

# **Reducing Retirement Inequality**

## **Building Wealth and Old-Age Resilience**

Edited by

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and  
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## Chapter 10

# **How Racial Differences in Housing Returns Shape Retirement Security**

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*Amir Kermani and Francis Wong*

The racial wealth gap is large and has persisted throughout US history (Derenoncourt et al. 2022; Kuhn et al. 2020), accompanied by large disparities in savings and retirement well-being. Previous research has documented how minority groups of Americans experience worse retirement-related outcomes along a number of dimensions, such as level of saving (Hou et al. 2021; Suarez et al. 2025), economic security (Lusardi and Andre 2025; Munnell et al. 2018; Zhong and Andre 2025), and retirement planning (Viceisza and Andre 2022). This chapter examines the role played by racial disparities in housing returns in shaping retirement security. Given that wealth held in the primary home comprises two-fifths of net wealth for retirement-age households,<sup>1</sup> these disparities are likely to have significant impacts on retirement security. In related work (Kermani and Wong 2021), we document how racial disparities in financial security generate large racial gaps in housing returns, exacerbating racial gaps in wealth at retirement; this arises because minority group members are more likely to lose their homes to foreclosure.

A priori, racial gaps in housing returns can arise from a number of sources. Previous work has emphasized the importance of neighborhood-specific factors (Perry et al. 2018) and racial discrimination in housing markets (Akbar et al. 2019). As well, Kermani and Wong (2021) demonstrate that the key driver of racial gaps in housing returns is minorities' higher propensity to experience distressed home sales (i.e., foreclosures and short sales). This represents a significant departure from previous thinking, because it implies that a key question for both economic research and policy design is which factors determine whether homeowners are able to retain their homes when they become financially distressed? Accordingly, this chapter focuses on the implications of these findings for retirement security.

## The Value of Home Ownership for Retirement Security

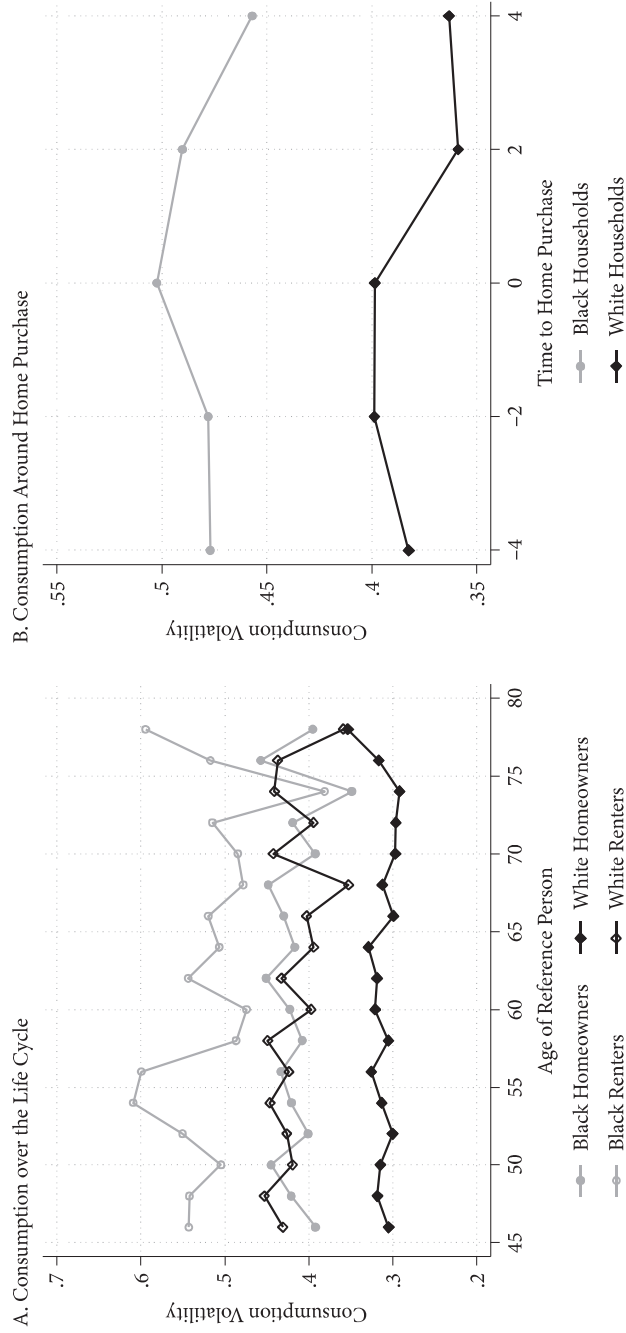
Losing a home to foreclosure, by definition, entails a household transitioning out of home ownership. Recent research has shown that the impact of foreclosures on home ownership is not only persistent over time, but also entails a wide range of adverse consequences for households. Diamond et al. (2020) reported that experiencing a foreclosure resulted in a range of adverse outcomes for homeowners, including elevated rates of financial distress and divorce, lower subsequent rates of home ownership, and moves to lower-quality neighborhoods. This complements other studies showing that home ownership is highly complementary to retirement security (e.g., Lusardi and Mitchell 2007). To evaluate the role that racial/ethnic disparities in home ownership affect measures of retirement security, we make use of both survey and administrative data in what follows.

### Evidence from survey data

We begin by analyzing the Panel Study of Income Dynamics (PSID), focusing on a panel of households in the 1999–2017 waves. This allows us to measure home ownership status, race, and food consumption. To illustrate the relationship between home ownership and retirement security, we analyze the volatility of consumption for older households, measured as the absolute value of the symmetric percent change in consumption between successive waves of the PSID. Specifically, we define *consumption volatility* as  $\frac{|C_t - C_{t-1}|}{C_t + C_{t-1}}$ . This measure of retirement security has the advantage of being closely related to household well-being. Large fluctuations in food expenditures can be interpreted as a measure of financial instability.

Figure 10.1 plots this measure of consumption volatility by race and home ownership status over the life cycle. Consumption volatility in Panel A appears to be roughly constant later in the life cycle; that is, it does not appear to be significantly different for households headed by persons in their 40s, relative to those in their 70s. We view this as a validation of our measure of retirement security. One potential issue with interpreting food consumption volatility as a measure of retirement security is that food expenditures may naturally adjust as households retire, reflecting factors like lower opportunity costs of home production and complementarities between work and food expenditure (Hurst 2009). The finding that average levels of consumption volatility are stable suggests that this outcome can be used to measure differences across groups in economic stability without being substantially contaminated by differences in retirement behavior.

There are large racial gaps in consumption volatility, even conditional on home ownership status. Panel A of Figure 10.1 reveals that Black



**Figure 10.1** Food consumption volatility by race and homeownership

*Notes:* This figure plots consumption volatility measured by food consumption, comparing absolute changes in food consumption between successive survey waves, normalized by average food consumption. Panel A plots average levels by age, race, and tenure. Panel B plots average levels by year relative to home purchase (where home purchase occurs between year -2 and 0).

*Source:* Authors' computations from the 1999–2017 waves of the PSID. N=59,219 household-years.

homeowners exhibit similar levels of consumption volatility as do White renters. That is, the cross-racial gaps (conditional on tenure) are about the same size as the cross-tenure gaps (conditional on race). This is the first indication of what will be a consistent theme in our findings: a number of economic factors upstream to the home ownership decision appear to greatly impact racial gaps in economic security.

Homeowners tend to experience significantly less consumption volatility than renters. Thus, Panel A shows that consumption volatility is about one-third higher for White renters compared to White homeowners, throughout the later part of their life cycles. Of course, this pattern cannot be interpreted as causal, given large differences between homeowners and renters across a wide variety of economic outcomes. Nonetheless, to the extent that the observed patterns are produced by some combination of causal benefits of home ownership and selection into home ownership, it appears that there is ample scope for home ownership to have stabilizing benefits for retirement-age households' well-being.

To further probe the scope for home ownership's causal impact on retirement security, we analyze changes in consumption volatility around a transition to home ownership. Panel B plots consumption volatility around the time when a household transitions into home ownership. Transitions into home ownership are followed by declines in consumption volatility, with especially sharp declines for White homeowners. Of course, transitions to home ownership are not random, and constraints imposed by mortgage underwriting standards generally mean that home purchases occur at a time when a household's finances are reasonably stable. Nevertheless, the sharp trend break in consumption volatility for White homeowners further suggests scope for causal impacts.

By contrast, Black households exhibit no reduction in consumption volatility on transitioning to home ownership. Minority homeowners tend to have higher levels of income volatility and illiquidity (Kermani and Wong 2021), suggesting that the consumption commitments represented by housing may have a particularly large impact on food consumption volatility for Black households. Relatedly, buying a home tends to require expenditures for home improvements (Best and Kleven 2018). Together, these findings point to the possibility that less favorable financial positions of Black households inhibit the extent to which home ownership can support their financial security.

### **Evidence from administrative data**

Racial differences in housing returns are likely to impact retirement security in a number of different ways. The extent to which a household can benefit from stable housing costs (or even very low housing costs for homeowners



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that have paid off their mortgage) can enhance day-to-day financial security, though neighborhood quality is also an important component of well-being for the elderly (Chetty et al. 2016; Finkelstein et al. 2021). To examine the extent to which racial differences in housing returns inhibit households' ability to move to a location that supports their well-being, we examine what happens when older households choose to leave their current neighborhoods, often to downsize to a smaller property. Accordingly, we test whether increased levels of wealth generated by higher housing returns influence the location decisions of older homeowners. To this end, we turn to three data sources assembled from administrative data. The first consists of address histories assembled by Infogroup, a private firm that collects address information on US residents. This information is sourced from a variety of sources, such as property transfers, voter registration records, and telephone directories. Infogroup also estimates the age of a given homeowner, which allows us to restrict our sample to homeowners estimated to be age 55+. The second data source is comprised of property records assembled by ATTOM, also a private data provider which sources property records from local governments that record the transfer of real estate. We rely on the dataset constructed in Kermani and Wong (2021), which includes a linkage to our third data source: mortgage origination records from the Home Mortgage Disclosure Act (HMDA). The HMDA data provide self-reported race and ethnicity for homeowners.<sup>2</sup>

Together, these data sources offer a number of advantages over surveys. Most importantly, they enable us to measure realized housing returns. Previous studies using self-reported measures of housing wealth collected from surveys greatly underestimate racial gaps in housing returns, because such measures do not capture foreclosures (Kermani and Wong 2021). In addition, we have a much larger sample size than is available in survey data, and we can measure outcomes with significantly less noise than is present in surveys.

Two measures of realized housing returns are of interest. The first measure is defined as the *annual realized rate of return*. We apply an algorithm for identifying repeat sales of properties in the property records, allowing us to observe the purchase and sale prices homeowners along with their race and ethnicity. This permits us to define an annualized rate of return for each homeowner, defined by dividing the sale price by the purchase price and annualizing by the length of time between the two sales (Kermani and Wong 2021). The primary advantage of analyzing realized housing returns is that it allows us to form a homeowner-specific measure of returns. Nevertheless, this measure has two limitations. First, measuring both purchases and sales in the data requires observing both purchases and sales, which limits our sample size. Second, the impact of neighborhood-level house price appreciation is of independent interest, particularly given

that such appreciation may have differential impacts by race and ethnicity. Accordingly, we analyze a second measure of housing returns based on *neighborhood-level house price growth*, which relies on tract-level house price indices created by the Federal Housing Finance Administration (Bogin et al. 2019). These allow us to construct analogous measures of annualized housing returns, computed as the annualized increase in house prices between the year in which Infogroup estimates homeowners moved to their residences, and the last year that homeowners were listed as living in a given residence.

The ideal experiment we would like to approximate would be to randomly assign migrating homeowners different levels of housing returns, which would allow us to estimate the causal impact of housing returns on neighborhood quality by measuring the difference in quality between a homeowner’s current neighborhood and that to which the homeowner migrates. In practice, housing returns are unlikely to be randomly assigned, particularly given that the decision to sell a home may be influenced by factors like local sale prices and labor market conditions. Let  $\Delta Y_i$  denote the difference in quality between the neighborhood from which a homeowner departs and that to which they arrive. To attempt to isolate the effects of housing returns, we estimate regressions of the following form:

$$\Delta Y_i = \sum_{r \in \{Black, Hispanic, white\}} (\beta^r \cdot ROR_i \cdot 1[r(i) = r]) + \mu_{c(i),y_0(i),y_1(i),x(i)} + \varepsilon_i$$

In the above equation,  $ROR_i$  denotes a measure of annual nominal returns realized by homeowner  $i$  of race/ethnicity  $r(i)$ , and  $\mu$  denotes a vector of fixed effects that interact  $i$ ’s commuting zones (CZ), the year they purchased their homes, the year they sold their homes, and deciles of the purchase price of their homes. Conceptually, we compare two homeowners who purchased and sold their homes in the same years and location, at similar prices, but who subsequently realized different levels of housing returns. Interacting realized returns with race/ethnicity indicators allows us to estimate  $\beta^r$ , the effect of a one percentage point increase in annual housing returns by race/ethnicity  $r$  on the change in neighborhood quality upon migration.

We also analyze a variety of different measures of neighborhood quality closely related to retirement security. First, we define an indicator that a household remained a homeowner in the new location. In our sample, about 40 percent of households are homeowners in their first residence after moving. Second, we define an indicator that a household’s next location is outside of its current commuting zone (46 percent of households).

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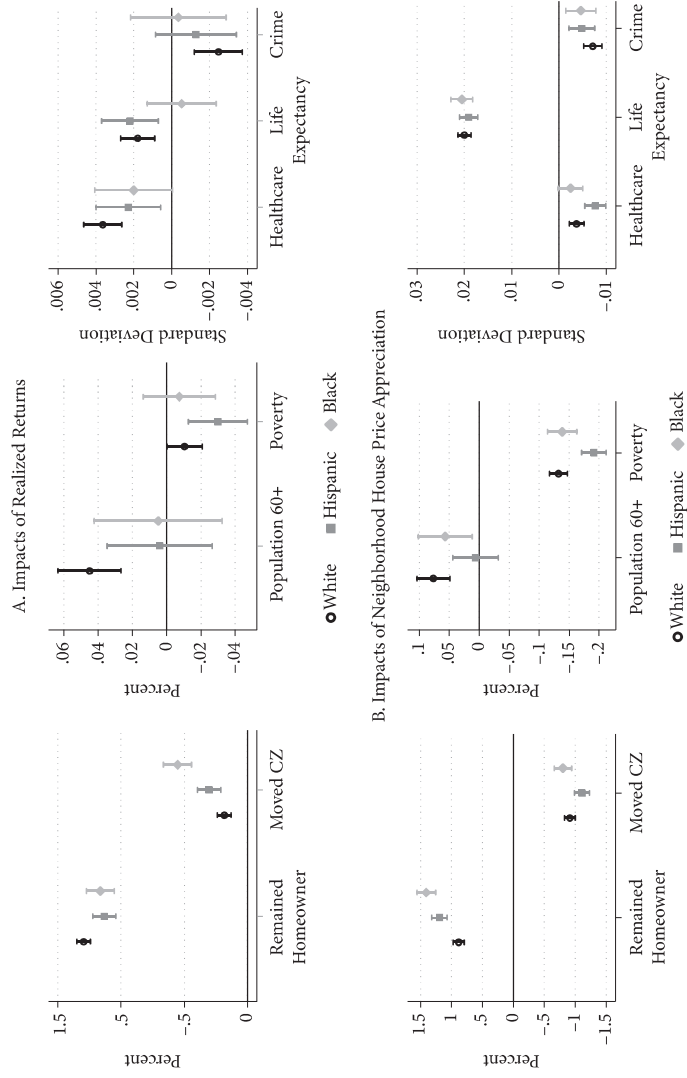
Our second group of outcomes measures characteristics of neighborhoods likely to be desirable to older households. We use tract-level data from the US Census to construct the percent of individuals in a tract that are age 60+. In our sample, the average percentage age 60+ in the departure (arrival) tract is 23.2 percent (24.4 percent). Older households tend to move to older neighborhoods. In addition, we analyze the percent of households in a given tract living below the poverty line in the 2006–2010 American Community Survey data (from Chetty et al. 2016). In our sample, the average poverty rate in the departure (arrival) tract is 8.6 percent (9.6 percent).

Lastly, we analyze measures of neighborhood quality that capture the impacts on household health and well-being. We analyze a measure of the quality of preventive care, the Dartmouth Atlas Ambulatory Care Measures, converted into a county-level z-score (Chetty et al. 2016). In addition, we analyze estimates of life expectancy place effects at the commuting zone level (Finkelstein et al. 2021). Both measures are measured using Medicare data, meaning that they are particularly relevant for the health-related outcomes of the retirement-age population. Lastly, we analyze the county-level total crime rate (Chetty et al. 2016).

Figure 10.2 presents estimates of  $\beta^r$  from our main estimating equation. In Panel A, we present estimates where  $ROR_i$  is defined using realized returns, and Panel B presents estimates where  $ROR_i$  is defined using tract-level returns. For the latter definition, we compute tract-level returns annualizing over the period of time the household lived in that property, measured in the address history data.

Homeowners who experience higher housing returns are more likely to remain homeowners after moving. For both measures of housing returns, and across racial groups, a one percentage point increase in annual housing returns results in an increase in subsequent home ownership rates of slightly more than 1 percentage point (about 2.5 percent). Interestingly, realized housing returns and neighborhood housing returns have differing impacts on the likelihood that a homeowner moves CZs. While realized housing returns result in a higher likelihood of moving CZs, neighborhood housing returns result in lower likelihoods. One potential explanation for this is that higher local house price growth means that staying in a locale is more appealing, whereas conditional on local growth, higher returns give homeowners more means to relocate to their new location of choice among all locations. This interpretation is supported by the higher impacts of realized returns among Black and Hispanic homeowners, for whom wealth constraints may be more binding.

Higher returns lead homeowners to move to older and lower-poverty neighborhoods; however, these effects are not evenly distributed. While a one percentage point increase in annual realized housing returns leads



**Figure 10.2** Housing returns and neighborhood quality

*Notes:* This figure plots estimates of the relationship between changes in neighborhood quality and annual housing returns for homeowners who sell their homes to move to a new location. In Panel A, the regressors of interest are race/ethnicity indicators interacted with annual realized housing returns (N= 325,510 homeowner-moves). In Panel B, the regressors of interest are race/ethnicity indicators interacted with tract-level annual house price growth (N= 994,466 homeowner-moves).

*Source:* Authors' computations from merged property and address history data.

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White homeowners to move to neighborhoods where the share of the population aged 60+ is 0.04 percentage points higher, there are no statistically or economically significant effects for Black or Hispanic homeowners (although the estimate when analyzing neighborhood-level house price appreciation is about 0.05 percentage points for Black homeowners). The impacts of returns on neighborhood poverty rates are substantially higher for Hispanic homeowners than for Black or Hispanic homeowners, although these differences are not statistically significant. These results imply that housing returns have a strong influence on the quality of neighborhoods that homeowners live in, after moving.

Higher realized returns lead homeowners to move to neighborhoods with relatively higher quality of life; however, these effects tend to be more modest for minorities. A one percentage point increase in realized housing returns leads White homeowners to choose counties where the quality of preventive care is nearly 0.004 standard deviations higher. This increase is only slightly higher than 0.002 standard deviations for Hispanic and Black homeowners. Similarly, higher realized housing returns lead White and Hispanic homeowners to move to CZs where place-impacts on life expectancy are higher, but there is no significant effect for Black homeowners. Lastly, the impacts of realized returns on county-level crime rates are highest for White homeowners, with smaller estimated impacts for Black and Hispanic homeowners.

Higher neighborhood-level house price growth also generates moves to better neighborhoods, measured using the causal impacts of place on life expectancy and county-level crime. Nevertheless, this seems to generate moves to places with lower-quality healthcare. One possible explanation is that, since neighborhood-level house price growth deters homeowners from moving CZs, it also deters older homeowners from moving to locations with healthcare systems that are better suited to their needs.

### **The Role of Upstream Factors and the Costs of Foreclosures**

Having established that realized housing returns have meaningful impacts on retirement security, we now turn to unpacking the factors generating racial differences in housing returns. Racial differences in housing returns are primary attributable to racial differences in foreclosures and short sales (Kermani and Wong 2021). That is, minorities realize lower returns because they are more likely to be financially distressed, rather than because their homes appreciate at slower rates. Underneath these lower rates of return are higher rates of income instability and illiquidity among

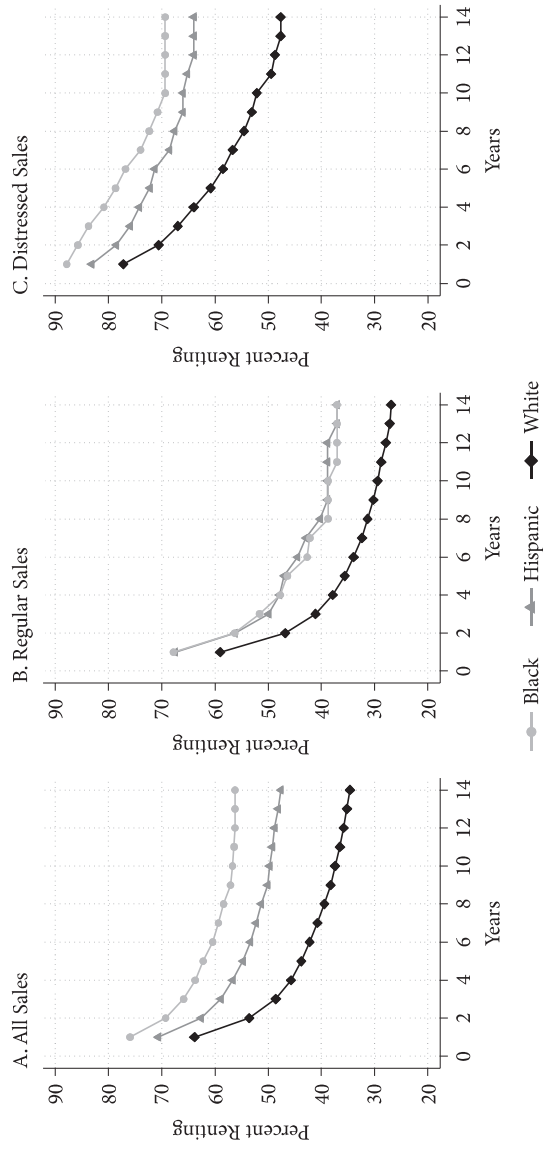
minority homeowners, echoing recent findings that racial differences in liquid wealth holdings can explain racial differences in consumption responses to income shocks (Ganong et al. 2020). This also accords with the finding that minority employment is more cyclical (Hoynes et al. 2012).

To illustrate the importance of both racial differences in foreclosures and upstream factors in generating racial differences in housing wealth, and thus retirement security, we ask the question: to what extent does experiencing a foreclosure prevent older households from becoming homeowners again? We use our sample of address histories linked to the repeat sample, and for the set of homeowners that leaves a residence, we analyze how long it takes for them to become homeowners again. Figure 10.3, Panel A indicates that, in the first year after selling a home, about 64 percent of White homeowners, and about 76 percent of Black homeowners rent their homes. After 14 years (the maximum length of our address history panel), only about 35 percent of White homeowners are still renting, whereas about 57 percent of Black homeowners still do not own their homes. The survival curve for Hispanic homeowners is between those of Black and White homeowners. Panel B restricts the sample to regular sales (i.e., non-distressed sales), which reveals that about half of the Black–White gap can be explained by higher rates of distressed sales among Black homeowners.

Panel C shows that homeowners who experience distressed sales take much longer to become homeowners again. As previously noted, foreclosures have a number of financial and non-financial impacts on households, including decreased access to credit and increased rates of divorce (Diamond et al. 2020). Moreover, Ganong and Noel (2023) estimate that foreclosures carry a consumption-equivalent loss of about \$100,000 over homeowners' lifetimes. Together, these patterns confirm that foreclosures have long-term negative impacts on retirement security, and these impacts create a disproportionate burden on minority Americans.

### **Labor market impacts**

In Kermani and Wong (2021), we demonstrate that upstream factors, like disparities in the labor market, lead minorities to be more financially distressed than non-homeowners. It is worth emphasizing that these upstream factors may be intimately tied to the characteristics of places. To demonstrate this, we turn to the property data to analyze the increase in foreclosures that occurred around the Great Recession. Following Yagan (2019), we use commuting zones as a laboratory to analyze the impact of labor market shocks on foreclosure rates by race. We compute CZ-level unemployment and foreclosure rates and the 2007–2011 increase in the CZ unemployment rate as a measure of shock intensity.



**Figure 10.3** Homeownership transitions after sale

*Notes:* This figure illustrates the speed with which homeowners who sell their homes and move to a new property become homeowners again (as opposed to renting their residence). Each panel plots Kaplan–Meier estimates of the survival curve, such that each point represents the share of households that have not yet become homeowners. Panel A plots the survival curve by race for all sales, Panel B for regular (i.e., non-distressed sales), and Panel C for distressed sales (i.e., foreclosures and short sales). The sample is derived from a 9 percent random sample of the merged property records and address histories (N=179,387 homeowner-moves).

*Source:* Authors' computations from merged property and address history data.

Panel A of Figure 10.4 splits CZs by tercile of the unemployment shock. Increases in the CZ unemployment rate are large and persistent through the late 2010s. Panel B estimates an event study, where year dummies are interacted with race/ethnicity indicators and with the CZ unemployment shock. We include fixed effects for CZ-by-race/ethnicity and year, and cluster standard errors at the CZ level. A one percentage point increase in the CZ unemployment rate increased the Black foreclosure rate in 2009 by 0.6 percentage points, the Hispanic foreclosure rate by 0.7 percentage points, and the White foreclosure rate by only 0.4 percentage points. Foreclosure rates remained elevated for all groups until about 2017, with the Hispanic–White increase being highly persistent.

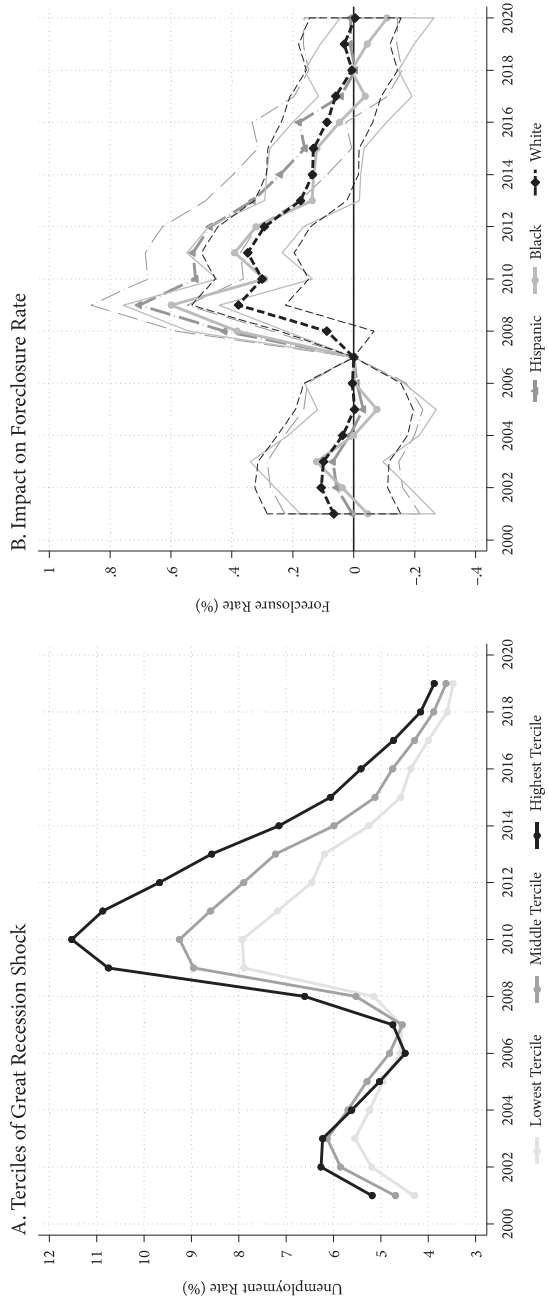
The impacts of unemployment rate shocks on foreclosures suggest the presence of two likely mutually re-enforcing mechanisms. First, as in Hoynes (2012), minorities are more exposed to cyclical contractions in unemployment. Second, as in Kermani and Wong (2021) and Ganong et al. (2020), minorities appear to be more sensitive to similarly sized income shocks due to lower liquid wealth holdings. Together, these mechanisms mean that upstream labor market disparities may have outsize impacts on minority wealth accumulation, and consequently on retirement security.

### **Policy Implications and the Limits of Social Insurance**

How should policymakers seeking to mitigate the racial and ethnic disparities in retirement security achieve that goal? A natural starting point for answering this question is to evaluate the extent to which programs seeking to promote economic security among retired households can mitigate these disparities. Foremost among these policies are social security (i.e., Old Age, Survivor's, and Disability Insurance or OASDI) and Medicare.

It appears that existing safety net programs targeting retirement-age households are unlikely to be able to greatly mitigate racial disparities in economic well-being. Figure 10.5 analyzes households in the Survey of Income and Program Participation (SIPP) surveyed between 1992 and 2017, and it plots a number of outcomes of interest over the life cycle. One test of whether the social safety net programs that kick in around retirement age can mitigate racial gaps in retirement security is to analyze how these gaps evolve as households retire. Panel A plots the percent of households that have missed a housing payment (i.e., rent or mortgage) in the last 12 months. The Black and Hispanic rates of payment delinquency show very little convergence to the White rate as households age into retirement. Indeed, as the delinquency rate converges to about 1 percent for the oldest White households, while the Black delinquency rate only falls to about 4 percent.

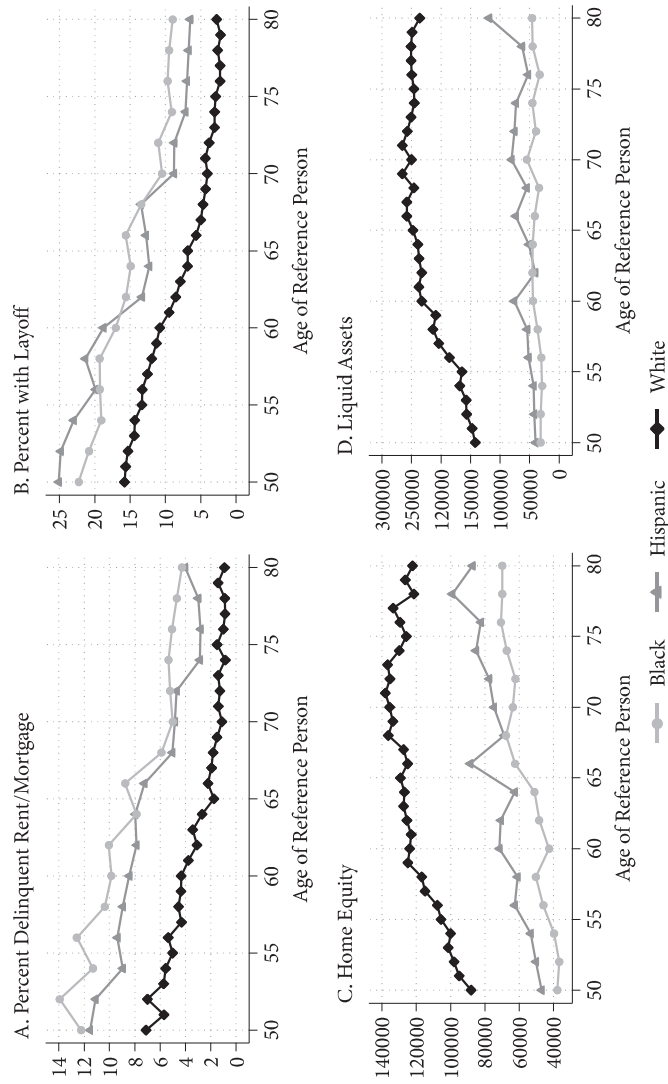




**Figure 10.4** The impacts of labor market shocks on foreclosures

*Notes:* This figure illustrates the relationship between increases in local unemployment rates and foreclosures during the Great Recession. Panel A splits commuting zones (CZs) into tertiles of the 2007–2011 increase in the CZ unemployment rate, and plots the unemployment rate within tertiles. Panel B estimates an event study, interacting year indicators with race/ethnicity indicators and the unemployment rate shock.

*Source:* Authors' computations from BLS unemployment data and property records, N=11,844 CZ-years.



**Figure 10.5** Measures of retirement security around retirement age

*Notes:* This figure plots various outcomes of interest for older households by age and race/ethnicity. The outcomes are the percent of households that have been delinquent on their housing payment (rent or mortgage) in the last 12 months (Panel A), the percent of households where at least one member experienced a layoff (Panel B), total home equity (Panel C), and total liquid assets (Panel D).

*Source:* Authors' calculations from sample of households surveyed in the Survey of Income and Program Participation (SIPP) between 1990 and 2017. N=1,137,288 household-years.

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Highly relevant to this issue are the findings of Goldsmith-Pinkham et al. (2023), who analyzed a broad range of financial outcomes in credit bureau data around the age of eligibility for Medicare. Those authors found that medical debt in collections fell substantially as a result of Medicare, yet there was little evidence that Medicare has a significant impact on most other outcomes. Although that study focused on eligibility for Medicare, the authors also found a similar lack of change in financial outcomes at age 62, when households became eligible for retirement benefits. We interpret these findings to imply that there is a fairly limited scope for programs like OASDI and Medicare to significantly reduce racial and ethnic gaps in economic well-being in retirement. This conclusion is supported by Panels B through D, which plot the percent of households experiencing a layoff in the last 12 months, home equity holdings (unconditional on home ownership), and liquid assets. The racial and ethnic gaps in these outcomes are dramatic and show no sign of closing in retirement age.

Instead, we emphasize the potential of a number of solutions that target ‘upstream’ disparities. One possibility would be to consider alternative mortgage contracts that provide more payment flexibility, reducing the extent to which labor market instability spills over onto wealth accumulation (Kermani and Wong 2021). A number of potentially impactful policies such as emergency savings accounts seek to improve the ability of households to cope with adverse financial events during working years (John et al. 2025; Kalamarides 2025). In addition, there appears to be ample scope for reducing discrimination in the labor market (Kline et al. 2022) and criminal justice system (Rose 2021). Lastly, the substantial differences in wealth holdings by race/ethnicity suggest that policies which directly target low-wealth households may be of use for mitigating racial gaps in well-being. For instance, the means-testing embedded in both Medicaid and Supplemental Security Income (SSI) benefits result in these programs mostly accruing to low-wealth households. Similarly, direct wealth transfers, such as through baby bonds, are also likely to disproportionately benefit low-wealth households (Zewde 2025).

## Conclusion

We analyze the implications of racial disparities in housing returns for retirement security, and we document that differences in housing returns directly contribute to wealth accumulation and the preservation of home ownership. We find that a one percentage point increase in annual returns raises home ownership rates following a home sale by about one percentage point. Higher housing returns also provides homeowners with more options when choosing a new neighborhood at older ages. This expanded choice set leads homeowners to move into neighborhoods with better access to healthcare,

improved prospects for longevity, and lower crime, with improvements on the order of 0.002 to 0.004 standard deviations per percentage point increase in housing returns. It is of concern, still, that these benefits tend to be larger for White households. These patterns fit into a broader set of findings that financial constraints faced by minorities undermine the benefits of home ownership as a vehicle for wealth building and for achieving economic security.

Since racial differences in housing returns are driven by racial differences in foreclosures, and these are in turn driven by racial differences in economic insecurity, efforts to mitigate racial gaps in retirement security must target upstream disparities, like those in the labor market, that lead minorities to be more vulnerable to foreclosures. Given that these differences emerge largely during peoples' working ages, it is unlikely that an expansion of social safety net programs that benefit retirement-age households, could substantially mitigate racial gaps in economic well-being, particularly to the extent that they are caused by racial differences in wealth. The persistence of racial differences in wealth highlight the potential value of policies that directly target low-wealth households (e.g., Medicaid, SSI).

## Notes

1. Authors' calculation based on sample from Panel Study of Income Dynamics.
2. The ATTOM, HMDA, and Infogroup records were merged by the Fisher Center for Real Estate and Urban Economics at UC Berkeley.

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