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**Family structure and bequest inequalities
between black and white households in
the United States, 1989-2022**

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Family structure and bequest inequalities between black and white households in the United States, 1989-2022

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Abstract

Intergenerational financial transfers are an important source of support during different life periods. Several demographic trends, especially increased longevity and postponed and declining fertility, influence the timing and level of these transfers. We know little, however, about the interactions between these trends and the accumulation and drawing down of household wealth over the life cycle. Here we show that the age distribution of parental mortality is the major factor influencing the age distribution of average bequest amounts among children. Using demographic microsimulations and survey estimates of net worth in the United States between 1989 and 2022, we find that average bequests are highest among the oldest parents and children, that children of white parents can expect 2 to 3 times higher bequests than children of black parents across the age distribution, and that, while mean amounts decreased across the board after the 2008 financial crisis, relative black-white differences increased.

1 Introduction

Bequests and gifts from parents to children increase the net worth and general well-being of the recipients (Hao, 1996; Killewald et al., 2017).¹ Estimates of

¹Transfers denote all financial transfers between parents and children regardless of direction or cause. Bequests denote transfers from parents to children caused by the death of a parent, from the point of view of the deceased. Inheritances denote the same transfers

how much of the net worth of households is due to inheritance vary: while estimates as low as 20% and as high as 80% exist, most estimates are in the 40% to 60% range. Variation across countries, including countries as different as the United States, France, and Denmark, seems to be lower than variation due to data sources (e.g. tax data vs. self-reports) and methodological decisions (e.g. how to account for returns to education and investment) (for a discussion of different estimates and sources of variation, see Avery and Rendall, 2002). Gifts, i.e. transfers from parents to children during their lifetimes, produce their effects through multiple channels: access to homeownership, affordability of education and childcare, and insurance against adverse life events (Bandelj and Grigoryeva, 2021; Niimi and Horioka, 2018; Pfeffer, 2011; Semyonov and Lewin-Epstein, 2013; Spilerman, 2004; Spilerman and Wolff, 2012; Torche and Spilerman, 2009; Torche and Costa-Ribeiro, 2012). Against this background, recent increases in wealth inequality fuel concerns about increasingly unequal opportunities and decreased social mobility (for a recent overview, see Zucman, 2019). In addition, there exist persistent wealth gaps by race and ethnicity, gender, and other ascribed and attained statuses. The black-white wealth gap in the United States is well documented (Oliver and Shapiro, 1997; Derenoncourt et al., 2023). Over the recent past, it has been estimated to be between 5:1 and 10:1, depending on the period and measure, and before accounting for demographic, educational, or other compositional differences (Maroto, 2016; Bhutta et al., 2020b). Gender, marital status, and parenthood also interacted in complicated ways, with married parents generally being the most favored group and single mothers, especially if divorced or with low education or low labor force attachment, being the most disfavored (Yamokoski and Keister, 2006; Maroto and Aylsworth, 2017; Percheski and Gibson-Davis, 2022). However, it is difficult to summarize the relationship of household net worth with household and family structure. Not only are households and families increasingly diverse, but different status and identity dimensions combine in ways that are more complicated than additive models of penalties and advantages can capture (Maroto and Aylsworth, 2017; Percheski and Gibson-Davis, 2020; Hünteler et al., 2023). In the United States, the decades-long stagnation of wages at the lower end and middle of the income distribution, as well as group differences in portfolio composition – which assets and types of debts households are holding and in which combination –, contribute to an increasing polarization of wealth between groups defined by race/ethnicity, income, marriage, and par-

but from the point of view of the recipient. Gifts are transfers that happen while both parties, giver and recipient, are alive. Gifts are sometimes called *inter vivos* (“between the living”) transfers.

enthood (Gibson-Davis and Percheski, 2018; Addo and William A. Darity, 2021; Maroto, 2018). While the complex interactions between numerous dimensions of social stratification are generally acknowledged, these studies are often forced by the sample sizes of surveys to limit the number of dimensions and especially their interactions that they investigate (see the discussion in Percheski and Gibson-Davis, 2022).

The association between parental wealth and selected child outcomes is extensively documented, yet few studies observe the occurrence of transfers directly and among those who do, some conclude that transfers, i.e. both gifts and bequests, only have a small role in explaining the association because large residuals of unexplained variance or significant coefficients for parental wealth remain even after including them in correlational models (e.g. Pfeffer and Killewald, 2018; Avery and Rendall, 2002). The low explanatory power of transfers in such models may be due to measurement issues. It is generally expected that self-reports understate both receipt and amounts of transfers, whether gifts or inheritances (Kennickell, 2017). Moreover, Emery and Mudrazija (2015) found in two cross-national European survey that reports are very sensitive to the wording of the prompt, the reference period, and the respondent identity. It is therefore an open question whether the relative contribution to intergenerational wealth persistence of different channels like education, income, savings behavior, and direct transfers has been accurately estimated to date and what degree of accuracy is possible with present data sources.

There is no doubt, however, that significant amounts of household wealth are transmitted at the death of the wealth holders. Contrary to the life-cycle hypothesis which holds that households accumulate wealth during their working life and consume during their retirement (Modigliani, 1986), most households continue to hold substantial net worth through to very advanced ages and decumulation during retirement is observed mostly for college-educated professional white households (Asher et al., 2017; Wolff, 1981). Whether this is due to uncertainty around the timing of one's own death or the intention to leave a bequest (Modigliani, 1988; Hurd, 1987) is less important for our purposes than the fact that few households completely consume their savings. As a consequence, inheritances are likely received at an advanced age, often close to the retirement age of the recipient themselves (Wolff and Gitelman, 2011; Asher et al., 2017; Brimble et al., 2017; D'Arcy and Gardiner, 2017; Wood et al., 2019). In the United Kingdom, Gardiner (2017) matched respondents from different surveys and calculated that the modal age for receiving the first inheritance for people aged 20-35 years in 2015 would be 61. Given that intrafamilial transfers are thought to be most consequential when occurring during the recipient's early or middle adulthood, i.e. their most

financially-strained life stage, this suggests the possibility that inheritances received at an advanced age may facilitate gifts to the next generation (the grand-children of the deceased).

Our aim is to investigate the influence of demographic factors, such as mortality rates, parity, and age at (first) birth, to the timing and distribution of inheritances. Changes in these factors may work in opposite directions: increasing parental life expectancy means later inheritance for offspring, but this may be offset by fertility postponement (Zagheni and Wagner, 2015). In the United States and Europe, post-war cohorts enjoyed greater lifetime prosperity than previous generations, but they also had more children, potentially diluting the wealth that they pass on (Gokhale and Kotlikoff, 2000). We take inspiration from the generational accounting framework (Vogt and Kluge, 2015; Zagheni et al., 2015) and provide population-level analyses of bequest flows between generations and across the life course.

In this paper, we build on existing synthetic populations with realistic kinship structure generated from the microsimulator Socsim (Verdery and Margolis, 2017), and household wealth data from the Survey of Consumer Finances (SCF) for 1989 to 2022 (Kennickell, 2017), to estimate the distribution of bequests by age for the entire parent (donor) and child (beneficiary) population. Socsim simulates complete populations with information on birth, death, marriage, and links between parents and children (Hammel et al., 1976; Mason, 2016). The SCF is a triennial cross-sectional household survey conducted by the U.S. Federal Reserve since 1989 (Bricker et al., 2015). We use the provided replicate weights and five imputed data sets in all our analyses to calculate appropriate population level estimates. Our main quantity of interest is bequeathable net worth, defined as assets minus liabilities, excluding pensions and vehicles. We estimate median net worth by 5-year age intervals, sex, and race for three different period specifications: for survey year, pooled before and after 2008, and pooled across 1989-2022. We then assign these estimates to Socsim persons by age, sex, and race and we record bequest flows triggered by simulated deaths according to the age and sex of the deceased and the bereaved.

We opt for this combined approach in order to overcome the limitations of conventional data sources. Bequests are often studied using tax data, register data, wills, or retrospective self-reports (Clignet, 1992; Menchik, 1980; Menchik and Jianakoplos, 1998; Kopczuk and Saez, 2004; Piketty et al., 2006; Boserup et al., 2016). All of them suffer from issues of non-response, recall, coverage, or strategic avoidance to varying degrees. The SCF provides granular, high-quality wealth data and oversamples rich households. Socsim is a microsimulation platform that allows us to simulate populations with realistic family structures, calibrated against observed mortality and fertility

rates. Combining the two provides us with reliable wealth data in a demographically realistic population. Avery and Rendall (2002) pursue a similar strategy but their goal is prospective and, while their wealth model is more detailed, their demographic model is much simpler (e.g. they use the same mortality rates for men and women). For a more detailed description of our approach, see the appendix.

2 Results

2.1 Most bequests happen between parents aged 70+ and children aged 50+

Figure 1 displays a matrix of mean annual bequests from parents to children, clustered into five year age groups, for the entire period 1989-2022. Following the generational accounting approach developed by the National Transfer Accounts project, this matrix shows the mean annual transfer for a parent-child dyad of a given age combination. For example, an average of US\$2,041 was bequeathed each year across all Black parent-child dyads composed of a parent between 75 and 80 years of age and a child between 40 and 45 years of age.

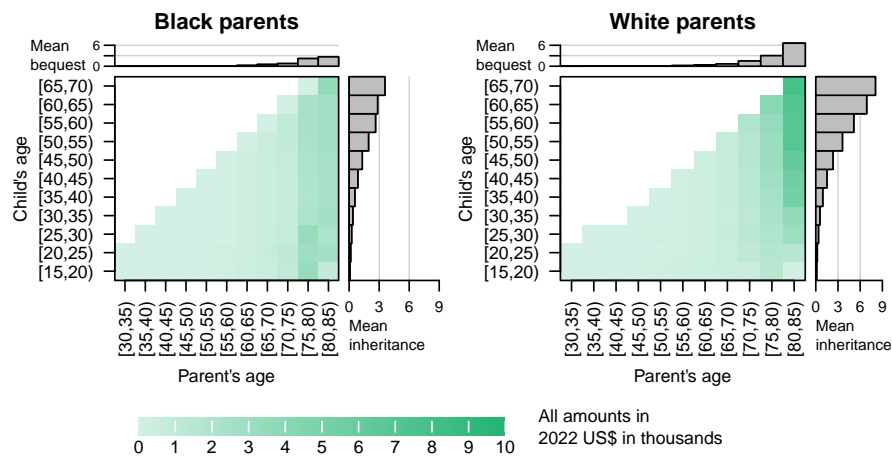


Figure 1: Mean annual bequest by age of child and parent (in thousands of 2022 US\$) for Blacks (left) and Whites (right) across the period 1989-2022. Values in the heatmap represent wealth flows due to parental death (i.e. bequests) by the age of the deceased parent and the age of the bereaved child. For example, the mean annual bequest from Black parents aged 75-80 to their children aged 40-45 was US\$2,041.

Figure 1 also displays marginal means, i.e. the average bequest (or inheritance) for parents (or children) of a given age. For example, the mean annual inheritance received by White children in the age groups 60-65 and 65-70 exceeded US\$6,000, while Black children in the same age groups received on average about half that amount.

Across both Black and White parents and their children, the mean bequest or inheritance increased monotonously with age. The age gradient among children is strongly influenced by parental age at birth: the differences in mean amounts received between children of the same age but with parents of different ages are greater than between children of different ages with parents of same age. There seems to be very little effect of decumulation during retirement on bequests in our simulation. However, this may be due to the censoring of our parent sample at age 85. While very little is bequested, on average, to children under the age of 40 or by parents under the age of 75, this is mostly due to mortality.

Figure 2 illustrates the importance of the age gradient of mortality by comparing mean simulated inheritances averaged over all children, i.e. all *potential* recipients, and with mean simulated inheritances among recipients only, i.e. restricted to nonzero inheritances. Among all children, mean inheritance amounts and the probability of losing a parent increase with the age of the child, more so for white children than for black children. Among recipients only, the slope is much weaker among black children and flat or reversed among white children. This suggests that the age gradient of net worth among parents does not translate into an age gradient of bequest amounts to children once we account for the probability of parental loss. For example, in the age group 20-25 years, 1 in 100 children of Black parents experienced the loss of a parent compared to 7 in 1000 for children of white parents. They inherited US\$24,000 and US\$93,000, respectively. This corresponds to a mean inheritance of US\$150 and US\$200, respectively, averaged across the entire age group. In contrast, 17 in 100 children of black parents and 13 in 100 children of white parents in the age group 65-70 experienced the loss of a parent. They inherited US\$37,000 and US\$83,000, respectively or US\$3,130 and US\$8,294 averaged across the entire age group. The probability of losing a parent is greater for children of black parents, corresponding roughly to that of children of white parents in the next-older age group. The fact that mean inheritance for *all* children is more compressed among younger children is due to the fact that the black-white wealth gap increases between (parental) ages 30 and 70. The increase in the bequest gap with increasing child age is illustrated in figure 3b. The highest expected inheritances are found among younger children of white parents because they usually inherit from parents who are at the peak of their accumulation curve before decumulation begins.

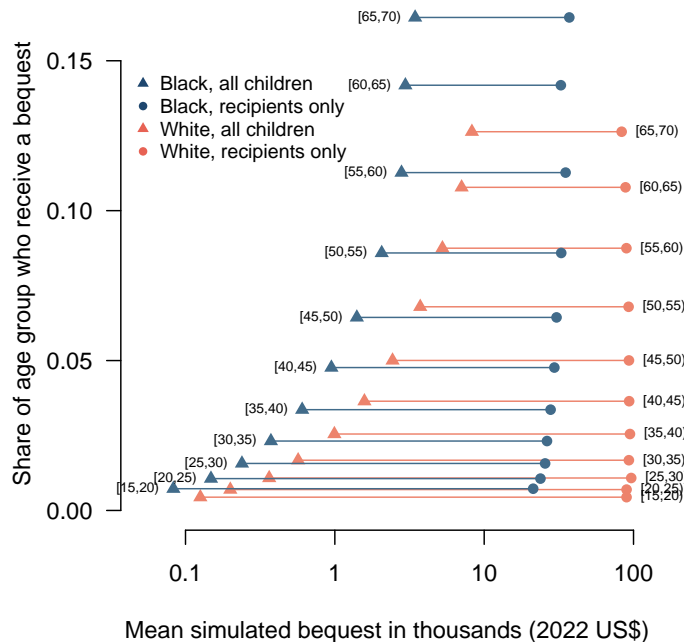
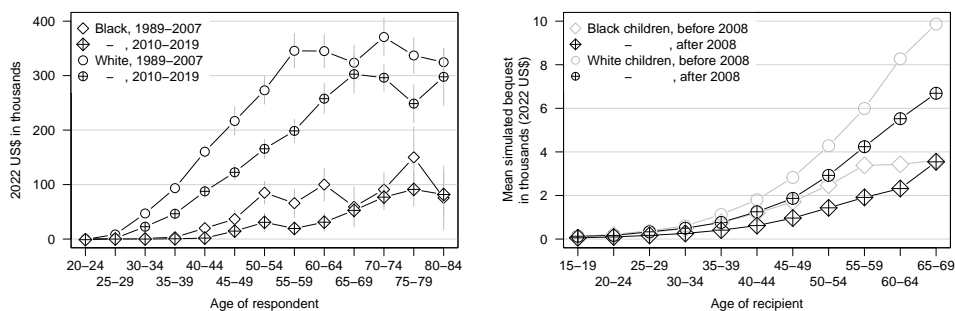


Figure 2: Probability of losing a parent and mean simulated bequest, by age of child/recipient. Among recipients, there is very little difference in mean amount received by age. The age distribution of bequests is mostly due to the variation of parental mortality rates across age groups. However, children of black parents have a higher probability of losing a parent at all ages while also receiving lower bequests.

2.2 A smaller absolute but greater relative black-white wealth and bequest gap after the Great Recession

The financial crisis of 2008 resulted in decreased household wealth across the board (Bhutta et al., 2020a,b). Relative to pre-crisis levels, Black-led households experienced greater losses and a slower recovery (Percheski and Gibson-Davis, 2020; Addo and William A. Darity, 2021). Similarly to what happened to different racial/ethnic groups, different age groups faced more or less severe losses due to holding different combinations of assets and debts. Since real estate valuations decreased sharply and mortgages became more difficult to service, households with low levels of debt (i.e. older households) experienced smaller losses than younger households. Older households were also less likely to hold educational debt, while this has become the largest component of debt (after mortgages) for younger households (Percheski and

Gibson-Davis, 2022; Maroto, 2018). Black families held a higher proportion of their net worth in real estate than White families and hold higher amounts of educational debt and saw greater relative net worth decreases as a result. Figure 3a illustrates the overall decrease in household net worth, and the higher losses among younger households (<60 years old) and Black households.



(a) The financial crisis of 2008 decreased overall household net worth, especially for Black families. (b) Mean annual bequests were higher before 2008 across all age groups, yet the overall age pattern remained the same.

Figure 3: The 2008 financial crisis reduced household net worth across all age groups, but especially among younger and Black households. Consequently, the average bequest amounts also decreased. The black-white bequest gap widened post-2008.

These changes resulted in a general decrease of the mean bequest amount. While this general decrease also shrank the absolute bequest gap between Black and White parents, it increased the relative gap. Figure 3b shows the mean amount received by age, across *all* children (i.e. recipients and non-recipients), separately for the periods 1989-2007 and 2010-2022. Overall, the mean amount bequeathed decreased by half among Black families after 2008 while it decreased by one quarter among white families.

The age pattern of inheritances, i.e. from the perspective of the recipients, is similar before and after 2008. Mean amounts are negligible before the age of 40 but rise quickly thereafter (Wolff and Gittleman, 2011). Among children of White parents during the period 1989-2007, the mean amount doubles every ten-year age interval past 40. The increase over age is much smaller among children of Black parents, yet still noticeable. Children of White parents receive 2-3 times higher mean bequests than those of black parents.

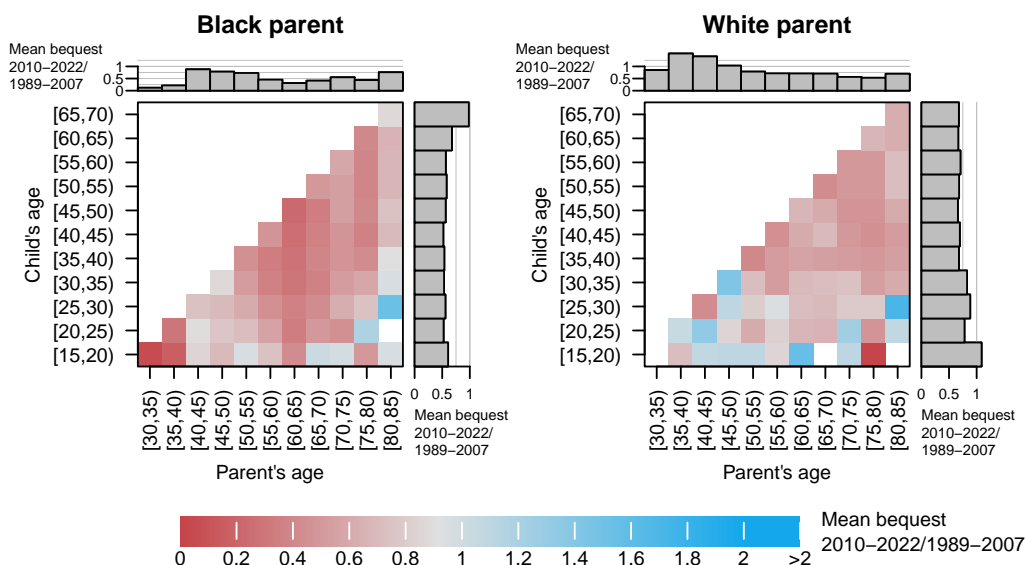


Figure 4: Mean annual bequests during 2010-2022 relative to 1989-2007: almost all age groups gave and received lower average bequests after 2008. The relative decrease was greater for children of Black parents than children of White parents.

Figure 4 illustrates the decrease in bequest/inheritance amounts after 2008 across the joint age distribution of parents and children. As in figure 1, we consider average transfers for parent-child dyads of a given age combination. In figure 4, we display transfers after 2008 as a proportion of the pre-2008 means. Across the board, post-2008 transfers are smaller, except for a few parent-child dyads with rare age combinations. The relative losses are greater for Black families than White families, though the latter experienced greater absolute decreases. While the change is fairly uniform across age groups for children, it is very uneven for parents. Both Black and White parents see small relative decreases (or even no changes) in younger age groups (between 35 and 55), while the greatest decreases are observed among parents aged 60 and above. This age pattern is the reverse of the changes in household net worth. While older households experienced comparatively smaller decreases of household net worth, these impacted bequests disproportionately. Since parents under 60 rarely leave a bequest, changes in their net worth did not alter the distribution of bequests much.

The gap between children of Black and White parents is present at all levels of parental net worth. Figure 5 illustrates this by showing the expected distribution of bequests by age of the recipient if all parents had a net worth equal to their age- and race-specific first, second, or third quartiles. In ab-

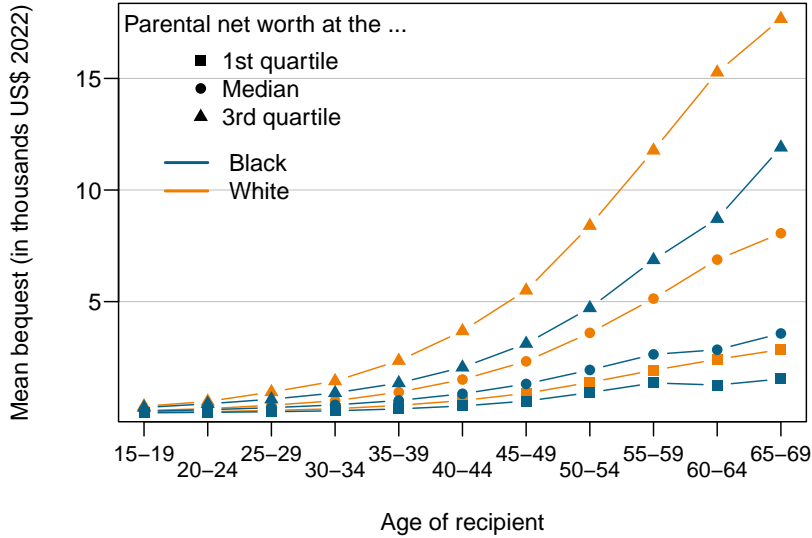


Figure 5: Bequests to children from parents in different quartiles.

absolute terms, inequality between children of Black and White parents at the third quartile is greatest: in the three oldest age categories, children of Black parents receive between US\$7,000 and 12,000 and children of White parents between US\$12,000 and 17,000. In relative terms, the difference is smallest for children of third-quartile parents and largest for children of parents at the median: in the same three oldest categories, bequests to children of White parents are twice as large (1.9, 2.4, 2.2) as those to children of Black parents.

3 Discussion

We combined survey data with population microsimulations in order to study age patterns of intergenerational transfers in the United States between 1989 and 2022. We show that there is a strong age gradient in mean annual bequests among both parents, the donors, and children, the recipients. This age gradient results more from parental mortality than life-cycle wealth effects. Indeed, there is little evidence that the depletion of household net worth during retirement reduces the average amounts bequested. Bequest inequalities between children of black and white parents are smaller than household net worth differences, but they are persistent across age and time and they widened after the 2008 financial crisis.

Previous research had called into question the general validity of the life-cycle “hump” of household net worth, at around 60 years, observed for

college-educated white households (Wolff and Gittleman, 2011). Our results reinforce this skepticism, five survey waves and fifteen years later. Moreover, our results suggest that there may be no bequest “penalty” from parents surviving until very old age. As in previous research, we find that the 2008 financial crisis had more severe consequences for black households, even in our simplified wealth model. Our analysis adds to recent studies that underline the role of households with zero or negative net worth (Maroto, 2018, 2015; Percheski and Gibson-Davis, 2022). Among individuals who receive a greater-than-zero inheritance, the average amount received differs little. While this is partially a mechanic effect of our decision to impute the median net worth of their corresponding age-sex-race/ethnicity cell to all parents, it suggests that the age pattern of parental wealth matters little. Similarly, the relative discrepancy between children of black and white parents is lower among recipients than among the general population, pointing to the disproportionate share of black parents with near-zero wealth.

Our analysis suggests that, given current levels and trends in longevity and average age at birth, few individuals can expect to inherit before they are themselves well into middle age. In other words, bequests are an unlikely source of support during the life stages associated with great financial strain, e.g. due to education or child-rearing (Pfeffer and Killewald, 2018; Hällsten and Pfeffer, 2017). On the other hand, the increasing number of “sandwiched” individuals (Alburez-Gutierrez et al., 2021) also represents a shift in the timing of financial burdens. For those who face demands on their time and resources from both older and younger relatives, “tardy” transfers could be quite helpful. They may help shoulder the financial burden of caring for an aged relative, e.g. a surviving parent or parent-in-law, or of subsidizing the education or cost of living of a young adult child. In order to extend analyses of wealth and intergenerational financial transfers in this direction, we need two things. First, three-generation analytical frameworks are preferable over two-generation frameworks (Mare, 2014; Song, 2021). Second, coverage of older households in important surveys such as the SCF should be improved. Alternatively, surveys that represent the population close to and in retirement in more detail, such as the Health and Retirement Survey, may be a useful alternative or complementary data source.

Three major limitations remain in our analysis. First, while there is little doubt that individual or household net worth and mortality are negatively correlated (Hajat et al., 2010; Bond Huie et al., 2003), there currently exist no population-level estimates that would allow us to adapt the age-standardized mortality rates in our simulation model in order to take account of this factor. We would expect a negative association to exacerbate the observed patterns: if greater wealth is associated with lower mortality, high wealth holdings will

tend to be bequeathed later than average. Second, the SCF includes too few respondents aged 85 years and above for us to definitively conclude to the absence of a decrease of bequest amounts past a certain age. In addition, the low number of respondents aged 70 years and above makes estimates of household net worth for these ages very variable from one year to the next which, in turn, makes it difficult to analyse trends in net worth and bequests. Third, our analysis is based on synthetic populations and while these have been extensively calibrated and validated by previous research, they still do not reflect the full complexity of actual populations. They do not include neither same-sex nor interracial couples because we lack the relevant input information (rate of interracial or same-sex marriage by age and sex over the entire period). Similarly, there are no microsimulations for other racial or ethnic groups yet, and survey data on wealth also face issues of detail or sample sizes for these groups (with the possible exception of non-Hispanic whites in recent SCF waves).

Several avenues for future research are conceivable. First, we used a very simple wealth model in our analysis. It is straightforward to extend our analysis in order to investigate distributional questions. Instead of imputing the median of a given age-sex-race/ethnicity cell to individuals, one could impute other quartiles or percentiles or one could draw from a wealth distribution estimated from survey data for different subpopulations. Second, Although the availability and quality of the required data (age-standardized mortality rates, age-specific fertility rates, household net worth by age) vary across countries, it is possible to extend this approach to other countries. Third, underreporting of transfers, both bequests and gifts, is thought to be persistent and significant in surveys and our approach may provide a method to evaluate the magnitude of the problem.

4 Appendix: Materials & Methods

We derive estimates of household and individual net worth by age, sex, and race from the Survey of Consumer Finances (SCF) for 1989-2022 and combine these with Socsim microsimulations. Then, we calculate the incidence and distribution of bequests by age based on the fertility and mortality events simulated in Socsim. To simplify, our approach follows these steps:

1. estimate median household net worth by age, sex, and race from SCF data for individual years, before and after 2008, and the entire period
2. create a Socsim population covering the period of interest (1989-2022)
3. assign household net worth to Socsim individuals according to age, sex, and year (partnered individuals are assigned half of the household net worth each)
4. “record” deaths and distribute the estate to possible spouses or partners and children

Figure 6 illustrates the intermediate steps in our analysis: panel A shows the joint age distribution of children and parents resulting from our Socsim simulations; panel B shows the household net worth distribution observed in the Survey of Consumer Finances; and panel C shows the mortality rates used as inputs to the Socsim simulations. Combining the survey estimates of household net worth with the simulated population gives us a distribution of household wealth across parental and child age (panel A&B). Similarly, Socsim simulations provide estimates of parity and age of child at the death of a parent (panel A&C). The combination of all of these dimensions (panel A&B&C) provides the basis for our calculations.

During step 3, we make the assumption that if there exists a surviving spouse or partner *and* there are surviving children, the spouse or partner receives the entirety of the estate. We provide results for alternative assumption that any surviving spouse or partner receives half of the estate and all children receive equal parts of the remaining in the supplementary materials (Menchik and Jianakoplos, 1998; Menchik, 1980).

4.1 The Survey of Consumer Finances

The Survey of Consumer Finances is a triennial cross-sectional survey of U.S. families with a focus on families’ balance sheets, pensions, and income that has been fielded since 1989. It is the most detailed survey on economic

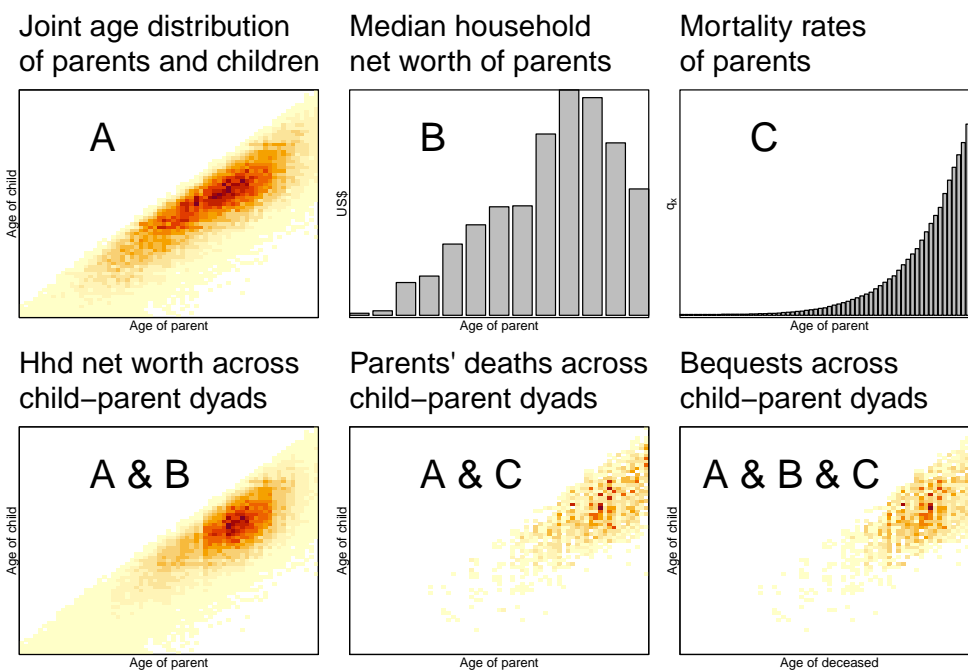


Figure 6: We simulate the joint age distribution of parents and children in Socsim (panel A), assign individual net worth to individuals based on age, sex, and race/ethnicity based on estimates from the Survey of Consumer Finances (panel B), and simulate deaths based on mortality rates from the ACS/census (panel C). We simulate bequests within child-parent dyads (panel ABC) from the distribution of parental net worth and parental deaths across child-parent dyads (panels AB and AC).

and financial assets of households in the United States and it is unique in oversampling rich families. More detailed descriptions of the SCF can be found in (Bricker et al., 2015; Bhutta et al., 2020a). When weighted, the SCF is representative of the U.S. population of households. To ensure confidentiality, the SCF does not provide sampling design information. Instead, replicate weights and five sets of imputations are provided. We use weights and imputations to calculate population estimates of median household net worth together with appropriate standard errors.

4.1.1 Sample definition

Our sample is defined as 20-84 year old men and women who identify as black or non-Hispanic white and who have at least one child (coresident or

not). We exclude Hispanic respondents because, to our knowledge, there do not exist sufficiently detailed long-term fertility and mortality rates for Hispanic U.S. residents to replicate the Socsim analysis for this population. We exclude Asian and “other” respondents because sample size limitations preclude any analysis with detailed age categories.

We restrict the sample to ages 20-84 because there are too few respondents below and above these thresholds for meaningful estimation.

We restrict the sample to black and non-hispanic white respondents because we lack high-quality demographic simulations for hispanic whites (or other groups) and wealth data for groups besides blacks and (non-hispanic) whites.

While the unit of analysis of the SCF is the “primary economic unit” (PEU) instead of the household, “[t]he great majority of the time, the PEU and the household are identical” (boa, 2020). There is one respondent per PEU: “the single core individual in a PEU without a core couple; in a PEU with a central couple, [...] either the male in a mixed-sex couple or the older individual in the case of a same-sex couple” (boa, 2020). We discuss these differences and their implications in more detail in the supplementary materials.

4.1.2 Definition of household net worth

We define household net worth as the sum of the household’s fungible assets minus debts. We include all financial and non-financial assets and debts except for vehicles and future pension and Social Security income. A vehicle’s resale value is much less than its consumption value and this asset is commonly omitted (Wolff and Gittleman, 2011; Percheski and Gibson-Davis, 2022). While future pension and Social Security income is routinely included as an asset in analyses of consumption and savings because they represent future claims to income, it cannot be transferred to other persons and is therefore not relevant to our analysis. A detailed list of included assets and liabilities is provided in the supplementary materials.

We winsorise net worth to reduce the influence of very high values. We top-code the data at $third\ quartile + 5 \times IQR$ and we bottom-code the data at $first\ quartile - 5 \times IQR$.

When assigning household net worth to individuals who are married or living with a partner, we assign them half of the household wealth. The SCF does not report assets separately for individuals and the SCF codebook states: “[...] it is not possible, in general, to make direct separate estimates of the financial characteristics of the individuals in the survey households unless one is prepared to make a number of fairly complex assumptions.”

Instead, we opt for simplicity.

All amounts are pre-tax and deflated to 2022 price levels using the Consumer Price Index for all urban consumers (of Labor Statistics, 2024).

4.2 Synthetic kinship structures using demographic microsimulation

We use demographic microsimulations to ascertain kinship structure by age, sex, and race in the US for the period of interest (1989-2022). Concretely, we use the Socsim microsimulation platform (Hammel et al., 1976; Theile et al., 2023). Socsim is a stochastic simulator that schedules vital events for individuals based on a competing risk framework, the parameters of which are partly determined by the empirical (age- and sex-specific) mortality, fertility, marriage, and divorce rates. Ultimately, this results in a synthetic population comprised of individuals with simulated dates of birth, death, childbirth, marriage, and divorce. For a detailed description of how vital events are scheduled by Socsim, see Mason (2016). Socsim has been used extensively to model kinship structures in demographic research because it is able to produce populations with plausible age, sex, and kinship distributions (Zagheni and Wagner, 2015; Alburez-Gutierrez et al., 2021; Murphy, 2011; Verdery et al., 2020; Margolis and Verdery, 2019).

The simulation setup and input data we use in this study come from a published paper by Verdery and Margolis (2017). In that study, the authors use a range of contemporary and historical data sources to reconstruct age-specific fertility, mortality, and nuptiality rates for Blacks and Whites in the United States starting in 1880 and up to the present time. We use these rates to simulate synthetic populations with plausible genealogical structures for Whites and Blacks separately using Socsim. We assume no racial intermarriage and use the ‘baseline’ divorce scenario as in Verdery and Margolis (2017). In order to account for the stochasticity of the simulations, we run 10 independent simulations, each of which produced a population of around 300 000 individuals alive in 2022. The measures of kinship structure that we use in the empirical analysis constitute the average of all simulation runs. Additional analyses show that the across-simulation heterogeneity is relatively low, so that running more simulations would not alter the average values significantly.

The simulations produced by Verdery and Margolis (2017) that we repurpose for this study have been extensively validated against empirical data from surveys (see the SI Appendix of Verdery and Margolis, 2017) and constitute the best available source for ascertaining age-, sex-, and race-specific

kin availability and kin loss in the US over time. Whereas surveys can be used to infer kinship structures (Daw et al., 2016), they often lack data on a) the ages of children at the time of parental death, and b) the parity of parents at the time of their deaths. Both of these measures are essential for our analysis.

Socsim keeps track of the genealogical relationships between all simulated individual using parent-child ties, so that we are able to reconstruct a complete extended genealogy from the synthetic population. For the purposes of this study, this means that we are able to fully identify all parent-child relations. We use this microdata (simulated separately for Blacks and Whites) to derive the measures of average kin availability (i.e., number and ages of living children for parents) and kin loss (i.e., number of parental deaths and ages at death of these parents) for the analysis.

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