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Understanding Racial Disparities in Financial Preparedness for Retirement

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Understanding Racial Disparities in Financial Preparedness for Retirement

Abstract

We estimate a model of labor supply and savings over the life cycle where key parameters — including the interest rate, the degree of risk aversion and the fixed cost of working, and the stochastic processes of health, mortality, and wages — are all allowed to vary by race. We find the Black-white gap in the labor force participation rate at age 62 is mostly due to the racial differences in health and the fixed cost of participation, and the Black-white gap in wealth at age 62 is mostly due to the racial wage gap. In addition to the racial differences in preferences and skills, labor market discrimination against Blacks could also contribute to their higher fixed cost of participation and lower wages. This suggests that reducing the discrimination faced by Blacks in the labor market could significantly reduce the racial disparities in retirement preparedness.

Citation

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Introduction

There are significant racial disparities in both the age and financial preparedness of retirement. According to the Federal Reserve (2020), Black and Hispanic retirees are more likely to retire before age 62 (56% and 65%, respectively) than white retirees (48%). Moreover, Black and Hispanic nonretirees are less likely to report any retirement savings (64% and 61%, respectively) than white retirees (80%). When asked to assess their preparedness for retirement, 43% of white nonretirees reported their retirement savings were on track. The corresponding number for Black and Hispanic nonretirees were much lower at 29% and 22%, respectively.

Many factors could contribute to these racial disparities. Some examples are:

(1) Life expectancy. According to the National Center for Health Statistics, the life expectancy at birth is 72 for Blacks and 78 for whites (Arias, Tejada-Vera, and Ahmad 2021). Presumably, the shorter life expectancy for Blacks than whites contributes to the Black-white difference in retirement age;

(2) Employment and earnings. In the second quarter of 2022, the unemployment rate was 5.9% for Blacks and 3.1% for whites (Bureau of Labor Statistics 2022a), and the median usual weekly earnings of full-time wage and salary workers between 25 and 54 years old was $919 for Blacks and $1,128 for whites (Bureau of Labor Statistics 2022b). Other things equal, the higher employment rate and lower earnings for Blacks could reduce their ability to save for retirement;

(3) Health status. According to the Centers for Disease Control and Prevention, approximately one in four Black and one in five white adults have a

disability.[1] The higher disability rate for Blacks could have a negative impact on both retirement age and retirement wealth.

(4) Family size and structure. According to the U.S. Census Bureau, the average number of people per family household is 3.39 for Blacks and 3.09 for whites (Census Bureau 2020). Other things equal, a larger household size for Blacks could reduce both their ability to save for retirement while working if they spend more money to support their family members, and their preference to save for retirement if they expect to receive more support from their family members after retirement.

(5) Risk aversion. Conditional on income and education, Black households are less likely to own risky assets than white households (Choudhury 2002). One potential explanation is that Blacks are more risk averse than whites (Yao, Gutter, and Hanna 2005).

(6) Asset returns. Since risky assets have a higher return on average, the racial disparity in risky assets also implies a lower asset return for Blacks than whites. Moreover, the racial difference in asset returns could also arise from discrimination. For example, Black and Hispanic homebuyers have to pay a premium of about 2% than comparable white homebuyers (Bayer, Casey, Ferreira, and McMillan 2017). The lower asset returns could reduce the incentive to save for Blacks.

[1] https://www.cdc.gov/ncbddd/disabilityandhealth/materials/infographic-disabilities-ethnicity-race.html

This paper attempts to quantify the contribution of these factors to the observed racial disparities in both the age and financial preparedness of retirement. We estimate a life-cycle model of labor supply, retirement, and savings where death, future health and wages are uncertain, and all model parameters and constraints are allowed to vary by race. The model is estimated by fitting the race-specific profiles of labor supply, wages, health, mortality, and wealth over the life cycle. With the estimated model, we conduct a series of counterfactual experiments to quantify the relative importance of different factors in accounting for the Black-white gap in retirement preparedness and outcomes.

Empirically, we find all factors mentioned above contribute to the racial gap in the age and financial preparedness of retirement, with varying significance. The most important contributors to the Black-white gap in the labor force participation rate at age 62 are racial disparities in health and the fixed cost of working (a parsimonious measure that includes the transportation cost, the psychological cost, and any other costs associated with working). Relative to their white counterparts, blacks are more likely to be in bad health at any given age, which significantly reduces their probability of working during a period. The higher fixed cost of working then makes it harder for Blacks who are out of the labor force to reenter. On the other hand, the most important contributors to the Black-white wealth gap at age 62 are racial disparities in wages and risk aversion.

Together, the significance of the fixed cost of working and wages suggest that labor market outcomes are the dominant factors contributing to the racial disparities in retirement preparedness and outcomes. In addition to the racial differences in preferences and skills, labor market discrimination against Blacks could also contribute to their higher fixed cost of working and lower wages. This suggests that reducing the discrimination faced by Blacks in the labor market could also significantly reduce the racial disparities in retirement preparedness.

A life-cycle model of work and savings

This section describes the work and saving decisions made by each individual/household over the life cycle. The model described below is based on the work by French (2005) and Scholz, Seshadri, and Khitatrakun (2006). Our main contribution is to allow the preferences and constraints to vary across individuals/households depending on their races.

Because wealth is typically measured at the household level, while labor supply is individual-specific, we assume all decisions for a household are made by the household head, and use the two words individuals and households interchangeably. The effects of the family size and structure are accounted for empirically when we construct the life-cycle profiles of wealth in the next section.

At each age t from the year of labor market entry to death, a household head chooses how much to consume (C_t) and work (H_t), and whether or not to apply for Social Security benefits ($B_t \in \{0,1\}$). The decisions are made to maximize the lifetime utility given by the following equation

$$U(C_t, H_t, M_t) + E_t \left\{ \sum_{j=t+1}^{T} \beta^{j-t} S(j-1,t)[s_j U(C_j, H_j, M_j) + (1-s_j) b(A_j)] \right\}$$

where $U(C_t, H_t, M_t)$ is the utility from the current year that also depends on the health/medical status M_t. The second term is the expected continuation value, with β being the annual discount factor. The expectation operator (E_t) is necessary because of the uncertainties faced by each household at each age.

The first uncertainty is about survival, with s_j being the probability of living to age j conditional on being alive at age $j-1$, and $S(j,t) = \frac{1}{s_t} \prod_{k=t}^{j} s_k$ being the probability of living to age $j \geq t$ conditional on being alive at age t. We assume $s_{t+1} = s(M_t, t+1)$ so that the survival probability depends on both age t and the health status M_t. If the household survives to age j, the utility from that year would be $U(C_j, H_j, M_j)$. Otherwise, if the household dies at age j with asset/bequest level A_j, the utility would be $b(A_j)$.

The second uncertainty is about the health status M_t, which is either good or bad, and evolves over time according to a Markov process with transition probabilities $prob(M_{t+1} | M_t, t)$.

The third uncertainty is about wages W_t given by

$$\ln W_t = W(M_t, t) + AR_t$$

where $W(M_t, t)$ is a deterministic function calculated from data described below, and $AR_t = \rho AR_{t-1} + \eta_t$ is an AR(1) process with the innovation η_t drawn from a normal distribution with mean 0 and standard deviation σ_η.

We assume a household could receive income from five sources. The first is the labor income of the head given by $W_t H_t$. The second source is spousal income. Following French (2005), we assume spousal income is given by $ys_t = ys(W_t, t)$, which will be estimated from the data described below. The third source of income is the return to savings/assets/wealth given by rA_t, where r is the interest rate. The last two sources $A_t \geq 0$ are Social Security and pension benefits, which are described in detail later.

The budget constraint, which is also the law of motion for assets/wealth A_t, is given by

$$A_{t+1} = A_t + Y(rA_t + W_t H_t + ys_t + pb_t, \tau) + B_t \times ss_t - C_t$$

where pb_t is the amount of pension benefits received at age t, $Y(rA_t + W_t H_t + ys_t + pb_t, \tau)$ is the after-tax income under the tax structure τ, and ss_t is the amount of Social Security benefits net of the earnings test. We assume $A_t \geq 0$ so that households could save but not borrow.

Because individuals are ineligible for Social Security benefits before age 62, we set $B_t = 0$ for $t < 62$. Upon application, the individual will receive Social Security benefits until death. In other words, we have $B_{t+1} = 1$ if $B_t = 1$ $B_t = 1$ and the individual is alive at age $t+1$.

The amount of Social Security benefits ss_t depends on three main factors. The first is the primary insurance amount (PIA), which is a function of average indexed monthly earnings ($AIME_t$),[2] defined as the average earnings in the 35 highest earnings years. After the first 35 years in the labor market, $AIME_t$ is only recomputed upward if the earnings from the current year are higher than the earnings from a previous year.

Following French (2003), we annualize $AIME_t$ and compute it using the following formula

$$AIME_{t+1} = AIME_t + W_t H_t / 35$$

for each of the first 35 years when an individual is in the labor market. After that, we assume $AIME_{t+1} = AIME_t + \max\{0, (W_t H_t - AIME_t)/35\}$. Finally, $AIME_t$ is capped. For example, in 1987, we have $AIME_t \leq \$43,8000$.

The second main determinant of the Social Security benefits ss_t is the age at which an individual first receives the benefits. For example, pre-earnings test benefits for a Social Security beneficiary are equal to PIA if the individual first receives benefits at their full retirement age (FRA). For every year before their FRA age the individual first draws benefits, the benefits are reduced by 5.0% to 6.7% depending on their FRA. For every year after FRA up until age 70 that benefit receipt is delayed, benefits increase by 8% for those with an FRA of 66 or 67.[3]

Finally, because of the Social Security earnings test, the net-of-tax benefits ss_t received by an individual also depends on his/her labor income. For example, if a beneficiary younger than their FRA earns more labor income than a “test” threshold,

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[2] See formula (29) in French (2003) for the relationship between PIA and AIME.

[3] See Tables 1 and 2 in Knoll and Olsen (2014) for more details. Other useful resources can be found at https://www.ssa.gov/benefits/retirement/planner/agereduction.html and https://www.ssa.gov/benefits/retirement/planner/delayret.html.

benefits are temporarily withheld at a 50% rate until all benefits have been taxed away. (A less strict earnings test applies in the year a person reaches their FRA. Once a person reaches their FRA, they can earn as much as they want without impacting their benefits.) Moreover, the earnings test tax on benefits is in addition to federal and state income and payroll taxes. Therefore, the marginal tax rate an individual faces is the sum of federal, state, and payroll marginal tax rates, plus 50%. The incentive to draw benefits by a person's FRA in combination with the Social Security earnings test for Social Security beneficiaries is a major disincentive for work after FRA.[4]

Like the Social Security benefits ss_t pension benefits pb_t depend on an individual's work history. Moreover, pension wealth is generally illiquid until the early retirement age, as are Social Security benefits. However, pensions are different from the Social Security in their age-specific incentives to leave the labor force. For example, defined benefit pension plans are typically structured in a way that encourages a worker to remain at a firm until the early retirement age and to leave the firm no later than the normal retirement age, which is usually 62 or 65. Following French (2005), we model pension benefits pb_t as a regressive function of $AIME_t$ the details of which can be found in Appendix C of French (2003).

For empirical estimation, we assume the within-period utility function is

$$U(C_t, H_t, M_t) = \frac{1}{1-v}\left[C_t^{\gamma}(L - H_t - \theta_p P_t - \phi I_{M_{t=bad}})^{1-\gamma}\right]^{1-v}$$

[4] It is important to note that any month's benefits are partially or fully withheld because of the earnings test will be credited back once the person reaches their FRA, which results in higher benefits. More information are available at https://www.ssa.gov/benefits/retirement/planner/whileworking.html and https://www.ssa.gov/policy/docs/program-explainers/retirement-earnings-test.html.

Where L is the time endowment per period/year, P_t is a work indicator which equals one if $H_t > 0$ and zero if $H_t = 0$, and $I_{M_{t=bad}}$ is an indicator that equals one if the individual is in a bad health status at age t and zero otherwise. Accordingly, θ_p measures the fixed cost of working in hours worked per year, and ϕ measures the sick time (or leisure lost to bad health) per year.

With $L - H_t - \theta_p P_t - \phi I_{M_{t=bad}}$ being the effective amount of leisure, the function assumes individuals value both consumption and leisure, with the weights of consumption and leisure given by γ and $1-\gamma$, respectively. Moreover, individuals' degree of risk aversion is measured by υ.

Finally, we assume the bequest function is given by

$$b(A_t) = \theta_B \frac{(A_t + K)^{(1-\nu)\gamma}}{1-\nu}$$

Where θ_B is the weight of bequests, and K is the curvature of the bequest function. If $K = 0$, there is infinite disutility of leaving nonpositive bequests. If $K > 0$, the utility of a zero bequest is finite.

This completes our description of the model, which is too complicated to admit a closed-form solution. Given a set of parameters and the exogeneous processes of mortality, health, and wages calibrated in the next section, we can solve the model numerically through discretization and backward induction. With the solution, we could simulate the life-cycle work and savings decisions of a large number of individuals and use them to generate the average profiles of labor supply and wealth over the life cycle. We can then choose the set of parameters where the simulated profiles match the corresponding data profiles the best. We solve the model and calibrate the parameters separately for each race.

Data

Our main data come from the Panel Study of Income Dynamics (PSID), the longest running longitudinal household survey in the world. The PSID began in 1968 with two independent samples of more than 18,000 individuals living in 5,000 families in the United States: a cross-sectional national sample known as the SRC (Survey Research Center) sample, and a national sample of low-income families known as the SEO (Survey of Economic Opportunities) sample. Information on these individuals and their descendants has been collected continuously (annually until 1997 and biennially thereafter), including data covering employment, income, wealth, expenditures, health, marriage, childbearing, child development, philanthropy, education, and numerous other topics.

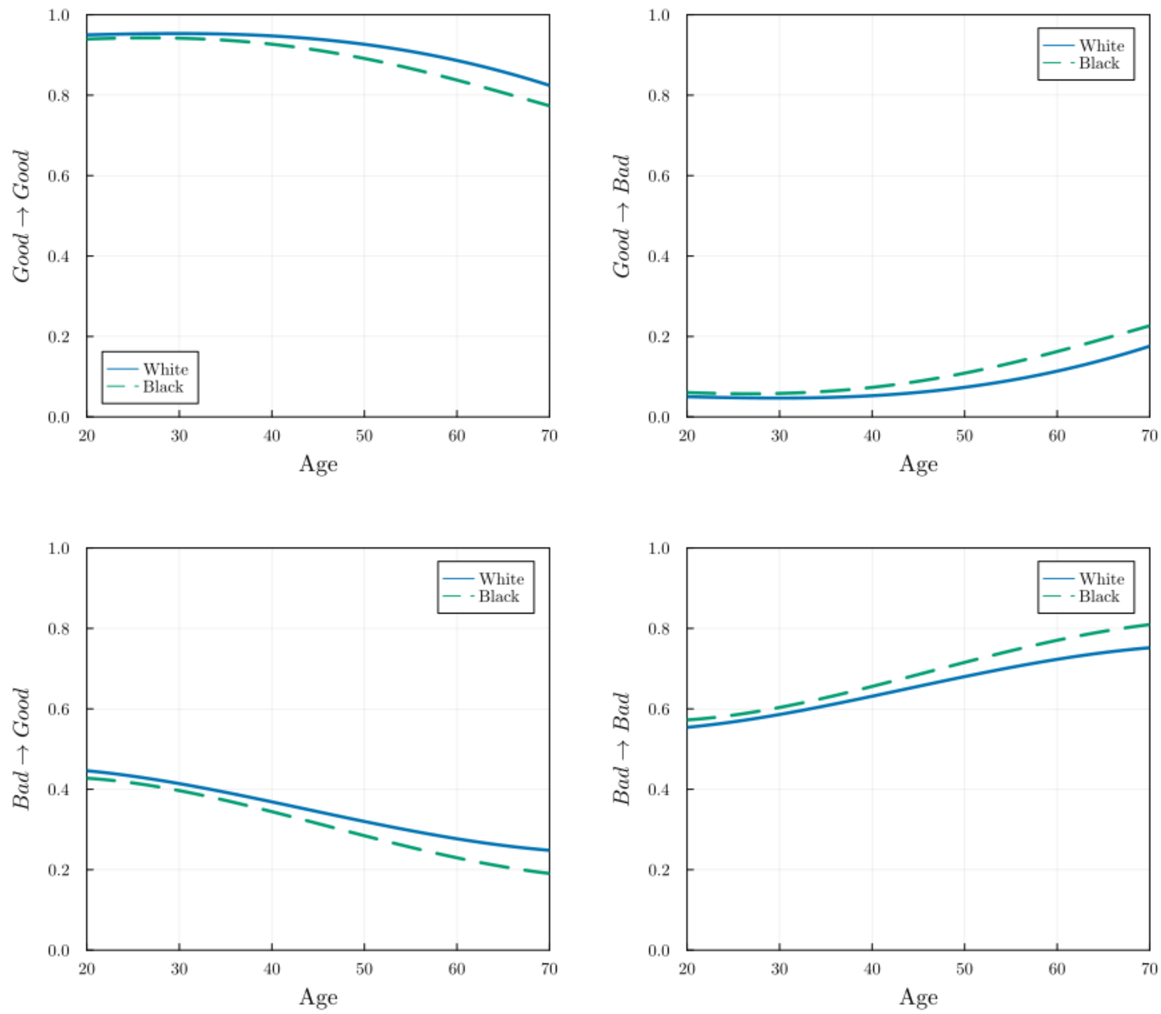
We use data from the SRC sample between 1968 and 2019. Except for wealth, which is measured at the household level, most of the variables are about the household head. Historically, PSID has used the term Head to refer to the husband in a heterosexual married couple and to a single adult of either sex. Starting in 2017, the term Head has been replaced by another term called the “Reference Person.”

The PSID has only one measure of health that is asked during all years of the panel. It is the self-reported response to “Do you have any physical or nervous condition that limits the type of work or the amount of work that you can do?” We take the response to this variable as a noisy measure of the individual’s true health status (M_t), and estimate the relationship between this noisy measure and the true health status following French (2001). We then use the changes in each individual's responses over time to calculate the health transition probability $prob(M_{t+1} | M_t, t)$.

Figure 1 reports the results.[5] Relative to their white counterparts, Blacks in a good health status are more likely to transit into bad health status (top panels), and Blacks in a bad health status are less likely to transit into a good health status (bottom panels). In both cases, the differences are larger at older ages. Other things equal, this would result in a larger fraction of Blacks with a bad health status.

[5] To limit the influence of noise resulting from the relatively small sample sizes, especially for Blacks, most of the profiles reported in this paper are smoothed, with ages restricted to between 20 and 70.

Figure 1: Health dynamics over the life cycle

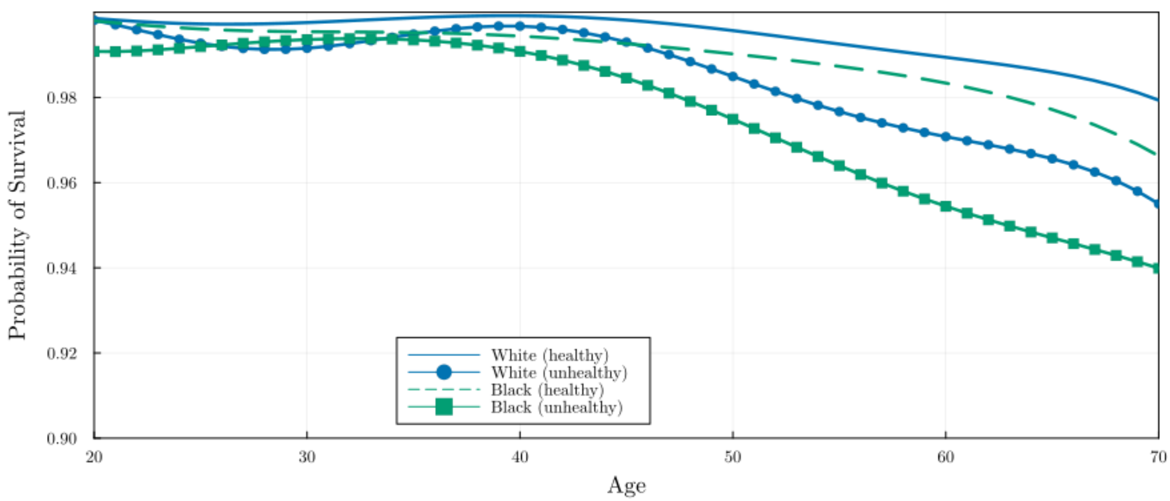


Notes: The vertical axis reports the probability that an individual in one health status (good or bad) at one age ends up in another health status one year later.

In addition to reducing the amount of time available for work, bad health could also raise the mortality rate and reduce an individual's productivity and thus wages. Because the PSID has poor information on mortality statistics, we combine the PSID data with mortality statistics from the National Center for Health Statistics (NCHS). Figure 2 reports the resulting survival probability by age and health status ($s(M_t, t+1)$)

for each of the two races. Unsurprisingly, unhealthy individuals of all ages are less likely to survive to the next age than their healthy counterparts, which is true for both Blacks and whites. Conditional on age and health status, Blacks are less likely to survive to the next age than their white counterparts. Other things equal, the lower survival rates would reduce the incentives for Blacks to work and save.

Figure 2: Survival rates by age, race, and health status



To construct the life-cycle profiles of wages, labor supply, and wealth that are representative of the typical worker of each race, we regress each of these variables on individual fixed effects, measures of family size, unemployment rate, and interactions between the health indicator and dummies for each age. We then use the coefficients for the interactions between age and health status to calculate the life-cycle profiles of wages, labor supply, and wealth for each race.[6]

[6] Following French (2005), we do not interact age dummies with the health indicator in the wealth regressions, so that the wealth profiles shown later are not conditional on health.

Accounting for the heterogeneities is important for our purpose. For example, figure 3 plots the average family size by race over the lifecycle. Relative to their white counterparts, Blacks tend to live in larger families after age 40. This could reduce their ability to save for retirement if they support more family members before retirement. On the other hand, this could also reduce their incentive to save for retirement if they expect to be supported by more family members after retirement.

Figure 3: Family size profile by race (smooth)

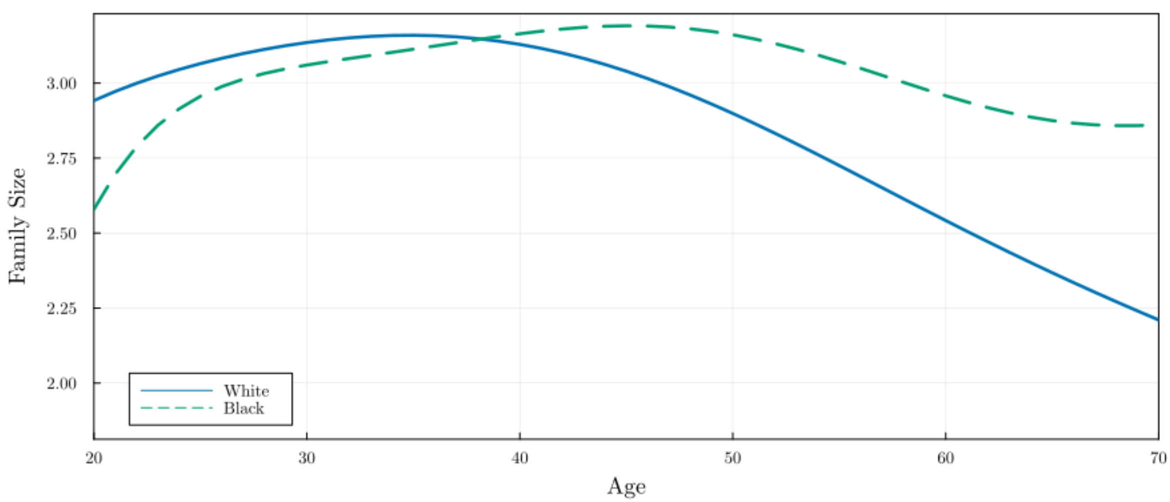
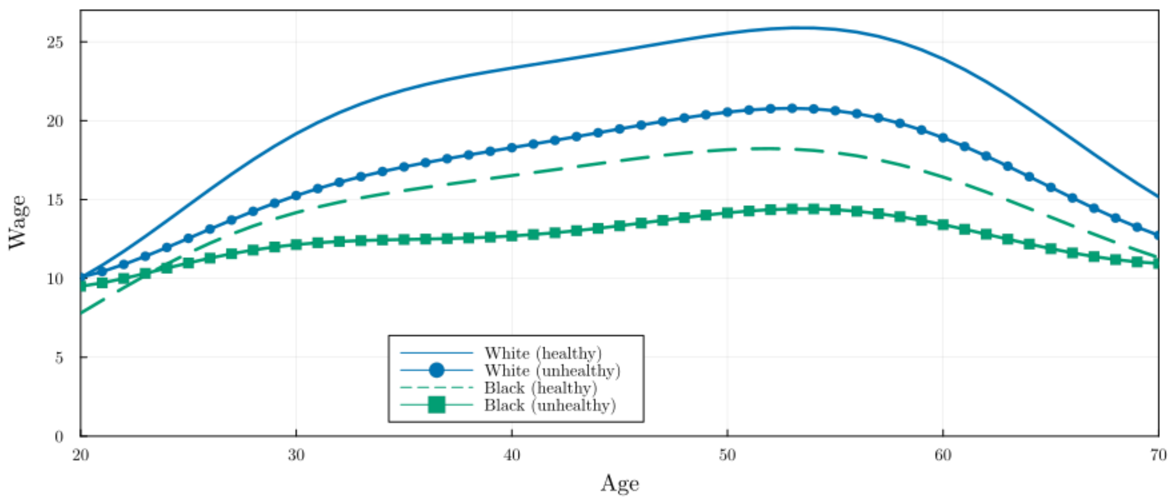


Figure 4 plots the smoothed wage profiles by age and health status ($W(M_t, t)$) for each of the two races. Wages are computed as annual earnings divided by hours and are dropped if wages are less than $3 per hour or greater than $100 per hour in 1987 dollars. Hours are counted as zero if measured hours are below 300 hours worked per year.

Figure 4: Hourly wages by health status and race (smooth)



Conditional on age and race, the average wage is higher among healthy individuals than unhealthy ones. Conditional on age and health status, Blacks earn significantly less than whites. In fact, the average wage among healthy Blacks is even lower than the average wage among unhealthy whites of the same age.

Figure 5 plots the labor force participation rate by age, health status, and race. Conditional on age, the participation rate among healthy Blacks is almost the same as the participation rate among healthy whites, while the participation rate among unhealthy Blacks is significantly lower than the participation rate among unhealthy whites. This suggests that health plays a significant role in accounting for the Black-white gap in labor force participation and retirement, which is the opposite of labor force participation for the elderly.

Figure 5: Labor force participation by health status and race (smooth)

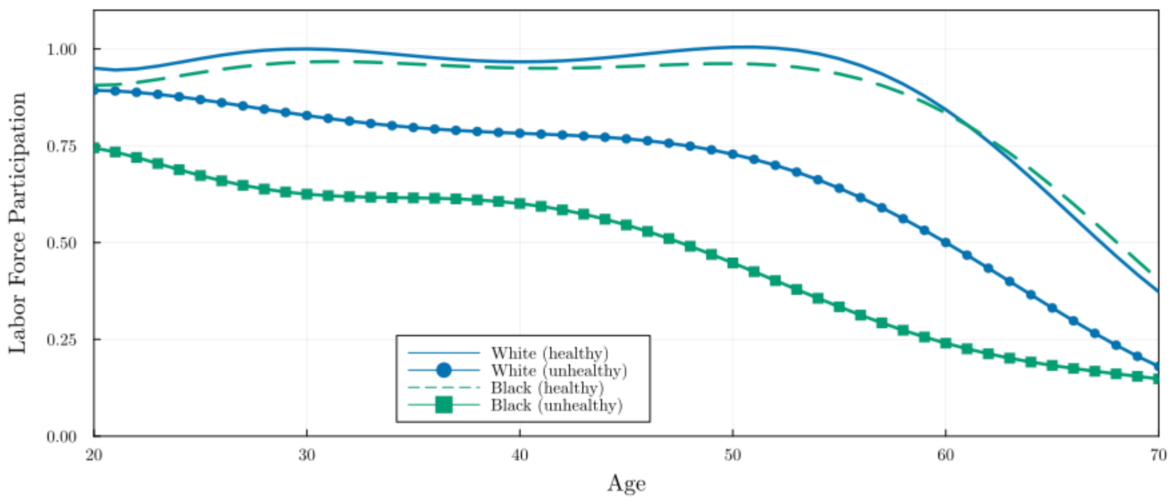


Figure 6 plots the annual work hours (conditional on working) by age, health status, and race. Different from the participation profiles, conditional on working, healthy Blacks tend to work fewer hours than healthy whites of the same age. Unhealthy Blacks also work fewer hours than unhealthy whites of the same age.

Figure 6: Annual hours worked by health status and race (smooth)

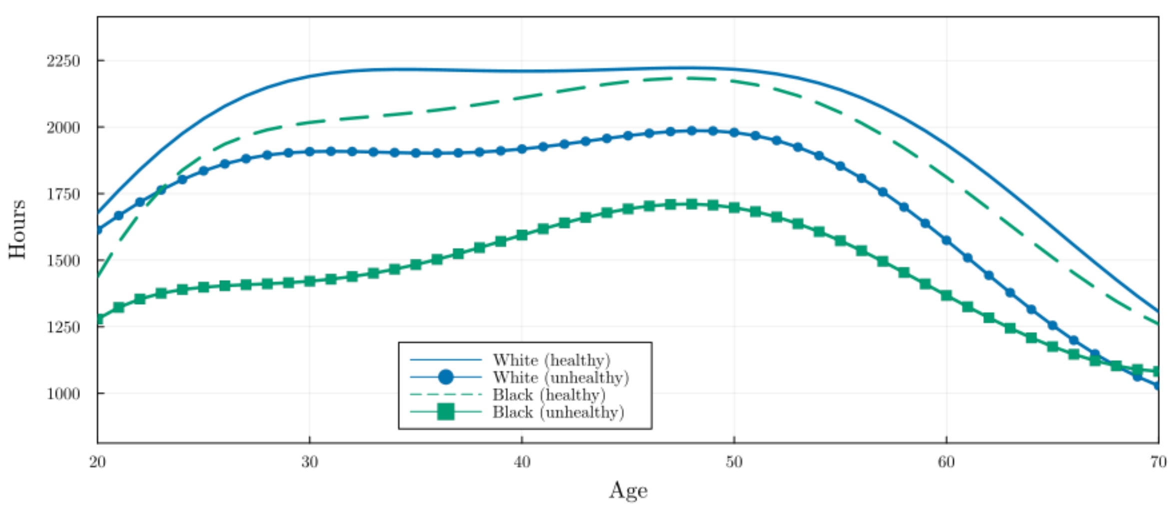
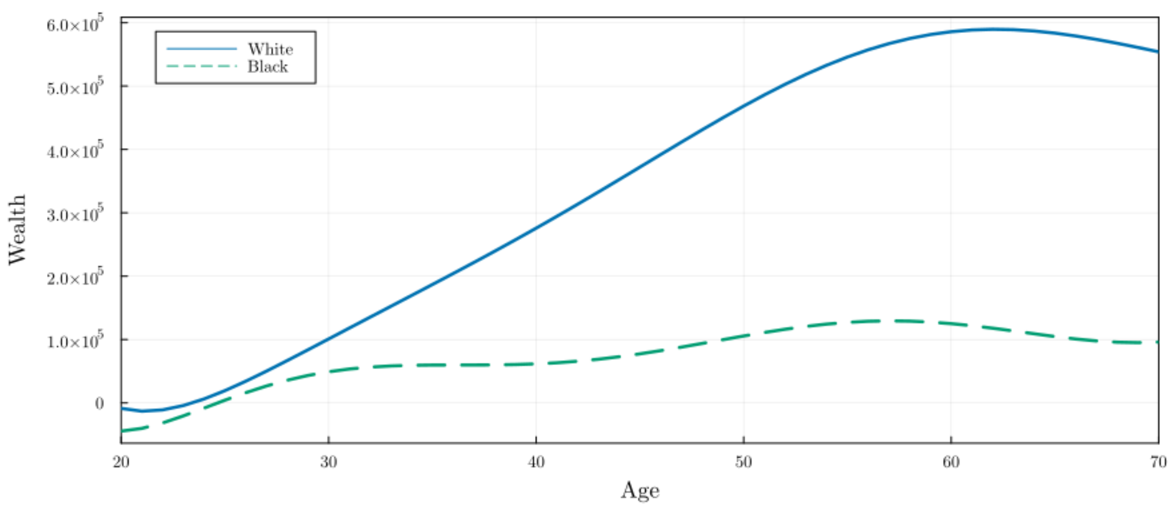


Figure 7 plots wealth profiles by race. The wealth measure in the PSID is comprehensive. It includes real estate, the value of a farm or business, vehicles, stocks, mutual funds, IRAs, Keoghs, liquid assets, bonds, other assets, and investment trusts less mortgages and other debts. It does not include pension or Social Security wealth. To limit the effect of outliers and the inherited wealth not considered in this paper, we exclude observations with more than $1,000,000 in assets. We also exclude observations where either an entering family member brought assets into the household, or an exiting family member took assets out of the household.

Figure 7: Wealth profile by race (smooth)



At age 25, the average wealth is about zero among both Blacks and whites. After that, a significant gap emerges and continues to increase with age. By age 62, the average wealth is $589,524 for whites but only $117,862 for Blacks. The $471,662 wealth gap is our main object of interest in this paper.

Calibration and counterfactuals

Table 1 reports the calibrated parameters by race. For whites, we start with the values estimated by French (2005) and adjust them so that the model fits the life-cycle profiles of labor supply and wealth in the data. Because we use more years of data, our data profiles are different from those in French (2005). As a result, our calibrated parameter values are mostly similar to but not the same as those in French (2005). For Blacks, we start with the calibrated values for whites, and change them one by one to see which ones are more responsible for the Black-white gap in retirement age and wealth. We find three parameters are most important: the interest rate, the degree of (relative) risk aversion, and the fixed cost of working. To highlight their effects, we set all other parameters to be the same between Blacks and whites, and only allow the three parameters to vary by race.

Table 1: Calibrated parameters

Parameter description	Notation	White	Black
Discount factor	β	0.992	
Interest rate	r	0.04	0.01
Risk aversion	ν	3.8	2.6
Consumption weight	γ	0.578	
Fixed cost of working	θ_P	500	1000
Leisure lost to bad health	ϕ	318	
Leisure endowment	L	4466	
Bequest weight	θ_B	0.3	
Bequest curvature	K	500,000	
Wage persistence	ρ	0.977	
Wage standard deviation	σ_η	0.0141	

Figure 8 shows the model fit for the life-cycle profile of wealth among whites. Figure 9 shows the corresponding profiles for Blacks. While not perfect, the model does a good job in fitting both profiles. At age 62, the average wealth among whites is $554,644 in the model, slightly smaller than the value of $589,524 in the data. At the same age, the average wealth among Blacks is $130,347 in the model, slightly larger than the value of $117,862 in the data. As a result, the Black-white wealth gap at age 62 is $424,297 in the model, slightly smaller than the value of $471,662 in the data.

Figure 8: Model fit — wealth among whites

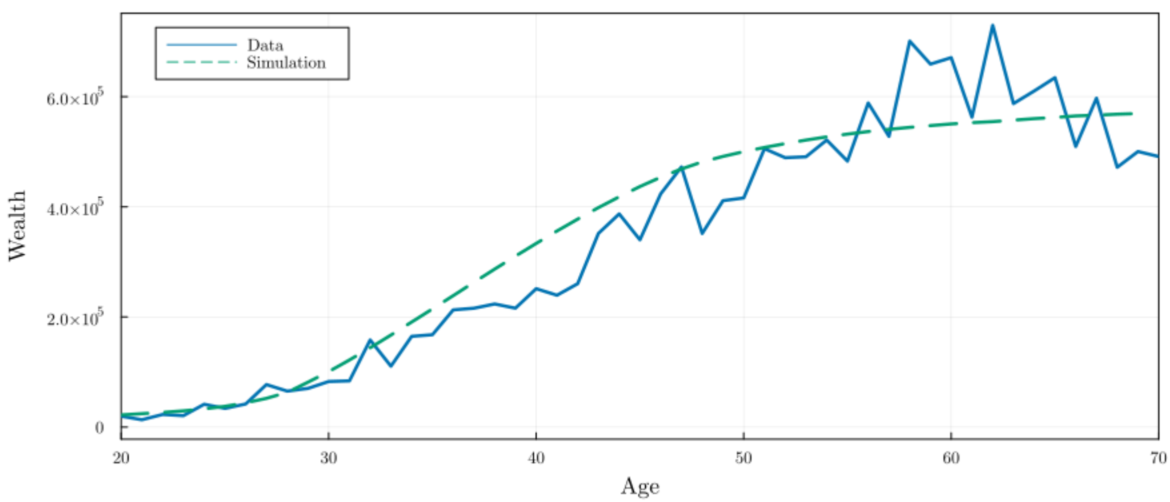
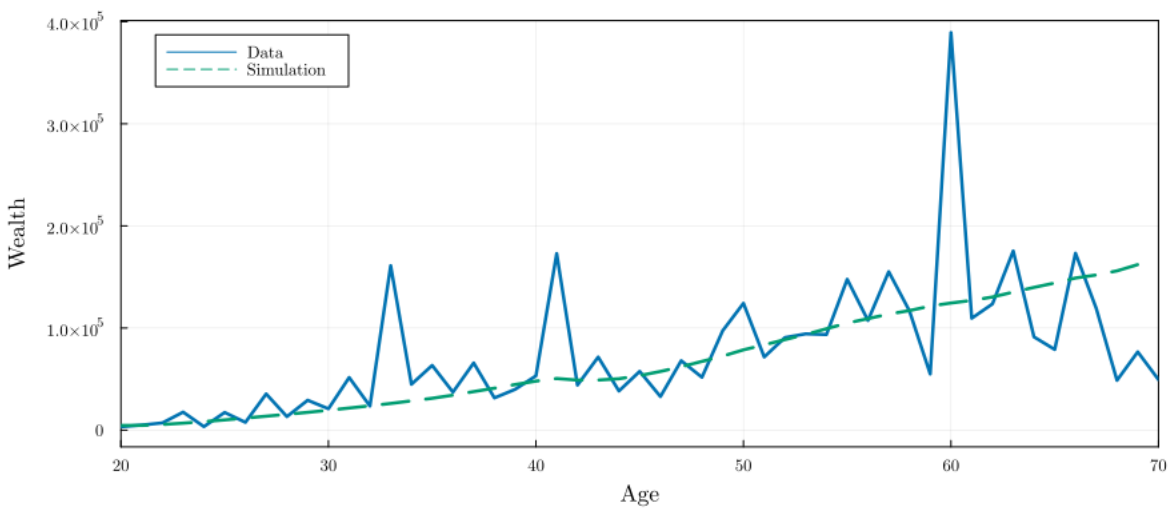


Figure 9: Model fit — wealth among Blacks



The model also does a good job in fitting the Black-white gap in the labor force participation rate. In the data, the difference in the labor force participation rate at age

62 is 9.5 percentage points in favor of whites. In other words, 9.5% more Blacks are retired at age 62. In the model, the gap is 9.8%, slightly larger than the data.

To quantify the contributions of various factors to the Black-white gaps in retirement age and wealth, we use the calibrated model to conduct a series of counterfactual experiments. We take the model predictions for whites as given, change one thing at a time for Blacks, and report the resulting Black-white gaps in the retirement rate and wealth at age 62. The results are reported in Table 2.

Table 2: Black-white gaps in labor supply and wealth at age 62

	% Working	**Wealth ($)**
Data	9.5	471,662
Model: Baseline	9.8	424,297
C1: Health and mortality	7.8	406,845
C2: Wages	8.9	260,568
C3: Risk aversion	8.3	365,089
C4: Interest rate	9.4	404,285
C5: Fixed cost	7.1	393,038

First, we replace the health and mortality profiles for Blacks with the corresponding profiles for whites (C1 in table 2). By holding other exogenous profiles, e.g., wages, and parameters as they are in the baseline, this experiment is informative of the effects of health and mortality on the Black-white gaps in the retirement age and wealth. Note, however, that this may not capture the total effect of health. For example, the effect of health on wages is assumed to be the same as the baseline. In a more general model where wages are determined endogenously, changes in health and mortality could also affect the wage profiles. Relative to the baseline, we find this change would reduce the Black-white gap in the labor force participation rate at age 62 by 2 percentage points, and reduce the Black-white wealth gap at age 62 by $17,452 (4.1%).

Second, we replace the wage profiles for Blacks with the corresponding profiles for whites (C2 in Table 2). Relative to the baseline, we find this change would reduce the Black-white gap in the labor force participation rate at age 62 by 0.9 percentage points, and reduce the Black-white wealth gap at age 62 by $163,729 (38.5%).

Third, we assume Blacks have the same degree of risk aversion as whites (C3 in Table 2). Relative to the baseline, we find this change would reduce the Black-white gap in the labor force participation rate at age 62 by 1.5 percentage points, and reduce the Black-white wealth gap at age 62 by $59,208 (14%).

Fourth, we assume Blacks face the same interest rate as whites (C4 in Table 2). Relative to the baseline, we find this change would reduce the Black-white gap in the labor force participation rate at age 62 by 0.4 percentage points, and reduce the Black-white wealth gap at age 62 by $20,012 (4.7%).

Finally, we assume Blacks face the same fixed cost of working as whites (C5 in Table 2). Relative to the baseline, we find this change would reduce the Black-white gap in the labor force participation rate at age 62 by 2.7 percentage points, and reduce the Black-white wealth gap at age 62 by $31,259 (7.4%).

In sum, the experiments suggest that multiple factors are responsible for the Black-white gap in retirement preparedness and outcomes. Among them, the racial differences in health and mortality and the fixed cost of working are the most significant contributors to the Black-white gap in the probability of retirement by age 62, and the racial differences in wages and risk aversion are the most significant contributors to the Black-white gap in wealth at age 62.

Conclusion

We estimate a model of labor supply and savings over the life cycle where key parameters, including the interest rate, the degree of risk aversion and the fixed cost of working, and the stochastic processes of health, mortality, and wages are all allowed to vary by race. We then use the estimated model to run a series of counterfactual experiments to understand the racial disparities in the age and financial preparedness of retirement.

We find that, combined with worse health, the higher fixed cost of working is the most significant contributor to the lower labor force participation rate for Blacks than whites, and the Black-white wage gap is the most significant contributor to the Black-white wealth gap.

In addition to the racial differences in preferences and skills, labor market discrimination against Blacks could also contribute to their higher fixed cost of working and lower wages. This suggests that reducing the discrimination faced by Blacks in the labor market could also significantly reduce the racial disparities in retirement preparedness.

Reference

Arias, Elizabeth, Betzaida Teejada-Vera, and Farida Ahmad. 2021. “Provisional Life Eexpectancy Estimates for January through June, 2020.” National Vital Statistics System, National Center for Health Statistics, Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/data/vsrr/VSRR10-508.pdf

Bayer, Patrick, Marcus Casey, Fernando Ferreira, and Robert McMillan. 2017. “Racial and ethnic price differentials in the housing market.” *Journal of Urban Economics* 102: 91-105.

Bureau of Labor Statistics. 2022a. “Labor Force Statistics from the Current Population Survey: E-16. Unemployment rates by age, sex, race, and Hispanic or Latino ethnicity.” https://www.bls.gov/web/empsit/cpsee_e16.htm

Bureau of Labor Statistics. 2022b. “Table 3. Median usual weekly earnings of full-time wage and salary workers by age, race, Hispanic or Latino ethnicity, and sex, third quarter 2022 averages, not seasonally adjusted.” https://www.bls.gov/news.release/wkyeng.t03.htm

Census Bureau. 2020. “America’s Families and Living Arrangements: 2020.” https://www.census.gov/data/tables/2020/demo/families/cps-2020.html

Choudhury, Sharmila. 2002. “Racial and Ethnic Differences in Wealth and Asset Choices.” *Social Security Bulletin*, 64 (4). https://www.ssa.gov/policy/docs/ssb/v64n4/v64n4p1.html

French, Eric. 2001. “How severe is measurement error in health status: Evidence from the PSID.” *Mimeo.*

French, Eric. 2003. “The effects of health, wealth, and wages on labour supply and retirement behavior.” *Chicago Fed Working Paper 2000-12.*

French, Eric. 2005. “The effects of health, wealth, and wages on labour supply and retirement behavior.” *The Review of Economic Studies.* 72 (2) issue 2: 395-427.

Knoll, Melissa A. Z., and Anya Olsen. 2014. “Incentivizing Delayed Claiming of Social Security Retirement Benefits Before Reaching the Full Retirement Age.” *Social Security Bulletin*, 74 (4).

Scholz, John Karl, Ananth Seshadri, and Surachai Khitatrakun. 2006. “Are Americans saving “optimally” for retirement?” *Journal of Political Economy.* 114 (4): 607-43.

The Federal Reserve. 2020. “Report on the Economic Well-Being of U.S. Households in 2019”. https://www.federalreserve.gov/publications/2020-economic-well-being-of-us-households-in-2019-retirement.htm

Yao, Rui, Michael S. Gutter, and Sherman D. Hanna. 2005. “The financial risk tolerance of Blacks, Hispanics and Whites”. *Journal of Financial Counseling and Planning.* 16 (1).