

No Lump Sum: Can Recurring Changes in Health, Social Security, and Wealth-Building Close the Black–White Wealth Gap This Century?

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Abstract

We ask whether a set of recurring changes, with no one-time payment, could bring the Black-to-White ratio of median household wealth in the United States to 0.9 by 2100. We extend a household microsimulation of wealth, built on the 2022 Survey of Consumer Finances, with a health state for every adult (healthy, chronic, work-limiting disability) fitted to the Current Population Survey and the 2024 life tables, and route health into earnings, disability benefits, medical spending, caregiving, partner loss, and death. Twelve recurring levers are phased in from 2025: parity in the hazards of ill health, survival parity within health state, Social Security changes (a survival-indexed benefit uplift, a 75% survivor benefit, a 100% first bend-point factor), automatic matched saving, portfolio parity, the housing-distress return gap, fee drag, saving parity, and, as a reference, parity in the non-health earnings residual. In the model, under its stated assumptions, no coalition of recurring levers without the earnings residual closes the gap: all of them together reach a ratio of 0.581 in 2100 (5th to 95th percentile across runs 0.459 to 0.697), and about half of that effect comes from equalizing a calibrated saving residual rather than a measured condition. Health parity closes 8% (2%–14%) of the 2022 log gap by 2100 through earnings, benefits, medical costs, caregiving, and mortality together, about six times the effect of survival parity alone, and is worth roughly a \$176k one-time payment per household. On top of every recurring lever, 50% of the non-health earnings residual must also close for at least half the runs to reach 0.9 by 2100. The levers are additive in log wealth (amplification $\times 0.98$), and a one-time transfer under unchanged conditions decays to the baseline. The gap is a flow problem whose largest term, earnings, is outside the health, benefit, and wealth-building levers.

JEL: D31, I14, J15, H55, D14. *Keywords:* racial wealth gap, health and wealth, disability, Social Security, microsimulation, Shapley decomposition.

1 Introduction

The Black–White gap in household wealth in the United States has been stable for decades: the median White household held about six times the wealth of the median Black household in 2022 (Aladangady et al., 2023), a ratio that has barely moved since the 1950s (Derenoncourt et al., 2024). Proposals to close it fall into two kinds. One-time capital transfers, whether reparations,

baby bonds at scale, or inheritance parity, close the stock; recurring changes in earnings, returns, saving, and transfers close the flow. The modeling literature has converged on a structural reading: a one-time transfer that leaves the conditions of accumulation unchanged does not hold (Boerma and Karabarbounis, 2023; Aliprantis et al., 2022; Derenoncourt et al., 2024), and equal earnings is the single largest lever (Barsky et al., 2002; Aliprantis et al., 2022).

This paper asks a narrower question. Suppose a one-time payment is off the table for political or legal reasons. Is there a route built only of recurring changes that closes the gap within this century, and if not, how much of the earnings gap must close on top of them? We take the question to a household microsimulation that has been validated by backcasts from the 1989 and 1992 Survey of Consumer Finances (SCF) waves (Kirk and Farrar, 2026), and we add the channel that an earlier cross-check identified as missing: health. That model, and an independent re-implementation of it, found survival parity to be worth about 1.5% of the log gap, because death is counted but morbidity, disability, medical spending, caregiving, partner loss, and the actuarial unfairness of a survival gap under Social Security are not. A route without a lump sum has to come from somewhere, and the health channel is the natural place to look: Black adults are more likely to be in fair or poor health and to have a work-limiting disability at every working age, and a work-limiting disability cuts mean earnings by about three quarters.

We give every adult a health state, healthy (H), chronic (C: fair or poor self-rated health or a functional limitation that does not limit work), or work-limiting disability (D), with annual transitions fitted by race and sex to the cross-section of the Current Population Survey Annual Social and Economic Supplement (CPS ASEC) 2025 and the 2024 life tables, so that a cohort run through the model reproduces both the prevalence of each state at every age and the life table’s survival. Health drives earnings (multipliers by state read from the CPS), disability benefits (at the CPS receipt rate, computed from each adult’s own career earnings with the benefit formula), medical out-of-pocket spending (CPS means by state), a caregiving penalty on a healthy partner, consumption smoothing of the income shortfall, and death. Retirement benefits follow the 2026 formula on wage-indexed career earnings with spousal and survivor rules; partner loss carries funeral and end-of-life costs, lost earnings, the survivor benefit, and a widowhood wealth shock. The starting states of the sampled households come from the SCF’s own health and work-status questions, ranked to the CPS prevalence, so that the survey’s wealth-by-health gradient is carried into the model, and that gradient, which the model is not calibrated to, is the main validation check.

Twelve recurring levers phase in from 2025 (Section 4.7). We run them singly, in named combinations, and in every one of the 128 coalitions of seven lever groups, with paired Monte Carlo draws so that each lever’s effect is a run-by-run difference from the same draw’s baseline. We attribute effects by Shapley value, search the coalitions for the minimal, earliest, and cheapest one that closes the gap, trace a dose-response on the non-health earnings residual, and compare every lever to a ladder of one-time transfers.

The answer, in the model and under its assumptions, is that there is no recurring route without the earnings residual. Every recurring lever together brings the median ratio from 0.150 to 0.581 by 2100 and closes 57% (43%–69%) of the 2022 log gap; none of the 64 coalitions of the non-earnings lever groups reaches 0.9 in half its runs. About half of that effect comes from equalizing the model’s calibrated base saving rates, a residual that absorbs what the model leaves out rather than a measured condition; with the saving schedule held at its fitted values, every other recurring lever closes 24% (12%–35%). Health parity alone closes 8% (2%–14%) of the log gap, six times the survival-only figure, and is worth about a \$176k one-time payment per Black household; the three Social Security levers close 3% (–1%–6%) at a public cost of about \$22k per Black household-year,

most of it paid to White beneficiaries; the four wealth levers close 10% (3%–22%), almost all of it the housing-distress return gap. On top of every recurring lever, 50% of the non-health earnings residual must close for at least half the runs to reach 0.9 by 2100, in a median first year of 2080. The levers are additive in log wealth: Shapley values sum to within a factor of 0.98 of the sum of solo effects.

The contribution is threefold. First, a health module that can be dropped into a wealth microsimulation: fitted hazards, state-specific mortality normalized to the life tables, and the economic consequences of each state read from one public survey, with the fit and the untargeted checks reported. Second, a measurement of what health parity is worth to the wealth gap through all of its channels at once, which turns out to be an order of magnitude larger than survival parity but an order of magnitude smaller than earnings parity. Third, a dose-response and a lump-sum ladder that make recurring levers and one-time capital commensurable, so that the trade-off a policy maker faces is stated in one currency.

2 The base model

The base model is the Section 5 microsimulation of Kirk and Farrar (2026). Households start as the non-Hispanic Black and White households of the 2022 SCF, sampled with the survey weights (half Black, half White, so that each group’s statistics have the same Monte Carlo precision; population weights restore the aggregates). Each year a household earns an income determined by its rank in the pooled distribution of healthy-equivalent income times a pooled age profile; saves a share of income that depends on its group’s base rate, its income rank, and support given to relatives outside the household; consumes out of wealth; earns the expected return of its group $\times$ age band $\times$ wealth band portfolio (equity, business, real estate, and safe assets, with returns from Jordà et al., 2019) plus market, idiosyncratic, and persistent household-specific components, less a housing-distress penalty on Black mortgaged owners (Kermani and Wong, 2026); forms a successor household at a generation’s length whose income rank follows the race-specific intergenerational rank equations of Chetty et al. (2020); and, at the last death, leaves its estate, after end-of-life and settlement costs, split equally among its children. Death probabilities are the race-sex-age probabilities of the 2024 life tables (Arias et al., 2026) carried forward with the 2026 Trustees Report improvement (Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, 2026) under a drawn alternative, with a wealth–mortality gradient from Machado et al. (2025) whose causal share is drawn between zero and the lottery bound of Cesarini et al. (2016). The model runs in wage-indexed dollars and reports real 2024 dollars; real wages grow at the Trustees’ intermediate rate.

Eleven parameters are calibrated so that the model’s balanced-growth steady state reproduces the 2022 age–wealth profile of each group and the SCF’s receipt of inheritances and gifts by age. We use the base model’s “free” specification, in which each group’s base saving rate is fitted separately. Its value as a residual is central to how we read the results below.

3 Data

SCF 2022. The summary extract (all five implicates) gives each household’s net worth, non-capital income, age, couple status, portfolio, and the calibration targets; the full public data set gives the inheritance and gift questions, support given to relatives, living children, and, used here for the

first time, the respondent’s and partner’s self-rated health (X6030, X6124) and work-status recodes (X4100, X4700), which carry a “disabled, not working” code (Board of Governors of the Federal Reserve System, 2023). Standard errors use the 999 replicate weights and the five implicates.

CPS ASEC 2025. The public-use person file (108,044 persons aged 18 and over) gives, for calendar 2024, each person’s health status on a five-point scale, the six functional-disability questions, whether a health problem or disability prevents work or limits its kind or amount, employment, earnings, total medical out-of-pocket spending (premiums, non-premium care, and over-the-counter), receipt of Social Security for disability, SSI, and Medicaid, and the household’s income (U.S. Census Bureau, 2025). We tabulate it by group (non-Hispanic Black alone, non-Hispanic White alone), sex, single year of age, and health state, with standard errors from the 160 successive-difference replicate weights.

Life tables and projections. The NCHS 2024 life tables by race and sex (Arias et al., 2026); the 2026 Trustees Report death probabilities under the low-cost, intermediate, and high-cost alternatives (Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, 2026); the benefit formula and its 2026 bend points, the 2024 taxable maximum, and the survivor rules (Social Security Administration, Office of the Chief Actuary, 2026; Social Security Administration, 2026); and SSA’s 2024 disabled-worker counts and award amounts (Social Security Administration, Office of Research, Evaluation, and Statistics, 2025).

4 The health–wealth model

4.1 Health states and transitions

Each adult is in one of three states. From the CPS, **D** is a health problem or disability that prevents work or limits the kind or amount of work; **C** is, among those not in **D**, fair or poor self-rated health or any of the six functional disabilities; **H** is everyone else. Annual transitions are $H \rightarrow C$, $H \rightarrow D$, $C \rightarrow D$, and recovery $C \rightarrow H$; **D** is absorbing except through death. The hazards are log-quadratic in age,

$$\ln h_{ij}(a) = \alpha_{ij} + \beta_{ij}t + \gamma_{ij}t^2, \quad t = (a - 50)/10, \quad (1)$$

for each race and sex, fitted by minimizing a chi-square distance between the prevalence of **C** and **D** at each single age 18–82 in the CPS (smoothed over five years, weighted by the effective sample) and the prevalence a synthetic cohort run through the model attains at that age. Deaths in the cohort follow the life table, split by state as below, so that survival is reproduced exactly by construction; the fit of prevalence has a chi-square per point of 0.22 to 0.76 across the four race–sex groups (Figure 5). Above the fitted range the hazards are held at their age-82 values. Recovery from **C** is set at 0.15 per year (assumed; swept 0.05–0.25): it does not change fitted prevalence, since onset and recovery are fitted jointly to the cross-section, but it governs how long an earnings loss persists.

Ill health is concentrated at low incomes. In the CPS, within sex and working-age band, the log of the prevalence of **D** falls by -2.08 per unit of household-income rank from the bottom to the top, and that of **C** by -1.43 (Appendix Table 9). Part of this is reverse causation, since disability lowers income, so the model attributes an assumed share (central 0.5, swept 0.25–1.0) of the gradient to the hazard: the hazards into **C** and **D** are multiplied by $\exp(-\lambda g_s(r - \frac{1}{2}))$, where r is the household’s healthy-equivalent income rank, g_s the measured slope, and λ the attributed share, normalized within each race to a mean of one so that the fitted race–sex–age prevalence is preserved.

4.2 Mortality by state

An adult of race k , sex x , and age a in state s dies with probability

$$q_s(a) = q_{kx}(a, y) \frac{\rho_s}{\pi_H(a) + \rho_C \pi_C(a) + \rho_D \pi_D(a)} h_w, \quad (2)$$

where $q_{kx}(a, y)$ is the base model’s race–sex–year–age probability, ρ_s the state multiplier ($\rho_H = 1$; ρ_C central 1.6, drawn 1.3–1.9; ρ_D central 2.5, drawn 1.8–3.2), $\pi_s(a)$ the fitted stationary prevalence of the adult’s own race and sex, and h_w the base model’s wealth-gradient factor. The normalization means the multipliers change who dies, not how many: at the fitted state mix each race–sex life table is reproduced, and a change in the state mix moves mortality. The self-rated-health literature gives a pooled relative risk near 1.9 for fair or poor against excellent health after adjustment (DeSalvo et al., 2006); because C here mixes fair or poor health with functional limitations in good health, its central multiplier sits below that, and no single estimate matches the D definition, so both are tagged assumed and swept, with a zero-effect run (Section 5.8).

4.3 Health to earnings, saving, and spending

Household income is $Y = P \pi(a) \varepsilon$, where P is the household’s healthy-equivalent income (its position in the pooled distribution), $\pi(a)$ the pooled age profile, and ε a state multiplier. For a single adult, ε is the ratio of the mean earnings of adults in that state to the mean of all adults of the same sex and working-age band, pooled over both groups so that race differences within a state stay in P ; for a couple, ε is the earnings-share-weighted combination of the two partners’ multipliers, each reduced by a caregiving penalty (central 5%, swept 0–10%; Van Houtven et al., 2013) when the other partner is in D. Among men aged 45–54, for instance, the multipliers are 1.13 for H, 0.68 for C, and 0.19 for D. For the sampled households, P is the observed income divided by the multiplier of their assigned states, so that the baseline reproduces the SCF income distribution; the pooled and race-specific income tables used for the earnings-parity lever, the saving gradient, and the mobility equation are rebuilt on P .

The composition effect alone is sizable: at the pooled state means, the Black state mix lowers mean earnings relative to the White mix by 9.7% among men aged 55–66 and 11.0% among women of those ages, and by less at younger ages. This is the part of the earnings gap the health-parity lever can reach; the rest is the non-health residual.

Saving follows the base model’s rule, $S = sY$ with $s = s_{0k} + s_1(r - \frac{1}{2}) - \text{support}_k - \text{drain}_k \mathbf{1}[W < \$10,000]$, with one change. A household whose income falls below its healthy-equivalent level does not cut consumption one for one: a share σ of the shortfall is drawn from wealth,

$$S = sY - (1 - s) \sigma (Y_h - Y), \quad Y_h = P \pi(a), \quad (3)$$

with σ central 0.3 (swept 0.1–0.5). The pattern after the onset of a chronic and severe disability, in which earnings fall by most of their level, income after transfers by a smaller share, and consumption by somewhat less than income (Meyer and Mok, 2019), is the basis for the magnitude. The rule is symmetric, so that in the baseline, where the state multipliers average one, expected saving is unchanged; what it adds is dissaving in ill health, which is the channel through which the survey’s wealth-by-health gradient appears in the model.

Each adult pays the CPS mean medical out-of-pocket spending of their group, sex, age band, and state (premiums included), in wage-indexed dollars, so that real medical costs grow with wages. Among Black adults the D means are often below the H means because of Medicaid, so this channel works mainly through composition, not level.

4.4 Social Security

Each adult accumulates a career-average of wage-indexed earnings (capped at the taxable maximum; the record is frozen in years of D, as SSA’s disability freeze does); the sampled households start with an imputed average from their income and the age profile. The primary insurance amount follows the 2026 formula on 2024 wages, $PIA = 0.9 \min(A, b_1) + 0.32 (\min(A, b_2) - b_1)^+ + 0.15 (A - b_2)^+$, with annualized bend points b_1, b_2 (Social Security Administration, Office of the Chief Actuary, 2026). An adult entering D before 67 receives a disabled-worker benefit with the CPS probability that a person in D of their group, sex, and age band receives Social Security for disability (11% to 42%, rising with age; an adult without benefits draws again on entering a new age band, so that the cross-sectional receipt rate among the disabled matches the CPS at every age), and the benefit enters income. At the head’s full retirement age of 67 both adults claim: the head their own PIA, the partner the larger of their own and half the head’s (the partner is two years younger, so claims at 65; the model takes the full-retirement-age benefit, a simplification). A widowed adult takes the larger of their own benefit and the deceased partner’s. A share θ of retirement benefits is added to wealth and the rest consumed; θ is central 0.4 (swept 0.2–0.6, assumed, with a zero-effect run). Since the baseline benefit level is absorbed by the calibrated retirement drawdown, θ matters only for the difference a lever makes.

4.5 Partner loss

When one partner dies the household pays funeral and, from 65, end-of-life costs (as the base model), loses that partner’s earnings share, takes over the survivor’s benefit, and loses a share ω of its wealth (central 5%, swept 0–15%, assumed, with a zero-effect run) for the asset sales, settlement costs, and the survivor’s own decline that the other terms do not carry.

4.6 Starting states and successors

The sampled households’ adults are assigned states by ranking, within race, age band, and sex, the SCF’s ill-health score (disabled and not working; poor health; fair health; working while disabled; good; excellent) with a random tie-break, and giving the CPS prevalence of D at each adult’s age to the highest ranks, then C. The survey’s “disabled” code counts only people not working, under half the CPS prevalence of a work limitation, so the ranking keeps the survey’s ordering of wealth by health while the state definitions follow the questions the hazards were fitted to. New adults (successor households at 25) take the fitted prevalence at their age.

4.7 Levers

Every lever is a recurring change phased in linearly from 2025 to the year named; none is a one-time payment. The levers act on Black households (parity levers) or on everyone (the race-neutral policy levers), and a lever that acts only on Black households leaves every White household’s path unchanged, since each group draws its lives from its own random stream.

Health parity (2040). Black adults’ hazards into C and D reach the White hazards at the same income rank; new Black adults take the White starting mix. Mortality follows through the state mix.

Survival parity within state (2050). Black death rates within each state converge to White by 2050 (the base model’s survival-parity path). Health and survival parity together is full parity in health and death.

Social Security: survival-indexed uplift (2027). A Black worker’s retirement benefit is multiplied by the ratio of the money’s worth they would have with White survival to their own, from the base model’s Section 4 (men $\times 1.141$, women $\times 1.058$): the benefit that would make the program actuarially neutral to the survival gap, in the spirit of Goda et al. (2011) and U.S. General Accounting Office (2003). Counting disability and family benefits closes most of the money’s-worth gap already (Kirk and Farrar, 2026); the lever is a flow of the size the retirement-only measure implies, reported with its cost.

Social Security: survivor benefit (2027). The surviving partner receives 75% of the couple’s combined benefit when that exceeds the larger of the two (Hurd and Wise, 1991). Race-neutral.

Social Security: bend point (2027). The first PIA factor rises from 90% to 100% for retirement and disability benefits. Race-neutral.

Automatic matched saving (2027). Eligible working-age households are enrolled at a 3% default contribution with the Saver’s Match of SECURE 2.0 section 103 (50% of up to \$2,000 per adult, phased out over \$41,000–71,000 joint and \$20,500–35,500 single, 2024 dollars; U.S. Congress, 2022); take-up 0.8 (swept 0.6–0.95). The contribution is the household’s own saving; the match is the public cost. Race-neutral.

Portfolio parity (2035). Black households hold the White portfolio at the same age and wealth band.

Housing-distress gap (2035). The 2.3-point distressed-sale return penalty on Black mortgaged owners is removed.

Fee drag (2030). The credit-card-interest drag on Black households with no buffer falls to the White share of income.

Saving and support parity (2035). Black households’ base saving rate and support-giving reach the White schedule. This equalizes a calibrated residual (14.8% against 20.9% of income), not a measured condition; it is run because the base model’s combinations include it, and every combination is also shown with the saving schedule kept.

Earnings residual and mobility (2040; reference). Black healthy-equivalent incomes reach the White distribution at the same within-group rank and children’s mobility reaches the White rank equation. A dose $d \in [0, 1]$ scales the share of the residual closed.

A one-time transfer of \$250,000 per Black household in 2030 and a ladder of such transfers are run as yardsticks.

4.8 Calibration

The eleven parameters of the free specification are refitted, warm-started from the base model’s values, by Nelder–Mead on the same loss (asinh distances of the medians and means by age band, the receipt of inheritances by age band, and the conditional median transfer) in a 150-year steady state under 2024 conditions, from three simulation seeds; the seed with the lowest loss evaluated at a common seed with 40,000 households is used (loss 1.53 against 2.66 for the base model’s free fit), and the others are kept for a calibration-uncertainty check. Appendix Tables 10 and 11 give the

values and the fit. Two parameters sit at their bounds (estate leakage at 0.95 and starting debt at 0). The fitted base saving rates are 14.8% for Black and 20.9% for White households; the base model’s own calibration has the sign the other way, so the residual’s sign is specification-dependent and no behavioral reading is warranted.

4.9 Validation

Three checks the model is not fitted to (Appendix Tables 12–14). First, the state mix: in 2024 the model has 15.0% of Black and 9.9% of White adults in D, against 13.5% and 9.3% of the CPS adult population (the CPS prevalences by age band carry replicate standard errors of 0.3 to 1.8 percentage points), with disability-benefit receipt among working-age adults within half a point of the CPS. Second, survival: the model’s 2024 death probabilities pooled over simulated adults (with the base probabilities standing in at ages with no simulated adult of that race and sex, since the SCF has few households headed by men over 85) give life expectancies at 40 within 0.3 years of the life tables for every race–sex group; the state and wealth multipliers are normalized to the life tables, so the remaining differences come from the simulated population’s state and wealth mix. Third, wealth by health in the SCF: among Black households aged 25–64 the survey’s median net worth is \$63k for H heads and \$6k for D heads; the model’s steady state gives \$49k and \$-36k. Among White households the survey gives \$321k and \$30k, the model \$237k and \$15k. The model reproduces the direction and the order of magnitude of the gradient, through the earnings loss, dissaving, and medical costs of ill health and the income gradient of its onset; the survey gradient also contains selection the model does not carry. Figure 5 shows the health fit itself.

4.10 Experimental design and uncertainty

Each path is 120 runs of 20,000 households (half per group) from 2022 to 2100. A run draws the parameters listed in Appendix Table 9 and the base model’s (long-run returns, the housing-distress gap, the causal share of the wealth–mortality gradient, the cost of debt, the Trustees alternative), and its households, market sequence, lives, health, and deaths; the same seeds are replayed under every path, so a lever’s effect is a run-by-run difference. Bands are 5th to 95th percentiles across runs: parameter and Monte Carlo uncertainty, not calibration or survey-sampling uncertainty, which are held fixed and addressed separately (Section 5.8). The Monte Carlo standard error of the pointwise median ratio in 2100, by bootstrap over runs, is 0.004 for the baseline and 0.011 for the full lever set. The grid runs every coalition of seven lever groups with 24 runs of 8,000 households. We report shares of the 2022 log gap closed,

$$\Delta_t = \frac{\ln r_t^{\text{path}} - \ln r_t^{\text{base}}}{-\ln r_{2022}^{\text{base}}}, \quad (4)$$

where r_t is the Black-to-White ratio of median wealth, so that a common level bias in the model’s steady state differences out, and Shapley values (Shorrocks, 2013) of the lever groups computed run by run. Same seed gives bit-identical output; a lever acting on Black households only leaves every White statistic unchanged. The full run takes about 1.6 hours on four cores. The reporting follows the STRESS list (Monks et al., 2019).

5 Results

5.1 Current conditions

Under unchanged conditions the median ratio moves from 0.150 in 2024 to 0.179 in 2050 and 0.210 in 2100 (0.140 to 0.257); the base model’s path ends at 0.261. The model’s balanced-growth steady state under 2024 conditions, from the calibration run, has a ratio of medians of 0.172 (means 0.146), so the rise after 2050 is movement toward that steady state from the survey’s starting distribution, not a cohort effect the model could separate from age. The gap does not close on its own in any run.

5.2 What each lever is worth

Table 1 gives each lever’s share of the 2022 log gap closed by 2075 and 2100, the median ratio, the median Black wealth added, and the public cost per Black household-year; Figure 1 shows the paths. Three results stand out.

In the model, health is a wealth lever once its channels are counted. Health parity alone closes 8% (2%–14%) of the log gap by 2100, and health and survival parity together 9% (4%–16%), against about 1.5% for survival parity in the base model and its cross-check. The difference is the channels: in the model, fewer Black adults in D and C means higher earnings, less dissaving, fewer disability benefits replacing earnings, and lower mortality through the state mix. Survival parity within state adds only 1% (-1%–5%): as the base model found, counting years of life without their economic content moves the median little.

The Social Security levers are small for the gap and expensive. The three together close 3% (-1%–6%) of the log gap at a public cost of about \$22k per Black household-year cumulated to 2100; in 2050 the extra benefits are about \$77 billion a year to Black and \$320 billion to White beneficiaries, since the survivor and bend-point changes are race-neutral and reach far more White retirees. The survival-indexed uplift, the one race-targeted lever, closes about 1.5%. Benefits are consumed in retirement by most households and pass through to wealth only at the assumed rate; a zero pass-through removes the effect entirely.

Among the wealth levers, the housing-distress gap is the one that matters. Removing the distressed-sale return penalty closes 12% (6%–20%); portfolio parity at equal age and wealth is -1% (-4%–2%) (slightly negative: at the low wealth bands where most Black households sit, the White portfolio is more leveraged and earns no more), fee drag parity is near zero, and the Saver’s Match 0% (-3%–3%). Together the four close 10% (3%–22%).

The saving-and-support lever closes 31% (22%–39%) by itself, the second largest single effect. It equalizes the fitted base saving rates, and we do not read it as a condition: Table 1 shows every combination with and without it.

5.3 Additivity

Table 3 and Figure 2 give the Shapley values of the seven lever groups over all 128 coalitions. The values sum to the total effect by construction; their sum against the sum of the solo effects, $\times 0.98$ at 2100, says the levers are additive in log wealth to within simulation noise and, if anything, mildly sub-additive. The base model and its cross-check found the same. Combinations are needed because no lever is large enough, not because they multiply.

5.4 Routes without the earnings residual

Of the 64 coalitions of the six non-earnings lever groups, 0 reach a median ratio of 0.9 in 2100 in at least half their runs (Table 4). The best, every recurring lever together, reaches 0.581 (0.459 to 0.697) and closes 57% (43%–69%) of the log gap; with the saving schedule kept it reaches 0.316 and closes 24% (12%–35%). Table 2 gives the years to each threshold: the full recurring set reaches 0.5 in a median run but never 0.75 this century.

With the earnings residual in the coalition the picture reverses. Every recurring lever plus the residual reaches 0.951 in 2075 and 1.229 in 2100 and crosses 0.9 in a median first year of 2071. The earnings residual alone closes 43% (34%–54%) and ends at 0.465, short of 0.9.

5.5 Dose-response

Table 5 and Figure 3 trace the share of the non-health earnings residual that must close, on top of every recurring lever, for the gap to close. A quarter of the residual brings the 2100 ratio to 0.897 with 45% of runs at 0.9; half brings the median run across 0.9 in 2080. The answer to the question in the title is therefore conditional: a route without a lump sum exists only if about half the earnings gap that is not explained by health also closes, and the recurring levers, including the saving residual, do the rest.

5.6 The lump-sum ladder

Table 6 and Figure 4 give the share of the log gap closed by a one-time transfer per Black household in 2030 under unchanged conditions. The transfers decay: the \$1.5M rung leaves 3.5% of the gap closed in 2100, and the \$250,000 yardstick lifts the ratio to 0.404 in 2050 and leaves it at 0.211 in 2100, where with every recurring lever it holds at 0.590. Reading each lever’s 2075 effect against the ladder makes them commensurable: health and survival parity is worth about a \$213k one-time payment per household, the Social Security levers \$61k, the four wealth levers \$298k, every recurring lever with the saving schedule kept \$727k, and every recurring lever or the earnings residual more than the \$1.5M top rung. One-time capital and recurring change are substitutes only on a short horizon.

5.7 Timing

Table 7 varies the phase-in. The full lever set reached by 2030 rather than 2040 brings the first year at 0.9 to 2068; by 2060, to 2078. Sequencing matters less than speed: health and wealth levers first with the earnings residual by 2055 reaches 0.9 in 2074, earnings first with the rest by 2055 in 2076.

5.8 Robustness

Table 8 fixes each assumed channel at zero in both the baseline and the lever path, and reruns the main paths under the calibrations from the other two seeds. The widowhood shock and caregiving penalty, the state-mortality multipliers, and the causal share of the wealth–mortality gradient each move the full set’s effect by about a point; benefit pass-through at zero removes the Social Security levers’ effect and lowers the baseline’s retirement wealth, which widens the 2022 log gap used as the denominator (shares are comparable within a row, not across rows; the ratio column is the level check). Attributing a quarter or the whole of the income gradient of ill health to the hazard, and

consumption smoothing at zero or 0.5, change health parity’s effect within its band. The other seeds’ calibrations give the same ordering and sizes.

6 Discussion

The question was whether a route built only of recurring changes could close the median wealth gap this century. In the model, it cannot, unless about half of the non-health earnings residual also closes. That conclusion holds across the parameter draws, the zero-effect runs, and the other calibrations, and it is the conclusion of the base model, of its independent cross-check, and of the structural literature (Aliprantis et al., 2022; Boerma and Karabarbounis, 2023; Derenoncourt et al., 2024) reached from a different direction. The health channel changes the arithmetic by an order of magnitude but not the answer: it is worth about six times survival parity and about a fifth of the earnings residual.

Three implications of the model follow; they are model-based contrasts, not recommendations. First, health parity is a wealth lever with no measured cost here: closing the Black–White gap in the hazards of chronic illness and work-limiting disability is a goal, not a program, and the model reports what it would be worth (about \$176k per household in one-time terms), not what it would cost. Its value lies in earnings and dissaving, not in medical spending, whose CPS means by state are flattened by Medicaid among Black adults, and not in years of life as such. Second, the Social Security levers that address the survival gap’s actuarial unfairness are a matter of fairness in the program, not a route to wealth parity: a survival-indexed uplift of 14% for men moves the median ratio by about a point, and the race-neutral survivor and bend-point changes are paid mostly to White households. Third, among the wealth-building levers the one that matters in the model is the housing-distress return gap, which Kermani and Wong (2026) trace to distressed sales rather than to portfolio choice.

The saving residual deserves a separate reading. Equalizing the fitted base saving rates closes a third of the log gap by itself and half of the full set’s effect. In the base model’s own calibration the residual has the opposite sign, and Gittleman and Wolff (2004) find no racial difference in saving once income is controlled. The residual absorbs whatever both models leave out of the flow of resources through Black households (taxes, prices, support, the cost of credit, the timing of income); a model that could name those wedges would replace the lever with measured conditions. Until then the headline is the one with the saving schedule kept: every other recurring lever closes about a quarter of the log gap.

7 Limitations

Everything here is accounting under stated assumptions, not causal inference: levers are imposed, there is no feedback to prices, returns, or other households’ incomes, and the health gradients are observational associations with an attributed causal share. Medical debt and its collection costs are not modeled, which understates the drain on Black households (Consumer Financial Protection Bureau, 2022; Dobkin et al., 2018). Health responds to wealth only through the bounded mortality gradient and the income gradient of onset; if wealth improves health causally, levers that raise wealth also improve health, in the same direction as the levers. The earnings multipliers are means by state, so partial work limitations are averaged; disability is absorbing except through death. Partners claim at the head’s full retirement age with no actuarial adjustment, earnings test, or remarriage. The

levers’ costs are gross outlays, not net of financing. The 2022 age profile is treated as a steady state, as in the base model, so cohort effects are not separated from age. The CPS measures health and disability by self-report, and differential reporting by group would enter the hazards. Calibration and survey-sampling uncertainty are not in the bands; two calibrated parameters sit at bounds. The paper reports the model’s wealth-by-health gradient as smaller than the survey’s; the difference is the selection the model does not carry, and it means the model measures the causal channels a lever could act on rather than the cross-sectional association.

8 Conclusion

A household microsimulation with a health state for every adult, fitted to the CPS and the life tables and validated against the SCF’s wealth-by-health gradient, finds that recurring changes in health, Social Security, and wealth-building do not close the Black–White median wealth gap this century on their own. Health parity is worth about 8% (2%–14%) of the log gap, six times survival parity and about a \$213k one-time payment per household; every recurring lever together, with the saving residual equalized, closes 57% (43%–69%) and ends at a ratio of 0.581 in 2100; with the saving schedule kept, 24% (12%–35%). Half the non-health earnings residual on top of them closes the gap in a median first year of 2080. The levers add rather than multiply, and one-time capital under unchanged conditions decays. The gap is a flow, and its largest term is earnings.

Data and code availability. Every number in this paper is computed by the replication package (`build/health_inputs.py`, `build/healthsim.mjs`, `build/health_paper.py`; standard-library Python and package-free Node.js) from public data: the SCF 2022 summary extract and full public data set, the CPS ASEC 2025 public-use file, the NCHS 2024 life tables, and SSA’s Trustees Report and program parameters. Runs are seeded and repeat exactly. The package and its README are at <https://theunderstanding.company/research/years-and-dollars>.

Disclosures. The authors are founders of The Understanding Company, which develops a consumer financial product; this paper does not evaluate it. AI tools (Claude) were used to write code, run the analyses under the authors’ direction, and draft text; the authors are responsible for the content.

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Table 1: What each lever is worth: share of the 2022 log gap in median wealth closed (median across 120 paired runs; 5th to 95th percentile), the median ratio, median Black wealth added, and the public cost per Black household-year (extra Social Security benefits to beneficiaries of both groups and Saver's Match payments, cumulated from 2027 to 2100). Levers that change no public flow show zero cost. The saving-and-support row equalizes a calibrated residual.

Path	Log gap closed		Ratio		Black median added, 2100	Cost per Black hh-yr
	2075	2100	2050 / 2075	/ 2100		
Health parity by 2040	7% (3%-11%)	8% (2%-14%)	0.186 / 0.206	/ 0.241	\$26k	\$0
Survival parity within state by 2050	1% (-1%-4%)	1% (-1%-5%)	0.181 / 0.186	/ 0.215	\$4k	\$0
Health and survival parity	8% (4%-13%)	9% (4%-16%)	0.191 / 0.209	/ 0.250	\$29k	\$0
Survival-indexed benefit uplift	1% (-0%-4%)	1% (-1%-4%)	0.185 / 0.187	/ 0.216	\$4k	\$1k
Survivor benefit, 75% of combined	0% (-1%-3%)	0% (-3%-4%)	0.180 / 0.181	/ 0.213	\$2k	\$14k
First bend-point factor 100%	1% (-1%-4%)	1% (-2%-5%)	0.181 / 0.185	/ 0.215	\$3k	\$6k
The three Social Security levers	3% (0%-6%)	3% (-1%-6%)	0.186 / 0.192	/ 0.222	\$10k	\$22k
Portfolio parity by 2035	-1% (-5%-2%)	-1% (-4%-2%)	0.172 / 0.177	/ 0.204	\$-2k	\$0
Housing-distress gap removed by 2035	12% (7%-20%)	12% (6%-20%)	0.223 / 0.230	/ 0.257	\$35k	\$0
Fee and interest drag parity by 2030	-0% (-1%-0%)	-0% (-1%-0%)	0.178 / 0.178	/ 0.209	\$-783	\$0
Automatic matched saving from 2027	0% (-1%-2%)	0% (-3%-3%)	0.181 / 0.181	/ 0.210	\$651	\$107
The four wealth levers	11% (4%-22%)	10% (3%-22%)	0.216 / 0.223	/ 0.254	\$33k	\$107
Saving and support parity by 2035 (calibrated residual)	30% (21%-37%)	31% (22%-39%)	0.283 / 0.317	/ 0.365	\$117k	\$0
Every recurring lever, saving kept	24% (14%-32%)	24% (12%-35%)	0.246 / 0.276	/ 0.316	\$87k	\$21k
Every recurring lever	55% (41%-65%)	57% (43%-69%)	0.394 / 0.498	/ 0.581	\$300k	\$21k
Half the earnings residual by 2040	32% (23%-40%)	39% (30%-48%)	0.272 / 0.327	/ 0.431	\$166k	\$0
Earnings residual and mobility parity by 2040	40% (30%-49%)	43% (34%-54%)	0.334 / 0.382	/ 0.465	\$190k	\$0
Every recurring lever + earnings residual	89% (78%-103%)	96% (83%-113%)	0.641 / 0.951	/ 1.229	\$745k	\$22k
One-time \$250,000 transfer in 2030 (yardstick)	9% (3%-23%)	1% (-3%-4%)	0.404 / 0.219	/ 0.211	\$2k	\$0
Every recurring lever + the transfer	66% (50%-81%)	59% (45%-70%)	0.745 / 0.609	/ 0.590	\$305k	\$21k

Table 2: Years to thresholds of the median ratio: the median first year across runs; “never” when fewer than half the runs get there by 2100, with the share that do.

Path	0.25	0.5	0.75	0.9	1.0
Current conditions	never (24%)	never (0%)	never (0%)	never (0%)	never (0%)
Health and survival parity	2089	never (0%)	never (0%)	never (0%)	never (0%)
Social Security levers	never (31%)	never (0%)	never (0%)	never (0%)	never (0%)
Wealth levers	2077	never (0%)	never (0%)	never (0%)	never (0%)
Every recurring lever, saving kept	2050	never (0%)	never (0%)	never (0%)	never (0%)
Every recurring lever	2038	2071	never (0%)	never (0%)	never (0%)
Earnings residual and mobility	2040	never (47%)	never (0%)	never (0%)	never (0%)
Every recurring lever + earnings residual	2034	2044	2059	2071	2078

Table 3: Shapley values of the seven lever groups over all 128 coalitions, as shares of the 2022 log gap, computed run by run (every coalition replays the same seeds); “alone” is the lever added to the baseline by itself.

Lever group	2050	2075	2100 (5th to 95th)	Alone, 2100	Ratio change, 2100
Earnings residual and mobility	29.8%	37.6%	42.3% (34.9% to 50.9%)	44.5%	+0.425
Saving and support (calibrated residual)	20.6%	26.4%	28.0% (23.0% to 32.6%)	30.9%	+0.284
Portfolio, distress, and fees	10.1%	14.0%	15.0% (8.3% to 21.7%)	10.0%	+0.179
Health parity	3.2%	6.4%	7.6% (4.2% to 11.2%)	8.0%	+0.083
Social Security levers	2.4%	1.8%	1.6% (-0.6% to 3.9%)	3.3%	+0.011
Survival parity within state	0.8%	1.3%	1.3% (-0.1% to 2.6%)	0.8%	+0.016
Matched saving	0.3%	0.2%	0.0% (-0.4% to 0.7%)	0.2%	-0.001
All seven together	67.2%	87.6%	95.7%	sum of solos 97.8%	+0.996

Table 4: Routes: the best coalitions without and with the earnings residual, from the grid (24 runs of 8,000 households per coalition). Health: health parity; Survival: survival parity within state; Earnings: the earnings residual and mobility; Saving: saving and support (calibrated residual); Wealth: portfolio, distress, and fees; Match: matched saving; SS: the Social Security levers.

Coalition	Ratio 2100 (5th–95th)	At 0.9 in 2100	First year at 0.9	Cost per Black hh-yr
<i>Best five without the earnings residual</i>				
Health + Survival + Saving + Wealth	0.569 (0.446–0.718)	0%	never	\$0
Health + Survival + Saving + Wealth + Match + SS	0.565 (0.458–0.735)	0%	never	\$21k
Health + Survival + Saving + Wealth + Match	0.565 (0.466–0.718)	0%	never	\$103
Health + Survival + Saving + Wealth + SS	0.560 (0.462–0.737)	0%	never	\$21k
Health + Saving + Wealth + Match + SS	0.559 (0.457–0.695)	0%	never	\$22k
<i>Best five with the earnings residual</i>				
Health + Survival + Earnings + Saving + Wealth + Match	1.236 (0.987–1.321)	100%	2075	\$94
Health + Survival + Earnings + Saving + Wealth	1.227 (1.011–1.323)	100%	2075	\$0
Health + Survival + Earnings + Saving + Wealth + SS	1.217 (1.071–1.358)	100%	2074	\$22k
Health + Survival + Earnings + Saving + Wealth + Match + SS	1.217 (1.059–1.337)	100%	2075	\$22k
Health + Earnings + Saving + Wealth + SS	1.198 (0.998–1.262)	100%	2076	\$22k

Table 5: Dose-response: every recurring lever plus a share of the non-health earnings residual closed by 2040.

Residual closed	Ratio	2050	2075	2100 (5th–95th)	Log gap closed 2100	At 0.9 in 2100	First year at 0.9
0%		0.394	0.498	0.581 (0.459–0.697)	57% (43%–69%)	0%	never
25%		0.471	0.674	0.897 (0.699–0.995)	79% (66%–91%)	45%	never
50%		0.539	0.814	1.119 (0.929–1.247)	92% (78%–105%)	96%	2080
75%		0.599	0.923	1.246 (1.049–1.408)	97% (84%–114%)	99%	2074
100%		0.641	0.951	1.229 (1.044–1.349)	96% (83%–113%)	100%	2071

Table 6: The lump-sum ladder: share of the 2022 log gap closed by a one-time transfer per Black household in 2030 under unchanged conditions, by year.

One-time transfer per Black household, 2030	2035	2050	2075	2100
\$25k	13.0%	5.3%	1.4%	0.1%
\$100k	43.1%	20.5%	4.2%	0.2%
\$200k	66.9%	38.8%	7.7%	0.5%
\$400k	96.8%	62.4%	14.2%	0.7%
\$800k	133.7%	106.9%	25.9%	1.8%
\$1.5M	164.6%	137.3%	38.2%	3.5%

Table 7: Time-phasing of the lever set.

Phasing	Ratio 2050	2075	2100	Log gap closed, 2100	Median first year at 0.9
Everything by 2030	0.695	0.977	1.208	95% (81%–113%)	2068
Everything by 2040 (the main run)	0.641	0.951	1.229	96% (83%–113%)	2071
Everything by 2050	0.507	0.881	1.223	95% (82%–112%)	2076
Everything by 2060	0.420	0.826	1.202	95% (81%–108%)	2078
Health and wealth levers by 2040, earnings residual by 2055	0.571	0.919	1.240	97% (83%–114%)	2074
Earnings residual by 2040, the rest by 2055	0.509	0.879	1.206	95% (81%–112%)	2076
Health parity alone by 2030	0.189	0.209	0.245	9% (4%–14%)	never
Health parity alone by 2060	0.180	0.201	0.237	8% (3%–13%)	never
Every recurring lever by 2030	0.416	0.508	0.591	56% (42%–68%)	never
Every recurring lever by 2040, half the residual by 2060	0.475	0.763	1.070	89% (76%–104%)	2087

Table 8: Zero-effect and structural runs (each fixing a parameter in both the baseline and the lever path, so the comparison stays paired; the baseline itself moves with the fixed parameter, so shares are comparable within a row), and the main paths under the calibrations from the other two seeds.

Channel fixed	All recurring: log gap closed 2100	Ratio 2100	Health and survival: log gap closed 2100
Central draws	57% (43%–69%)	0.581	9% (4%–16%)
Benefit pass-through to wealth = 0	75% (60%–88%)	0.546	14% (7%–21%)
Widowhood shock and caregiving penalty = 0	57% (43%–67%)	0.576	9% (4%–14%)
Health-state mortality multipliers = 1	58% (43%–68%)	0.576	10% (5%–16%)
Causal share of the wealth-mortality gradient = 0	56% (43%–67%)	0.577	10% (4%–16%)
Income gradient of ill health: a quarter attributed	57% (44%–68%)	0.586	9% (5%–15%)
Income gradient of ill health: fully attributed	56% (43%–68%)	0.590	9% (4%–15%)
No consumption smoothing	54% (41%–64%)	0.594	4% (–0%–7%)
Consumption smoothing 0.5	57% (44%–68%)	0.587	12% (7%–17%)
Calibration from seed 7 (loss 1.95)	55% (40%–67%)	0.577	10% (5%–15%)
Calibration from seed 9 (loss 1.72)	51% (37%–64%)	0.579	10% (5%–15%)

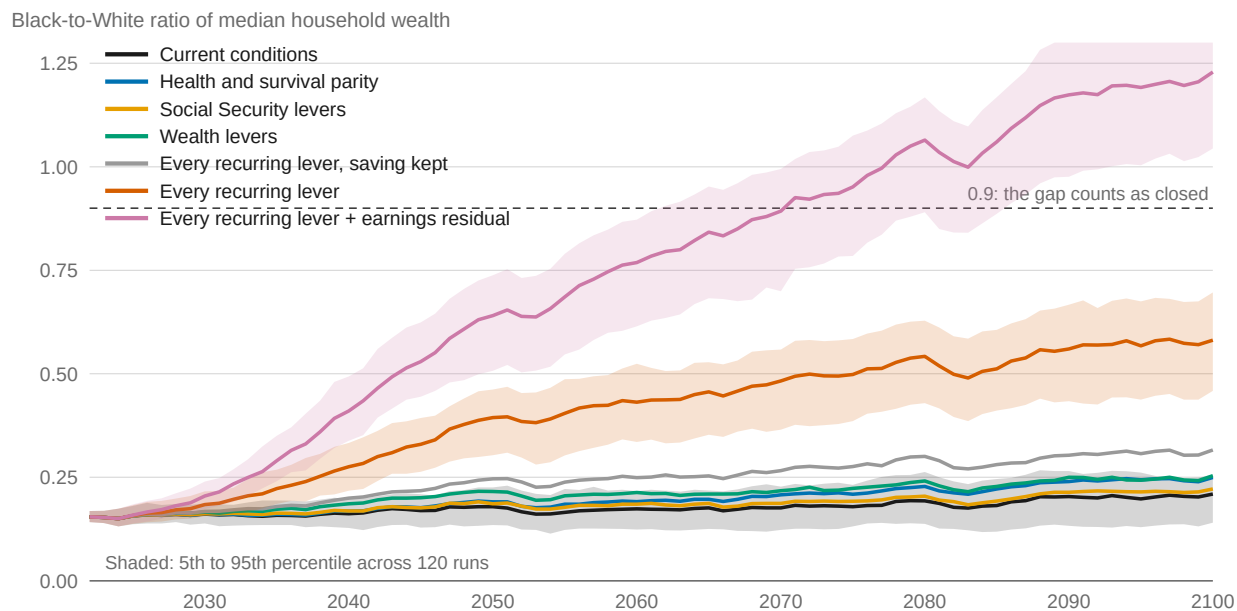


Figure 1: Black-to-White ratio of median household wealth, 2022–2100, under the lever sets (pointwise medians across runs; shaded 5th to 95th percentiles for three paths).

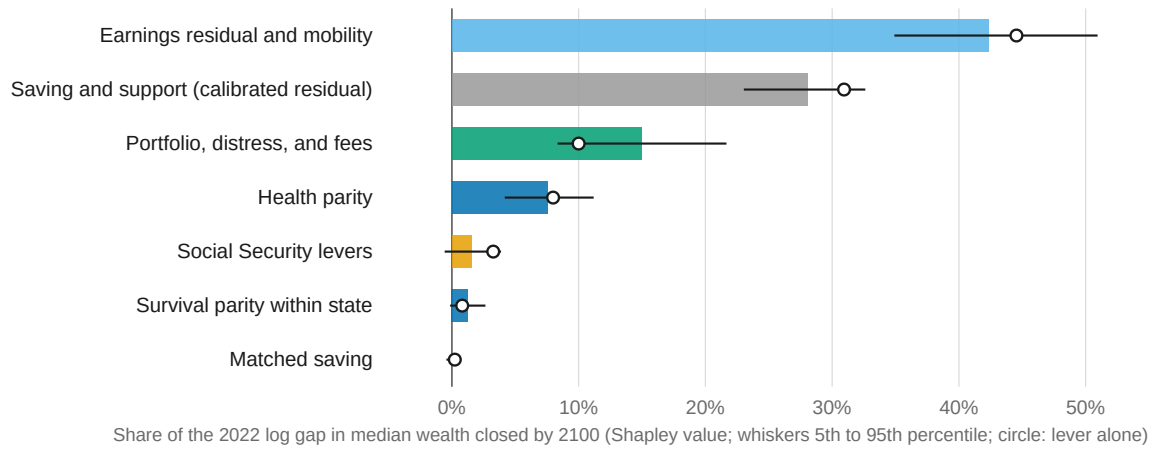


Figure 2: Shapley values of the seven lever groups in 2100 as shares of the 2022 log gap (bars; whiskers 5th to 95th percentile across runs; circles: the lever alone).

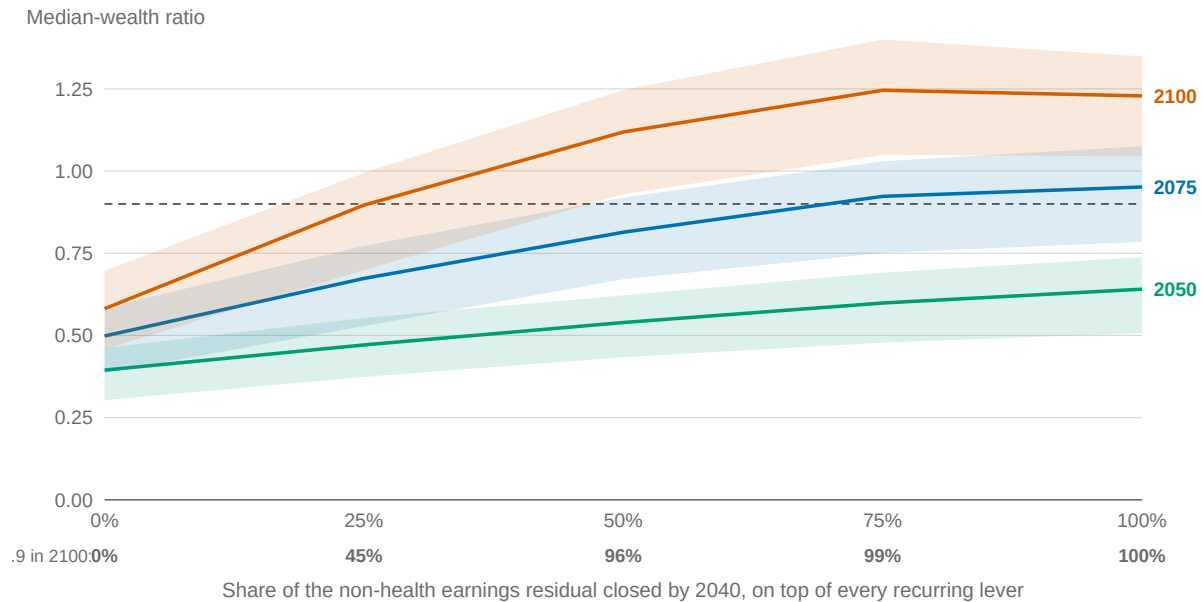


Figure 3: Dose-response: the median ratio in 2050, 2075, and 2100 against the share of the non-health earnings residual closed by 2040, on top of every recurring lever (shaded 5th to 95th percentiles).

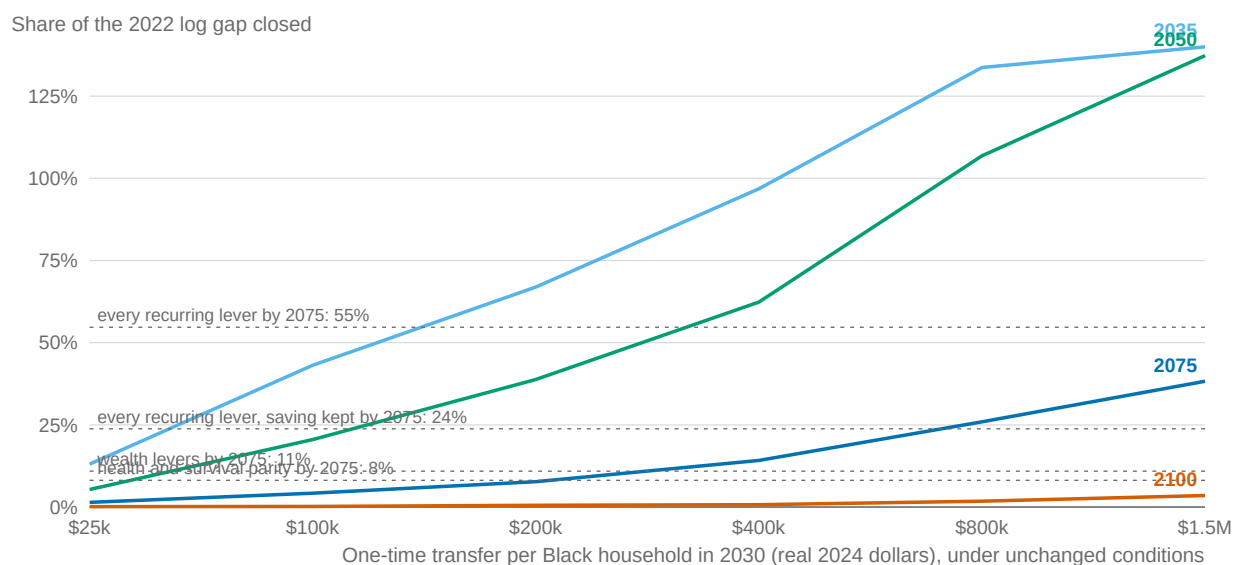


Figure 4: The lump-sum ladder: share of the 2022 log gap closed in 2035, 2050, 2075, and 2100 by a one-time transfer per Black household in 2030 under unchanged conditions; dotted lines mark the 2075 effect of the lever sets.

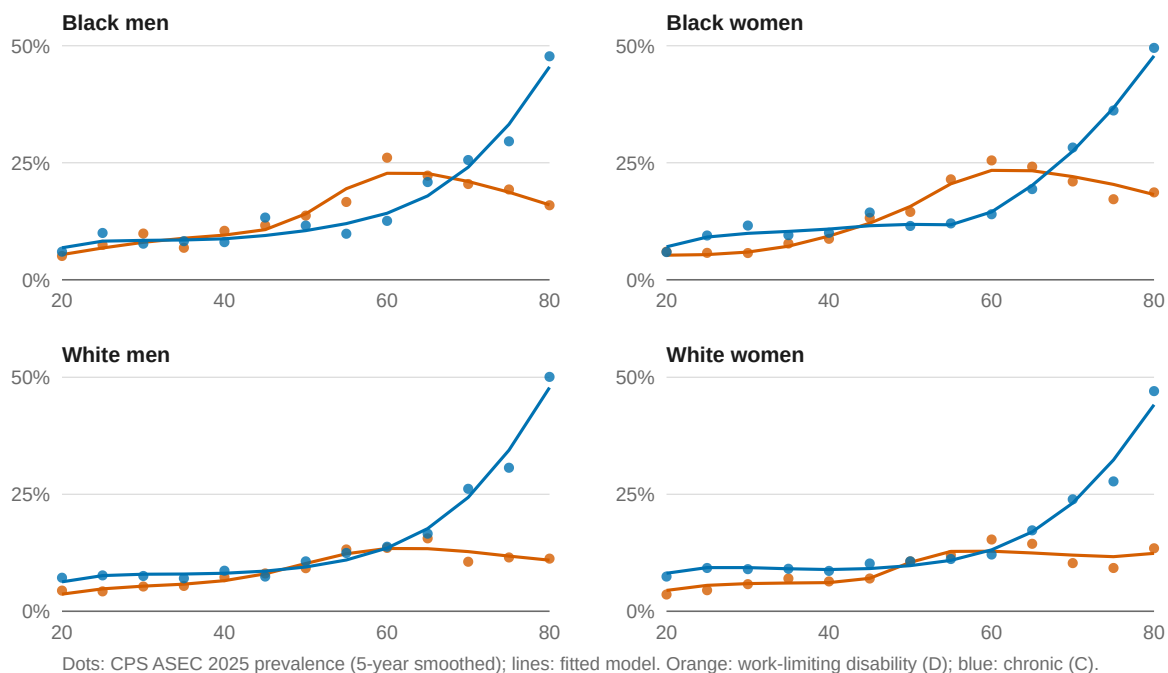


Figure 5: Prevalence of the chronic (C) and work-limiting disability (D) states by age: CPS ASEC 2025 (dots, smoothed over five years) and the fitted model (lines), by race and sex.

A Parameters by provenance

B Calibration

C Validation

Table 9: Parameters of the health module, tagged data (tabulated from a public file), literature, calibrated, or assumed, with the range the Monte Carlo draws sweep.

Parameter	Tag	Central value	Range drawn	Source
Health hazards $H \rightarrow C$, $H \rightarrow D$, $C \rightarrow D$ by race, sex, age (log-quadratic in age)	calibrated	χ^2 per point 0.27, 0.22, 0.52, 0.76	—	CPS ASEC 2025; NCHS 2024 life tables
State mortality multipliers ρ_C, ρ_D	assumed (literature range)	1.6, 2.5	[1.3, 1.9], [1.8, 3.2]	DeSalvo et al. (2006)
Recovery $C \rightarrow H$ per year	assumed	0.15	[0.05, 0.25]	—
Income gradient of ill health (log slope per rank), C and D	assumed data	-1.4321, -2.0825	—	CPS ASEC 2025
Share of the gradient attributed to the hazard	assumed	0.5	[0.25, 1.0]	—
Earnings multipliers by sex, age band, state (men 45–54: H, C, D)	assumed data	1.13, 0.68, 0.19	—	CPS ASEC 2025
Medical out-of-pocket spending by group, sex, age band, state	data	see data file	—	CPS ASEC 2025
Disability-benefit receipt given D, by group, sex, age band	data	see data file	—	CPS ASEC 2025
Consumption smoothing of income shortfalls σ	literature (assumed magnitude)	0.3	[0.1, 0.5]	Meyer and Mok (2019)
Caregiving earnings penalty	literature (assumed magnitude)	0.05	[0.0, 0.1]	Van Houtven et al. (2013)
Widowhood wealth shock	assumed	0.05	[0.0, 0.15]	zero-effect run
Benefit pass-through to wealth θ	assumed	0.4	[0.2, 0.6]	zero-effect run
Saver’s Match take-up under automatic enrollment	assumed	0.8	[0.6, 0.95]	SECURE 2.0 §103 for the match
Survival-indexed uplift of Black retirement benefits (men, women)	data (money’s worth)	1.141, 1.058	—	Kirk and Farrar (2026), Section 4
Survivor benefit share of the couple’s combined benefit	policy proposal	0.75	—	Hurd and Wise (1991)
First bend-point factor under the lever	policy variant	1.0	—	—
Asset returns, housing-distress gap, mobility, wealth–mortality gradient and causal share, debt cost, mortality alternative	literature (as the base model)	see Kirk and Farrar (2026)	as the base model	Jordà et al. (2019); Kernani and Wong (2026); Chetty et al. (2020); Machado et al. (2025); Cesarini et al. (2016); Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds (2026)

Table 10: Calibrated parameters against the base model’s free specification.

Parameter	This model	<i>Years and Dollars</i> free specification
Base saving rate, Black (s_{0B})	0.148	0.090
Base saving rate, White (s_{0W})	0.209	0.105
Saving gradient in income rank (s_1)	0.218	0.283
Consumption out of wealth (c_w)	0.013	0.024
Retirement drawdown (κ)	0.431	0.260
Help at household formation (γ)	0.309	0.374
Starting debt (τ)	0.000	0.251
Gift floor (\$)	1,956,907	2,176,521
Estate leakage	0.950	0.916
Persistent return component (σ_θ)	0.012	0.019
End-of-life and settlement cost (\$)	836,556	635,902
Loss	1.53	2.66

Table 11: Calibration fit: the 2022 SCF age-wealth profile and the receipt of inheritances and gifts, survey against the model's steady state.

Group, age band	Survey median		Survey mean	
	Model	Model	Model	Model
Black 25-34	\$7k	\$10k	\$51k	\$41k
Black 35-44	\$44k	\$47k	\$141k	\$108k
Black 45-54	\$83k	\$77k	\$270k	\$187k
Black 55-64	\$150k	\$102k	\$328k	\$259k
Black 65-74	\$69k	\$107k	\$358k	\$324k
Black 75-	\$167k	\$141k	\$324k	\$298k
White 25-34	\$91k	\$47k	\$274k	\$417k
White 35-44	\$229k	\$199k	\$740k	\$748k
White 45-54	\$337k	\$386k	\$1.28M	\$1.27M
White 55-64	\$493k	\$604k	\$2.10M	\$1.64M
White 65-74	\$579k	\$716k	\$2.26M	\$2.02M
White 75-	\$438k	\$578k	\$1.97M	\$1.89M
Black: received \$10,000+ (survey / model)	6.5%	3.3%	net worth ≤ 0 : 17.1% / 27.7%	
White: received \$10,000+ (survey / model)	26.2%	28.7%	net worth ≤ 0 : 5.8% / 13.6%	

Table 12: Health states and disability-benefit receipt: CPS ASEC 2025 against the model in 2024 (adults 18 and over; benefit receipt among adults 18–66).

Group	Adults in D		Adults in C		Disability benefits, 18–66	
	CPS	Model	CPS	Model	CPS	Model
Black	13.5%	15.0%	14.6%	15.7%	4.3%	4.4%
White	9.3%	9.9%	15.8%	17.5%	2.8%	2.6%

Table 13: Survival: life expectancy at 40 and the share dying between 25 and 65, model (2024 applied probabilities pooled over simulated adults) against the NCHS 2024 life tables.

Group	e_{40} men: model / NCHS	women: model / NCHS	Dying 25–65, men	women
Black	35.2 / 35.4	40.7 / 40.6	27.1%	16.2%
White	38.8 / 38.9	42.6 / 42.6	18.3%	11.5%

Table 14: Wealth by health state: SCF 2022 (the survey's own definitions, by the respondent's state) against the model's steady state (CPS definitions, by the head's state). Not a calibration target.

Group, ages	State	Survey median	Model median	Survey mean	Model mean	Survey share	Model share
Black, 25–64	H	\$63k	\$49k	\$248k	\$154k	64.1%	76.7%
Black, 25–64	CD	\$26k	\$0	\$128k	\$116k	35.9%	23.3%
Black, 25–64	D	\$6k	\$–36k	\$66k	\$65k	9.2%	12.4%
Black, 65+	H	\$164k	\$143k	\$508k	\$317k	58.2%	44.9%
Black, 65+	CD	\$31k	\$116k	\$122k	\$304k	41.8%	55.1%
White, 25–64	H	\$321k	\$237k	\$1.42M	\$996k	76.4%	82.1%
White, 25–64	CD	\$93k	\$164k	\$405k	\$1.06M	23.6%	17.9%
White, 25–64	D	\$30k	\$15k	\$101k	\$899k	6.0%	8.6%
White, 65+	H	\$628k	\$652k	\$2.68M	\$1.91M	69.5%	52.8%
White, 65+	CD	\$274k	\$613k	\$895k	\$1.99M	30.5%	47.2%