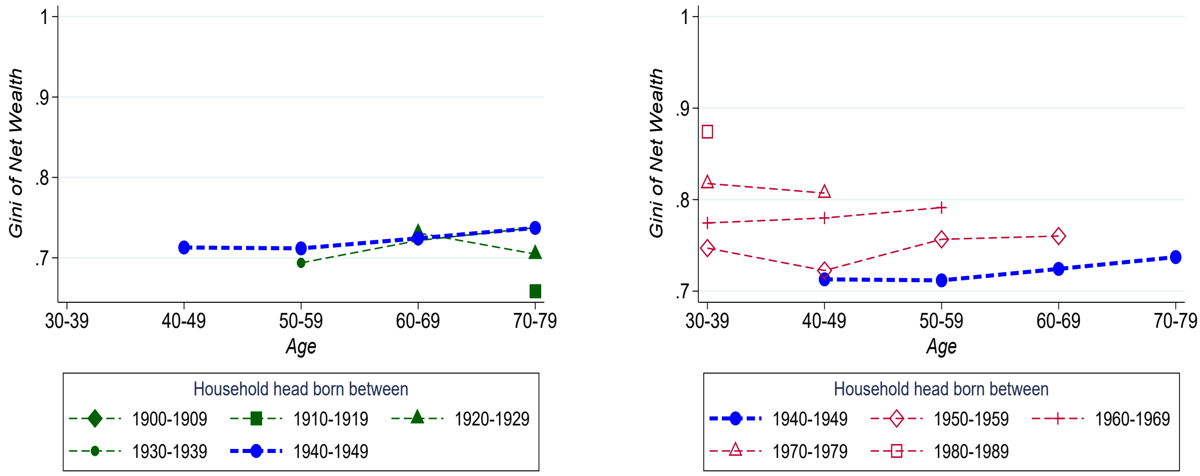
Figure A.19: Median Wealth incl. Defined Benefit Pensions



(a) Birth Cohort: 1940-1949 vs. 1900-1939 (b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US $ as of 2016 and per adult.

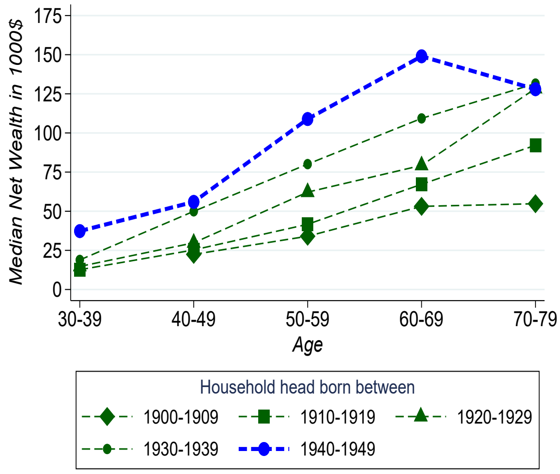
Figure A.20: Wealth Gini Coefficient incl. Defined Benefit Pensions



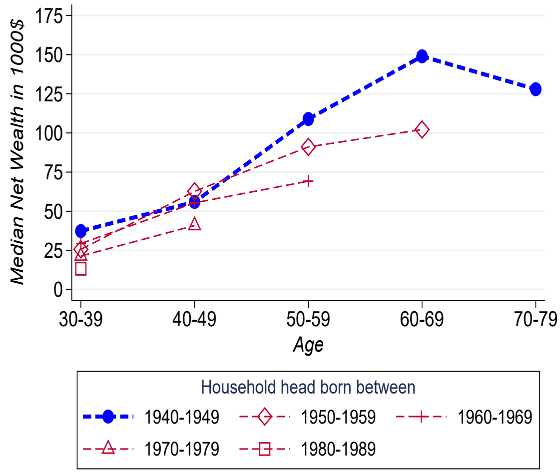
(a) Birth Cohort: 1940-1949 vs. 1900-1939 (b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values transformed to US $ as of 2016 and adjusted by the OECD household equivalence scale before Gini calculation.

Figure A.21: Median Wealth deflated with PCE instead of CPI



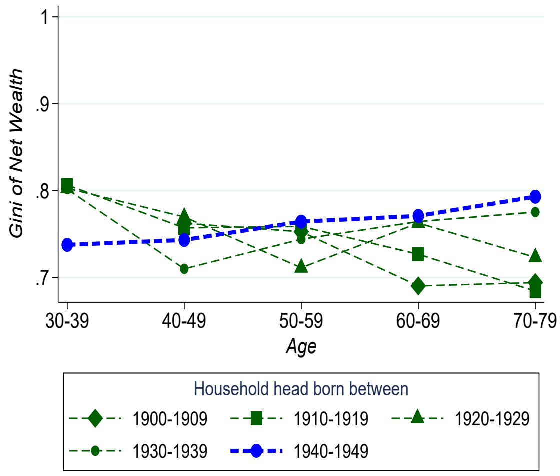
(a) Birth Cohort: 1940-1949 vs. 1900-1939



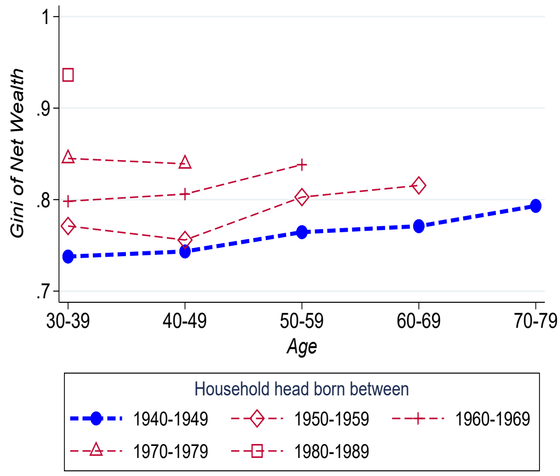
(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US $ as of 2016 and per adult.

Figure A.22: Wealth Gini Coefficient deflated with PCE instead of CPI



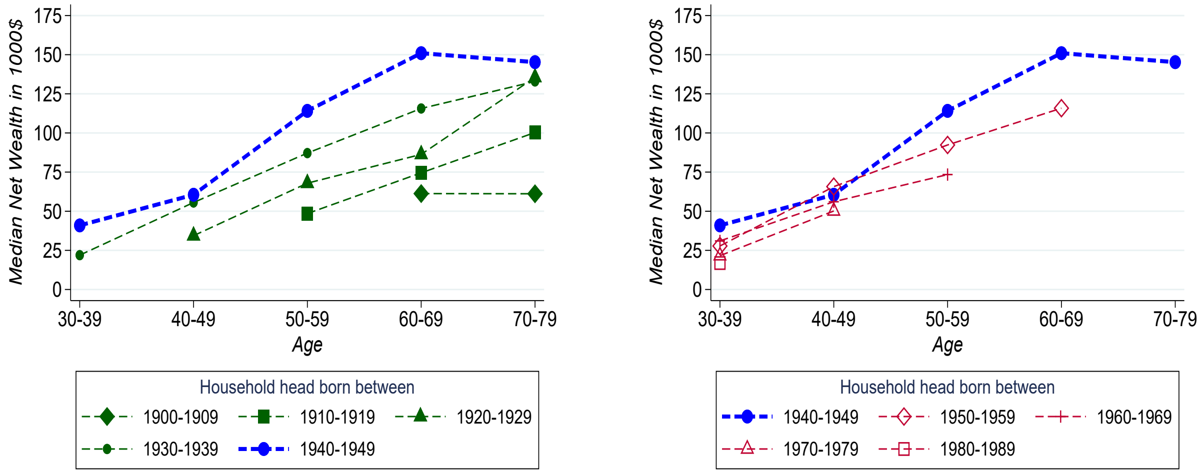
(a) Birth Cohort: 1940-1949 vs. 1900-1939



(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values transformed to US $ as of 2016 and adjusted by the OECD household equivalence scale before Gini calculation.

Figure A.23: Median Wealth without Survey Waves in the 1950s

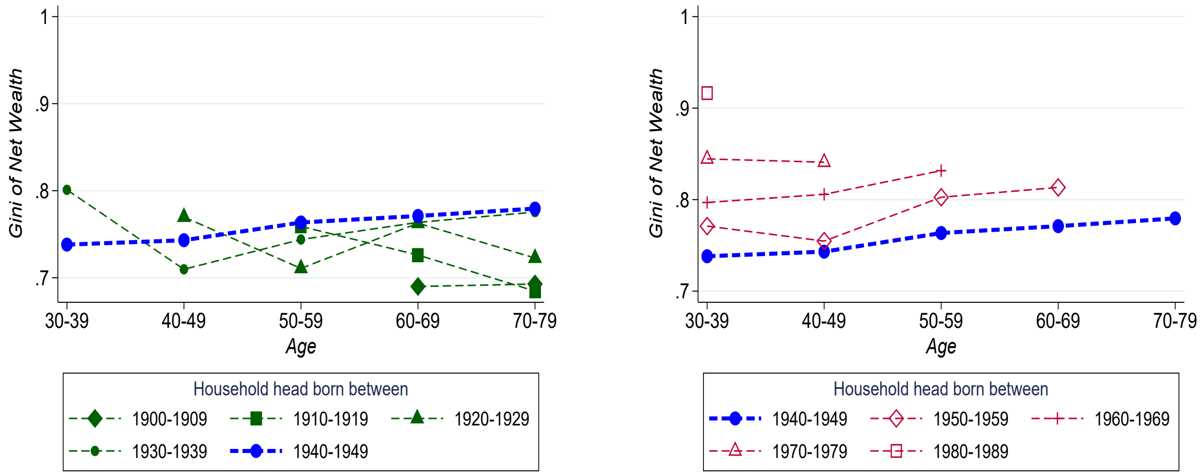


(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US $ as of 2016 and per adult.

Figure A.24: Wealth Gini Coefficient without Survey Waves in the 1950s



(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values transformed to US $ as of 2016 and adjusted by the OECD household equivalence scale before Gini calculation.

A.3 Alternative Capital Gains

In addition to the self-reported capital gains from the SCF, we construct capital gains from macro returns, which serve two purposes. First, it provides a robustness check on the SCF+ self-reported capital gains. Second, it also allows us to equalize relative capital gains (returns to wealth) across generations and simulate heterogeneity of asset returns across the distribution as recent evidence suggests such a heterogeneity even within the same asset classes (Fagereng et al., 2020; Xavier, 2020).

Figures A.25 and A.26 show that the alternative capital gains computations confirm our main results. All results are in the same ballpark while the macro computation has more noise, especially in terms of the intra-cohort distribution of wealth. Note that we use two different ways of calculating macro returns. In the "Capital gains (Macro Returns)" results, the wealth of each age group is multiplied by the corresponding ten-year cumulative return rate to obtain the capital gains of the following age group. In contrast, in "Capital gains (Survey Lag)" panels, it is not the ten-year rate that is applied, but the rate that results from the actual difference in average age between the samples of two successive age groups. These differences are mostly around ten years, so the results are not too different.

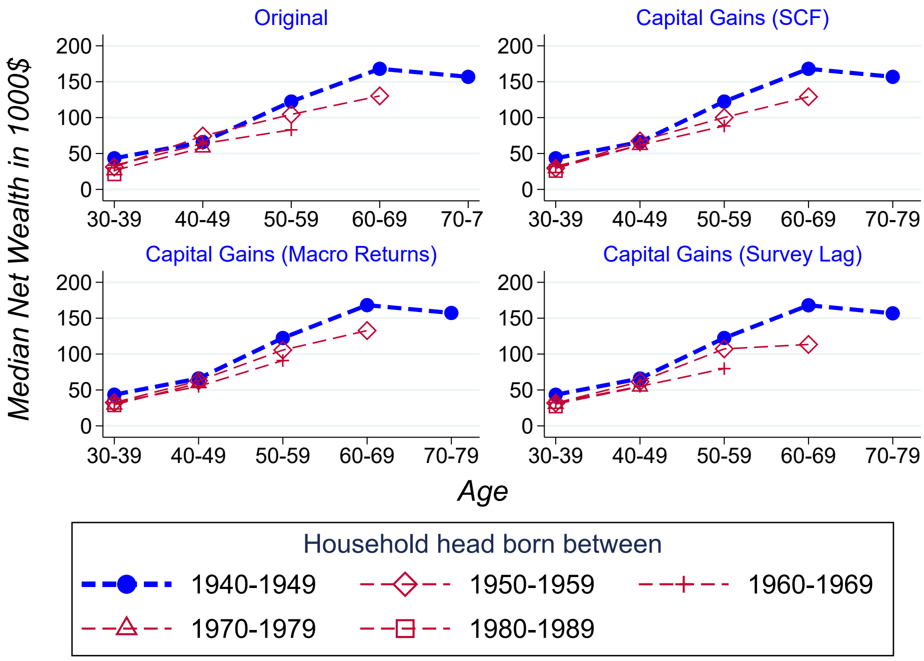
Figure A.27 and A.28 show the results when relative capital gains are equalized. The top right panel shows the evolution of wealth if all cohorts had experienced the same returns on their stock of wealth as the 40s cohort. In the bottom left panel, starting wealth in the 20s is equalized to the level of the 40s cohort, showing little change. In the bottom right panel, cohorts hypothetically experienced the same absolute stream of capital gains and starting wealth.

So far we have assumed that all households, in a given age group and cohort, face the same rate of capital gains on their assets and debt which is equal to the average, national capital gains (Macro Returns and Survey Lag). In figure A.29, we assume that the rate of capital gains, observed at the national level, varies across wealth groups (denoted Heterogeneous Returns HR). Specifically, we assume that the rate of capital gains for the top 10% is 20% or 100%

higher than for the bottom 50% per year when returns attributable to capital gains are positive at the national level. When capital gains are negative at the national level, we use the opposite ratio, i.e. we assume that losses are lower for the top 10% than for the bottom 50%. Wealth ratios are robust to the alternative methods of calculation.

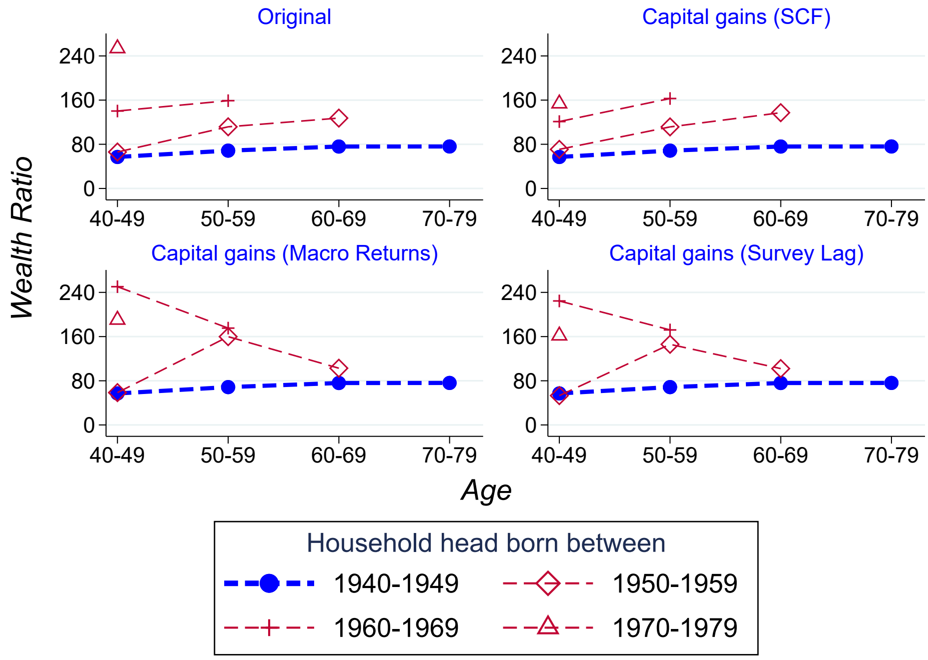
Since saving is determined as a residual, alternative capital gains affect saving. However, figures A.30 and A.31 demonstrate the robustness of our saving results.

Figure A.25: Median Wealth after Equalizing Capital Gains



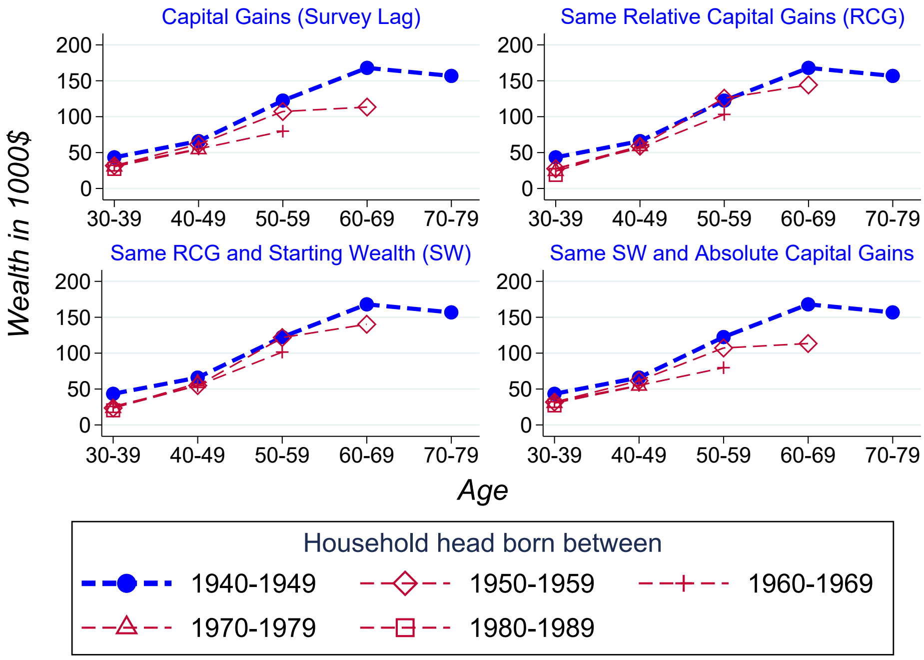
Note: Graph represents absolute wealth under the assumption that Capital Gains had evolved as for the 1940s cohort. Capital gains are calculated under the assumption that current birth cohorts would have had the same wealth level at age 20-29 as the 1940 birth cohort (same starting wealth). All values in US $ as of 2016 and per adult.

Figure A.26: Wealth Inequality after Equalizing Capital Gains, Ratio Top 10% vs Bottom 50%



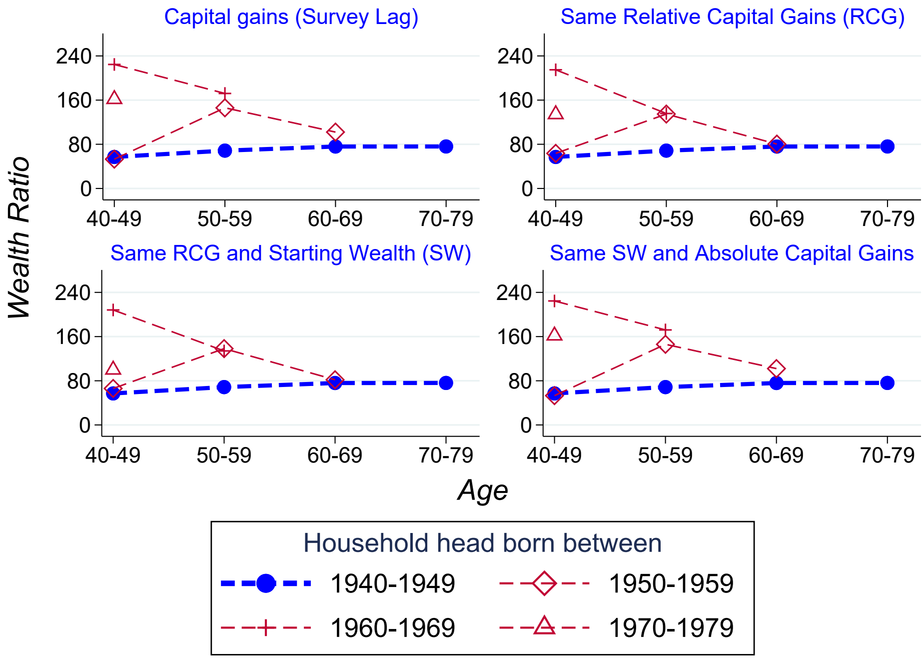
Note: Graph represents absolute wealth under the assumption that Capital Gains had evolved as for the 1940s cohort. Capital gains are calculated under the assumption that current birth cohorts would have had the same wealth level at age 20-29 as the 1940 birth cohort. All values in US $ as of 2016 and per adult.

Figure A.27: Median Wealth after Equalizing Relative Capital Gains



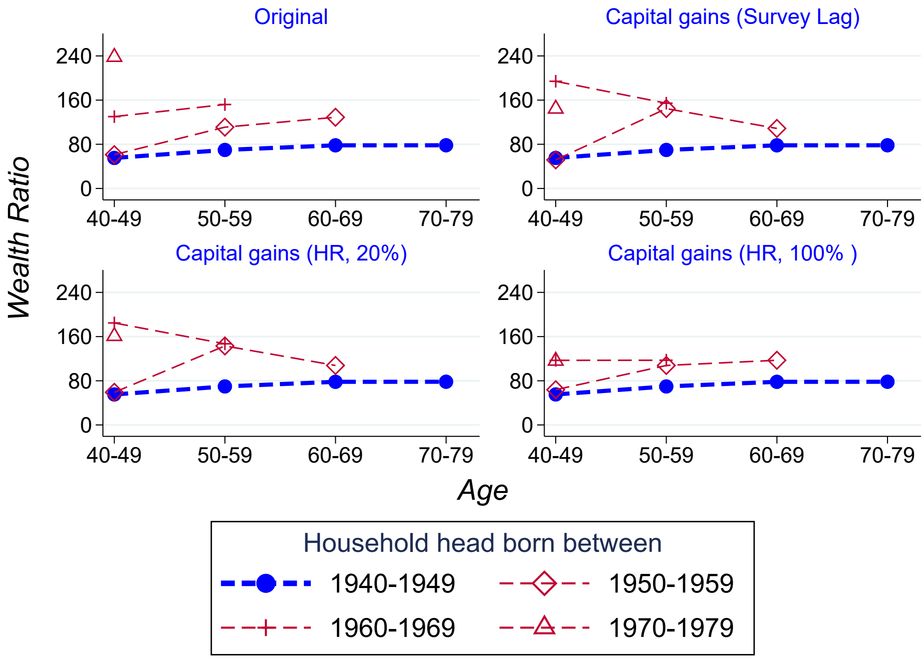
Note: Top left panel: Equalizing absolute capital gains reported in the SCF. Top right panel: Relative Capital Gains refer to equalizing the term $1+r_{c,age}$ in equation 1. Bottom right panel: Absolute Capital Gains refer to equalizing the entire Capital Gains term of equation 1. The same starting wealth implies all cohorts having the same wealth level at age 20-29 as the 1940 birth cohort. All values in US $ as of 2016 and per adult.

Figure A.28: Wealth Inequality after Equalizing Relative Capital Gains



Note: Top left panel: Equalizing absolute capital gains reported in the SCF. Top right panel: Relative Capital Gains refer to equalizing the term $1+r_{c,age}$ in equation 1. Bottom right panel: Absolute Capital Gains refer to equalizing the entire Capital Gains term of equation 1. The same starting wealth implies all cohorts having the same wealth level at age 20-29 as the 1940 birth cohort. All values in US $ as of 2016 and per adult.

Figure A.29: Wealth Ratio after Equalizing Capital Gains, Sensitivity

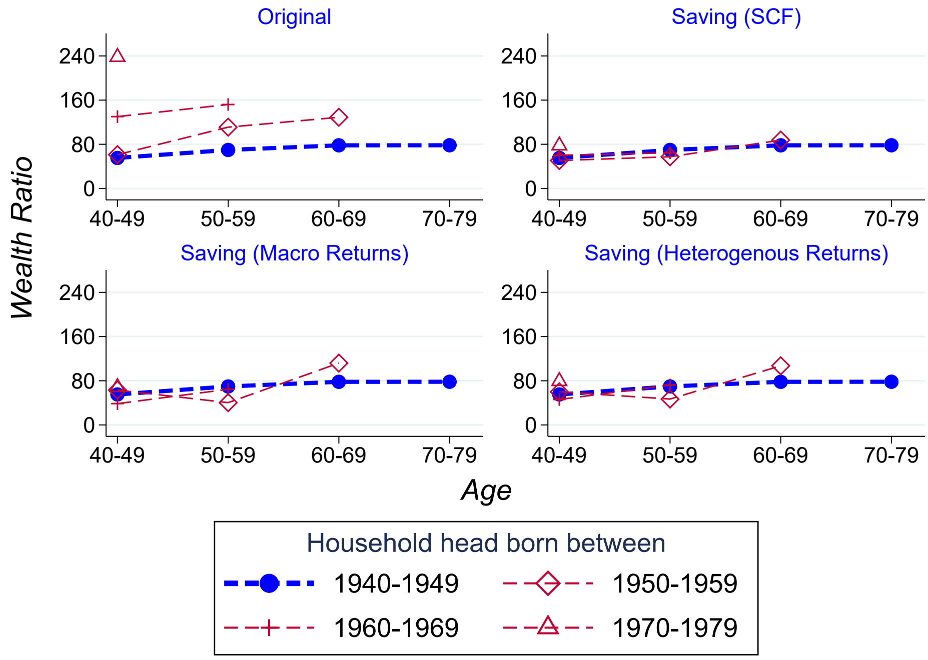


Note: All values in US $ as of 2016 and per adult. We calculate the ratio of average wealth in the top 10% as compared to the bottom 50% of the distribution. In our counterfactual scenarios, all cohorts born after the 1940s obtain the same returns as the cohort born in the 1940s. The top right panel shows the result as we calculate returns based on the real average survey year interval between cohort observations. The lower panels show the result as we assume that the top 10% in each cohort obtain 20% and 100% more returns on their wealth as compared to the rest of the distribution.

Figure A.30: Median Wealth after Equalizing Saving

Note: Top right panel: Saving as a residual from capital gains recorded in the SCF. Bottom panel: Saving as a residual from capital gains calculated from macro returns. All values in US $ as of 2016 and per adult.

Figure A.31: Wealth Inequality after Equalizing Saving, Ratio Top 10% vs Bottom 50%

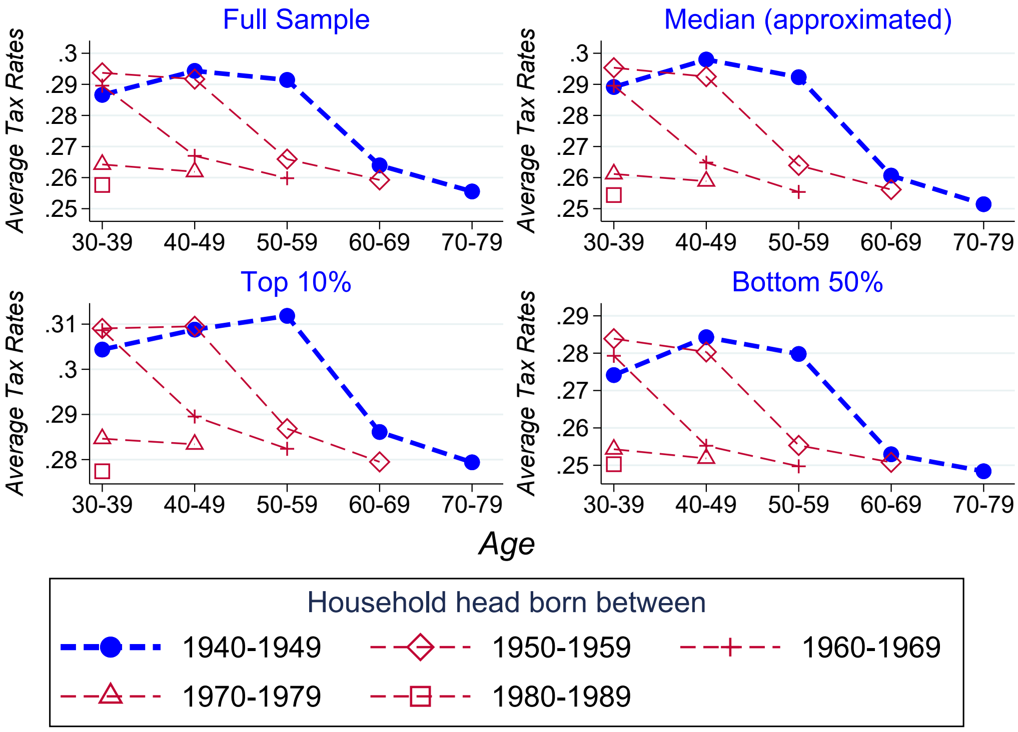


Note: Top right panel: Saving as a residual from capital gains recorded in the SCF. Bottom left panel: Saving as a residual from capital gains calculated from macro returns. Bottom right panel: Saving as a residual from capital gains calculated from macro returns, while wealth owners at the top obtain higher returns than wealth owners at the bottom of the distribution. All values in US $ as of 2016 and per adult.

A.4 Taxes and Social Security

Our synthetic savings (rates) are calculated based on pre-tax income. To the extent that most saving is made out of post-tax income, tax changes could drive our results. Earlier research has argued that the decline in U.S. tax progressivity is an important driver of overall wealth inequality (Hubmer et al., 2021; Cao and Luo, 2017; Kaymak and Poschke, 2016). Nevertheless, the evidence does not support the hypothesis of a tax and social security system driving the shifts in synthetic saving rates across recent generations. We match the average tax rates by income group and calendar year from Saez and Zucman (2020) with the SCF+ to show that the tax burden has decreased at the median of the wealth distribution for later-born cohorts (upper right panel of figure A.32). In addition, the decline was of the same order of magnitude in all parts of the distribution. Hence, the tax system does not appear to restrain the recent cohorts' ability to save more than in previous generations. Increasing generosity of public old-age insurance (aka social security), which is an important factor in the analysis of Kapteyn et al. (2005), is also likely not behind the decline in saving rates at the bottom and median of the wealth distribution. The last big expansion of social security took place in 1972 (DeWitt, 2010) and thus earlier than the observed shift in saving rates.

Figure A.32: Average Tax Rates



Note: Average tax rates are calculated as follows: We group each respondent in accordance to her position in the annual income distribution and to his position in the wealth distribution in the respective cohort/age group combination. Next, we match the respondents to the tax rates constructed by (Saez and Zucman, 2020), based on the annual income distribution. We calculate the average tax rates by wealth group in the usual manner (Median = average between the 30th and 70th percentile; Top 10% = only respondents above the 90th percentile; Bottom 50% = only respondents below the 50th percentile).

A.5 The Role of Observable Characteristics

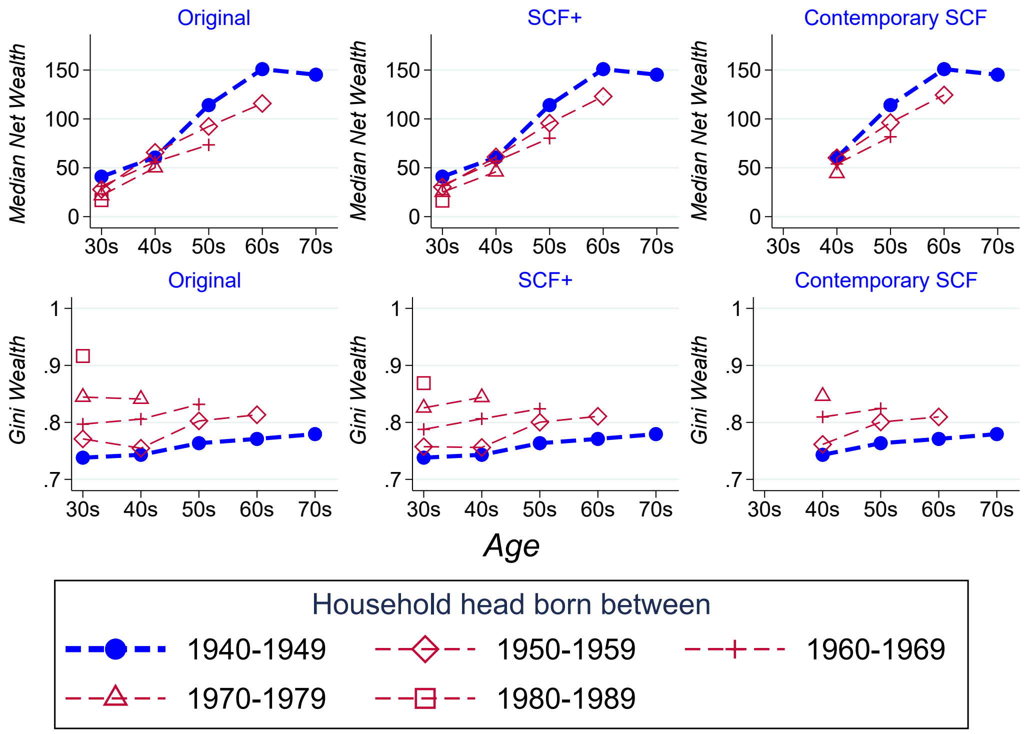
We discuss three potential explanations for the observed wealth patterns: changing household characteristics, shifts in life expectancy as well as the length of educational careers and the repercussions of the Great Recession. We find that none of these factors can conclusively explain why median wealth declined or intra-generational wealth inequality increased for more recent generations.

A.5.1 Household Characteristics

One potential explanation for the decline in median wealth as well as the rise in intra-cohort inequality are changes in socio-demographic characteristics across cohorts. We investigate this hypothesis by assuming that observable household characteristics would have remained at the level of the 1940s cohort (at the same age). Therefore, we reweight our sample using the method pioneered by DiNardo et al. (1996). For the SCF+, we reweight our sample based on race (white, black, other), the share of college graduates, the number of children and household size. Adding information from the contemporary SCF allows us to additionally reweight based on gender and marital status of the household reference person as well as on a more detailed educational grouping (no high school, high school, some college, no college). The contemporary SCF, however, comes at the expense that we cannot observe the 1940s cohort in their ages of 30-39, which results in one data point less.

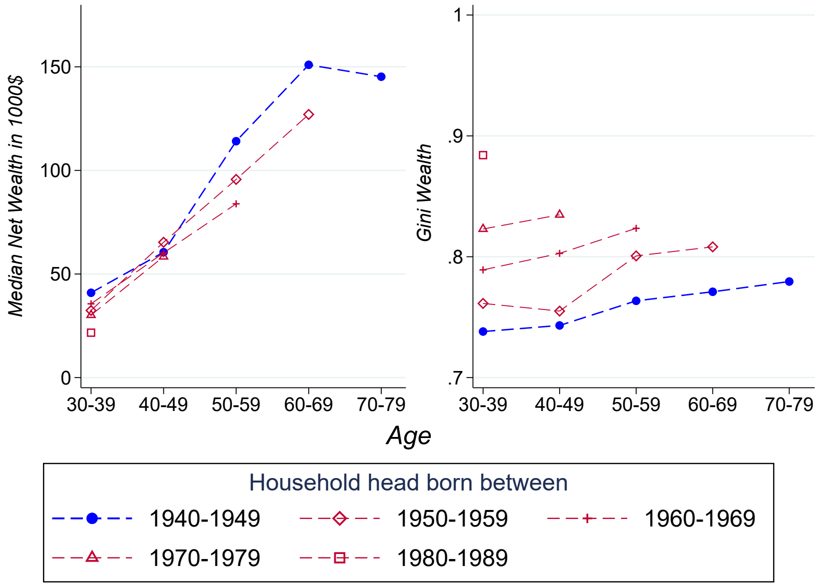
Figure A.33 indicates that shifts in observable household characteristics can neither fully explain the decline in median wealth nor the increase in intra-cohort inequality. Otherwise, the wealth trajectories of the younger cohorts in red would lie on top of the blue line, representing the 1940s cohort's life cycle wealth. The reweighting exercise also suggests that increasing racial diversity has contributed most to the growing generational wealth gap (see A.34 in the appendix for a decomposition based on race alone), but falls significantly short of totally explaining the gap. The increase in educational attainment in more recent cohorts, in contrast, has even worked against the widening of the generational wealth gap (see figure A.35 in the appendix).

Figure A.33: Median Wealth and Wealth Inequality after Reweighting Household Characteristics



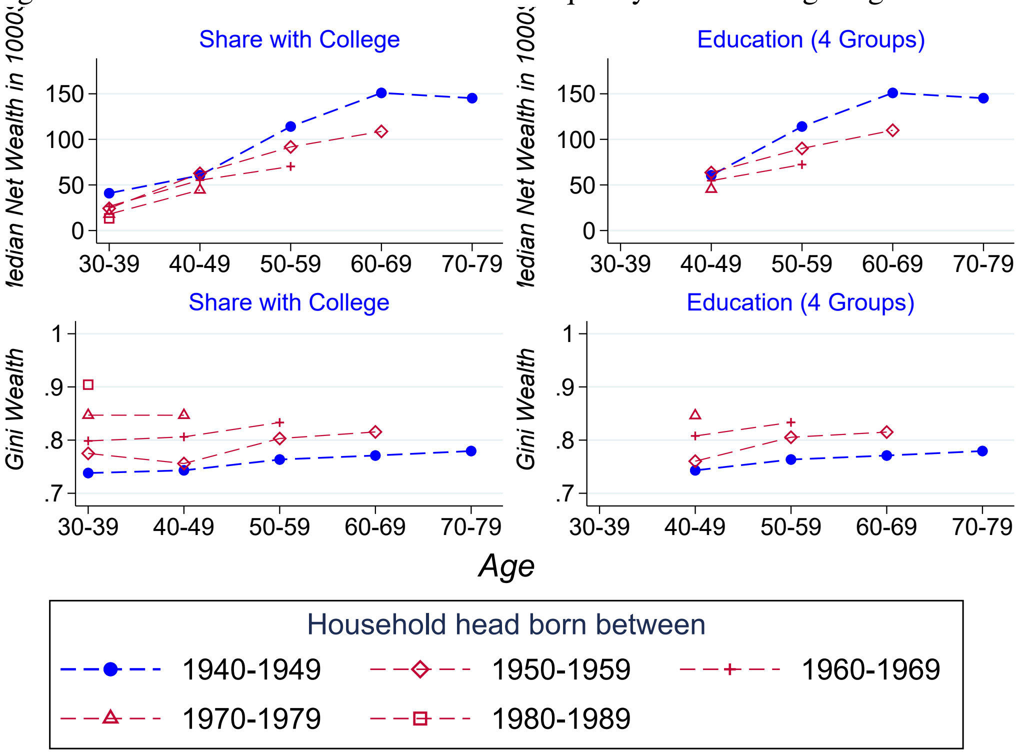
Note: Graph represents median wealth and the wealth Gini after reweighting observable household characteristics. SCF+: Reweighting variables include race (white, black, other), the share of college graduates, household size and the number of children. Contemporary SCF: Reweighting variables include race (white, black, other), education (based on 4- categories), household size, the number of children, gender of household head and marital status. Net wealth in 1000 US $ as of 2016 and per adult.

Figure A.34: Median Wealth and Wealth Inequality after Reweighting Race



Note: Graph represents median wealth and the wealth Gini after reweighting the race (white, black, other) of household heads. Net wealth in US $ as of 2016 and per adult.

Figure A.35: Median Wealth and Wealth Inequality after Reweighting Education



Note: Graph represents median wealth and the wealth Gini after reweighting the education of household heads. In the SCF+ education refers to a binary variable of college and non-college education. In the contemporary SCF, education is based on four, more granular, categories. Net wealth in 1000 US $ as of 2016 and per adult.

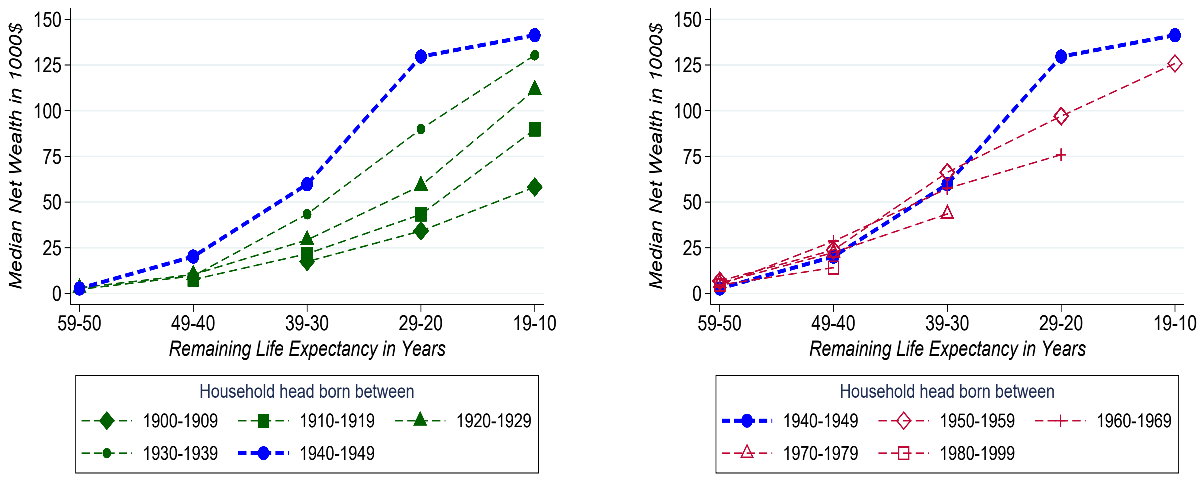
A.5.2 Increases in Life Expectancy and Years in Education

Our sample period is characterized by an increase in life expectancy and longer educational paths, which affects labor market entry and exit age and might therefore also change wealth accumulation patterns. We conduct a back-of-the-envelope calculation to provide evidence that these factors are not chiefly driving our main results.

First, based on annual data from the Human Mortality Database (2021), we calculated wealth for each cohort based on its average remaining life expectancy instead of age. Figure A.36 in the appendix, plotting the remaining life expectancy instead of age on the x-axis, shows a similar wealth pattern as in our main wealth figure 1. The trend break for intra-cohort inequality presented in figure A.37 is less stark compared to our main figure 5, but the overall pattern also remains.

Second, using annual median years of schooling data from the United States Census Bureau (CPS Historical Time Series Tables, 2021), we transform the x-axis to 'Years Since Leaving School'. Figure A.38 in the appendix shows that accounting for longer educational paths partly mitigates the wealth gap between the post-1940s and the 1940s cohort, but the overall pattern persists. Figure A.39 shows that conditional on years since leaving school, wealth inequality within younger cohorts remains higher than in predecessor cohorts.

Figure A.36: Median Wealth Conditional on the Remaining Life Expectancy

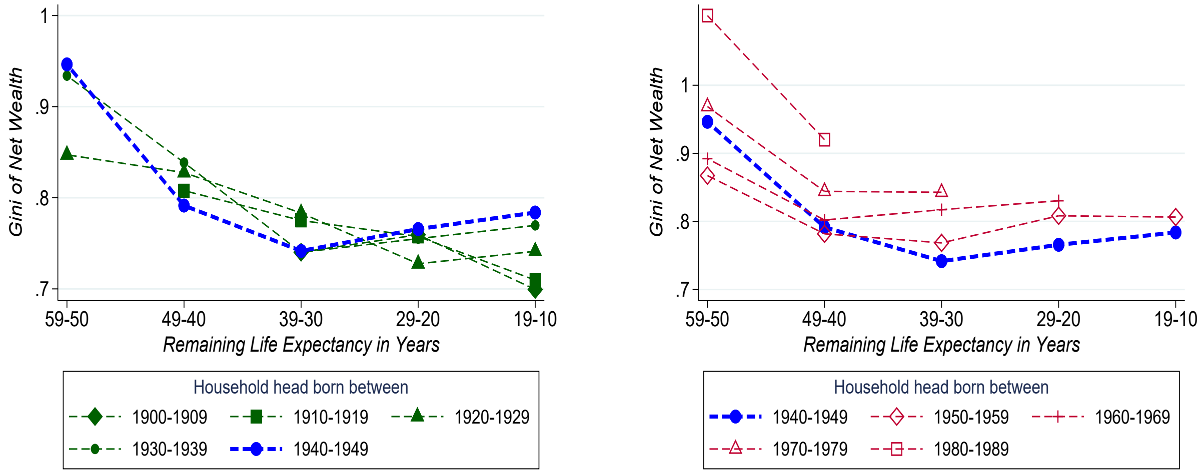


(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US $ as of 2016 and per adult.

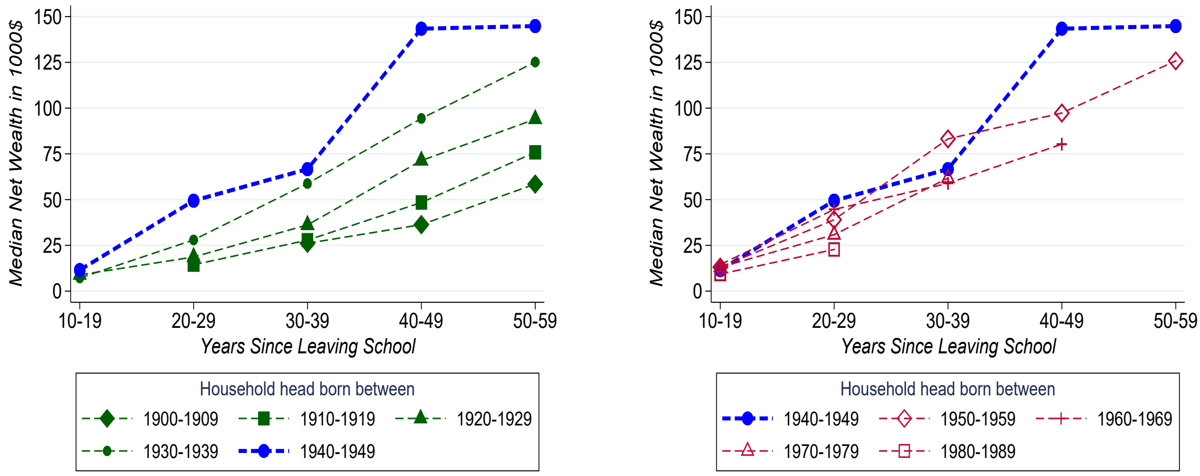
Figure A.37: Wealth Gini Coefficient Conditional on the Remaining Life Expectancy



(a) Birth Cohort: 1940-1949 vs. 1900-1939 (b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US $ as of 2016 and per adult.

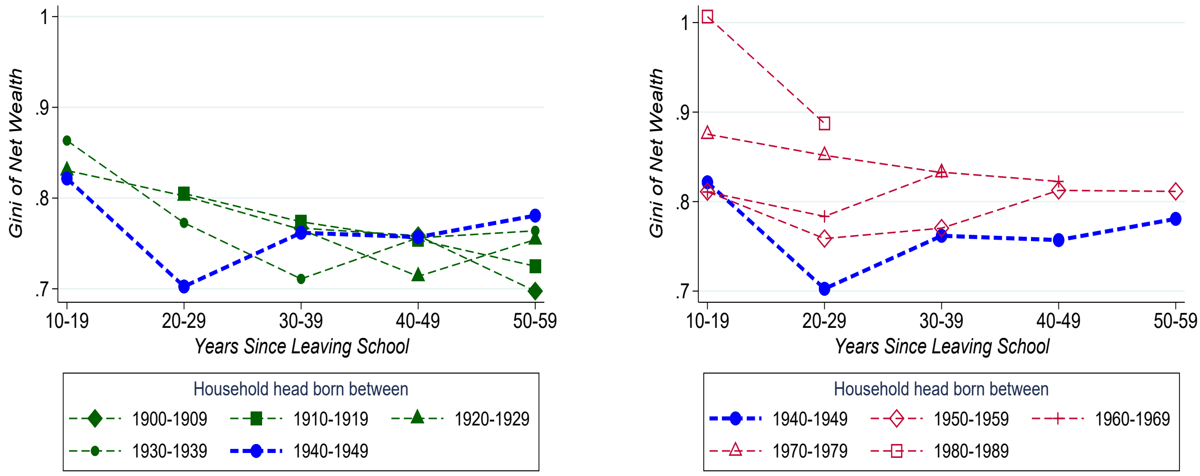
Figure A.38: Median Wealth Conditional on Years Since Leaving School



(a) Birth Cohort: 1940-1949 vs. 1900-1939 (b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US $ as of 2016 and per adult.

Figure A.39: Wealth Gini Coefficient Conditional on Years Since Leaving School



(a) Birth Cohort: 1940-1949 vs. 1900-1939

(b) Birth Cohort: 1940-1949 vs. 1950-1989

Note: All values in US $ as of 2016 and per adult.