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Housing Fragility: Wealth Position, Portfolio Composition, and Education Among Homeowners

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Abstract

Homeownership is considered an important indicator of financial stability, but the economic security it provides varies substantially across households. In this paper, I examine housing fragility among U.S. homeowners and ask how vulnerability to housing- and credit-market disruptions is organized across wealth position, portfolio composition, and educational attainment. Drawing on perspectives emphasizing financialization and action under uncertainty, I conceptualize housing fragility as a multidimensional condition rooted in the organization of household balance sheets and in unequal capacities to navigate financial institutions and market risk. Using pooled cross-sectional data from the 1989–2022 Survey of Consumer Finances, I analyze six indicators capturing leverage, repayment strain, portfolio concentration, and housing cost burdens among homeowners. Findings show that housing fragility is systematically stratified across the wealth distribution, with lower-wealth homeowners consistently exhibiting higher leverage, greater repayment burdens, and more severe housing cost strain. Fragility is also more strongly associated with overall net worth than with housing values alone, indicating that broader balance-sheet resources shape households' capacity to sustain ownership under changing market conditions. In addition, less-educated homeowners experience persistently higher levels of fragility, particularly in measures tied to repayment obligations and ongoing financial strain. The findings show that homeownership amplifies existing wealth inequalities by exposing lower-wealth households to disproportionate financial risk embedded in contemporary housing and credit markets.

Keywords: housing; wealth; inequality; education; financial fragility

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1. Introduction

Homeownership can provide financial stability and economic incorporation, but its capacity to secure households against risk is neither automatic nor uniform. For homeowners, the primary residence is often their largest single asset as well as the primary means through which wealth is accumulated, secured, and exposed to market forces over time (Goodman and Mayer 2018; Wainer and Zabel 2020). Homeownership provides access to spatially anchored resources—schools, labor markets, and neighborhoods (Killewald and Bryan 2016); however, it also embeds households in financial arrangements that link everyday living conditions to broader credit and asset markets. Through these links to markets, homeowners' financial security is tied to asset price fluctuations that reflect policy changes, innovations in financial markets, and other forces that are beyond the control of the household. The benefits of this connection are clear when markets expand, but this connection also entails vulnerabilities. The housing market collapse during the 2007–09

financial crisis made these vulnerabilities visible by revealing how declines in home values, rising leverage, and constrained liquidity could rapidly undermine household balance sheets (Grinstein-Weiss et al. 2015). That crisis underscored that the economic consequences of homeownership depend not only on whether households own housing, but on the financial structures through which ownership is organized. This suggests that housing is not simply a repository of wealth, but it is also a critical site where inequality is produced, maintained, and, in some cases, intensified.

Housing plays a central role in shaping economic security and risk, yet the financial durability of homeownership varies widely even among those who own a home. *Housing fragility* refers to the extent to which homeowners' financial well-being is vulnerable to disruptions in housing and credit markets. It reflects the configuration of mortgage obligations, leverage, equity cushions, liquidity reserves, and portfolio concentration that condition households' capacity to absorb shocks without destabilizing their broader financial well-being. Importantly, fragility is not synonymous with deprivation. Households may own their homes and hold substantial housing wealth while remaining financially exposed due to heavy leverage, limited non-housing assets, or weak liquidity buffers. In this sense, housing fragility captures how ownership is structured rather than whether it is achieved. Despite housing's central role in household balance sheets, variation in the durability of homeownership has received limited systematic attention in research that often treats ownership as a binary and stabilizing condition.

Because the financial structures that contribute to homeownership are unevenly distributed, housing fragility is likely to vary across homeowners. Three dimensions are particularly important for understanding who is vulnerable. First, housing fragility is likely to vary across the wealth distribution, reflecting both the concentration of wealth at the top of the distribution and heightened vulnerability among households with less wealth. Differences in overall wealth position shape the extent to which homeowners can withstand valuation declines, refinance debt, or rely on diversified assets to stabilize consumption when housing markets shift (Harding and Rosenthal 2017; Killewald and Bryan 2016; Wainer and Zabel 2020). Fragility is likely to be especially pronounced among households in the lower half of the wealth distribution, where limited net worth constrains the capacity to absorb shocks (Wainer and Zabel 2020). Second, housing fragility is likely to differ depending on whether vulnerability reflects position in the overall wealth distribution or exposure rooted primarily in housing assets themselves. Distinguishing homeowners by net worth position versus housing position highlights that some households face elevated fragility because they lack broader financial buffers, while others appear vulnerable primarily because a large share of their wealth is concentrated in housing, even when housing values are similar (Goodman and Mayer 2018; Keister and Lee 2024).

Third, housing fragility is likely to reflect differential abilities to navigate markets and to respond to fluctuations in both opportunities and challenges that accompany market changes (Killewald et al. 2017). Education differences across homeowners likely capture this ability (Beckert 2022). Education affects mortgage terms, refinancing opportunities, and the ability to manage complex credit arrangements, even among homeowners with similar wealth or housing positions. Consequently, homeowners with a bachelor's degree or more education may experience lower fragility than their less-educated counterparts, not because they hold more housing wealth, but because they are better positioned to restructure debt, diversify assets, and maintain liquidity in response to market change. Taken together, these dimensions suggest that housing fragility is not only an expression of inequality across the wealth distribution, but also a product of how households are positioned within housing markets and credit regimes—an evolving feature of homeownership that has remained largely obscured in existing accounts of housing and economic security.

This study uses data from the Survey of Consumer Finances (SCF) to examine the prevalence, distribution, and temporal evolution of housing fragility among U.S. homeowners from 1989 to 2022. The focus on homeowners isolates variation in the durability of ownership itself, rather than differences between owners and renters, allowing the analysis to center on how balance-sheet structures shape vulnerability within owner status. I construct multiple indicators of fragility that capture both housing-specific exposure and broader balance-sheet leverage, including total debt to assets, housing value to assets, home debt to income, and two measures of housing cost burden. Although total debt measures extend beyond housing alone, they condition the durability of ownership by shaping households' capacity to sustain mortgage obligations under income or asset shocks. Taken together, these measures reflect the structure of homeowner balance sheets rather than discrete crisis events.

This paper makes three contributions. First, it reconceptualizes housing fragility as a multidimensional balance-sheet condition rather than a crisis-specific outcome such as foreclosure or negative equity, demonstrating that vulnerability can persist even in periods of rising home values and low delinquency. Second, it shows that housing fragility varies across the wealth distribution, with persistent leverage and portfolio concentration among lower-wealth homeowners even as aggregate indicators suggest post-crisis stabilization. Third, it demonstrates that fragility varies by educational attainment, highlighting how institutional access and financial capacity shape exposure to housing-market risk. By situating housing within broader processes of financialization, this study reconceptualizes homeownership as a heterogeneous position—one that confers security for some households while exposing others to substantial financial risk. In doing so, it advances a more nuanced understanding of how housing structures economic stability and vulnerability in the contemporary United States.

2. Market Financialization and Homeownership

Over the past several decades, housing has become increasingly integrated into financial markets. Although owner-occupied housing historically served both residential and investment functions, the relationship between housing and finance intensified substantially beginning in the late twentieth century. Mortgage securitization expanded dramatically, credit markets became more complex and geographically integrated, and households increasingly relied on debt-financed homeownership as a means of wealth accumulation (Aalbers 2016; Gotham 2009; Weber 2015). These developments transformed housing from a relatively localized asset into a central component of household financial portfolios and linked homeowners more directly to broader capital markets. Housing became increasingly important as a mechanism through which households accumulated wealth, borrowed against future asset appreciation, and financed consumption through home equity extraction. As a result, the economic significance of housing extended beyond shelter and neighborhood attachment to become deeply intertwined with household wealth accumulation, borrowing, and long-term financial security.

The growing financialization of housing altered both the opportunities and risks associated with homeownership. Expanded access to mortgage credit enabled many households to enter owner-occupied housing markets and participate in rising housing values, contributing to wealth accumulation for large segments of the population (Aalbers 2016; Fields 2018; Rolnik 2013). At the same time, greater reliance on debt increased households' exposure to fluctuations in interest rates, housing prices, and credit-market conditions. Housing increasingly functioned not only as a place to live but also as a leveraged financial asset whose value and utility depended on broader market dynamics (Martin 2002). The 2007–09 housing collapse demonstrated the extent to which homeownership had become

embedded within broader financial systems, revealing how declines in housing values and disruptions in mortgage markets could rapidly undermine household balance sheets (Aalbers 2016; Schwartz 2009). More recently, the growing presence of institutional investors and large-scale capital in housing markets has further strengthened the connection between housing and financial markets (Fields 2018).

These developments suggest that understanding contemporary homeownership requires attention not only to whether households own housing but also to the financial arrangements through which ownership is organized. As housing became more deeply integrated into financial markets, variation in leverage, debt obligations, liquidity reserves, and portfolio composition became increasingly consequential for household financial stability. Households may hold similar housing assets while facing very different levels of vulnerability depending on the broader organization of their balance sheets and their capacity to manage financial obligations. Housing has thus become a key site through which financial risk is distributed, managed, and experienced, making the financialization of housing central to understanding variation in homeowners' exposure to market disruptions and financial fragility.

3. Explaining Housing Fragility: Market Financialization and Homeowner Capacity

Two theoretical perspectives are useful for understanding housing fragility. First, the financialization of household economic life is useful for understanding how households have become more deeply integrated into financial markets through the expansion of mortgage credit, the growing centrality of asset-based wealth, and the increasing reliance on debt to access and sustain homeownership (Lin and Tomaskovic-Devey 2013; Tomaskovic-Devey and Lin 2013). Housing occupies a distinctive position in this process. It functions simultaneously as an asset through which wealth is accumulated and as a liability that binds households to long-term financial obligations. This dual role links household well-being to fluctuations in both credit conditions and asset prices, making ownership a conduit through which broader market dynamics are transmitted into everyday financial life. Under conditions of financialization, the risks associated with housing are not limited to extreme outcomes such as foreclosure or default but are embedded in the structure of household balance sheets (Krippner 2005). The extent of leverage, the concentration of wealth in housing, and the scale of ongoing payment commitments shape the degree to which households are exposed to market shifts and their capacity to absorb them. That is, homeownership does not uniformly insulate households from economic uncertainty but instead produces differentiated forms of exposure to financial risk depending on how ownership is organized.

Second, perspectives in economic sociology that emphasize action under uncertainty and the role of strategic capacity in market settings are also useful for understanding how housing fragility varies across households. Housing and credit markets are inherently uncertain environments in which households must make forward-looking decisions about borrowing, repayment, and asset allocation without full information about future income, interest rates, or housing prices (Beckert 2016). In this view, the stability of a household's financial position depends on its ability to project a viable future that justifies current risk-taking, even when future outcomes are inherently uncertain. It is a matter of navigation, not just calculation. In such contexts, outcomes depend not only on a household's financial resources but also on their abilities to interpret market signals, form expectations about the future, and act in ways that sustain their financial positions over time. This extends to research on strategic action which shows that households differ in their capacities to navigate dynamic institutional environments (Fligstein and McAdam 2012). Applied to

housing, these perspectives suggest that fragility reflects not only exposure to financial risk but also variation in households' ability to manage that exposure through refinancing, portfolio adjustments, and the timing and structure of debt.

Taken together, these perspectives explain different dimensions of housing fragility. Financialization identifies the structural conditions that make homeownership increasingly dependent on credit markets, asset valuations, and balance-sheet management. It explains why housing has become a central site through which financial risk is distributed across households. Perspectives emphasizing action under uncertainty complement this account by explaining why exposure to these risks does not produce uniform outcomes. Households occupy different positions within the same financialized environment, but they also differ in their capacities to interpret market conditions, mobilize resources, and respond to changing circumstances. Housing fragility therefore reflects both the organization of housing and credit markets and the unequal capacities households possess to navigate those markets. Understanding variation in housing fragility requires attention to both processes simultaneously: the institutional transformation of homeownership that creates new forms of financial exposure and the household-level capacities that shape how that exposure is managed, amplified, or mitigated over time.

4. Dimensions of Housing Fragility

Housing fragility reflects the structure of household assets and debts that influences economic well-being under shifting market conditions. Housing fragility is not limited to foreclosure or other visible crises. It indicates whether households can sustain homeownership and otherwise remain financially stable when income declines, interest rates rise, or housing prices fall. Several interrelated dimensions capture the degree to which homeowners are exposed to housing- and credit-market disruptions that can erode financial stability over time. *Leverage relative to assets and income* reflects the extent to which households depend on borrowed funds and the margin they possess to absorb asset price declines or income disruptions. Because mortgage borrowing constitutes the largest liability for many homeowners, broader leverage conditions the stability of ownership even when vulnerability extends beyond housing alone. At the same time, the concentration of wealth in owner-occupied real estate distinguishes diversified portfolios from those heavily anchored in housing markets, linking household security to local price dynamics. The intensity of mortgage obligations relative to earnings signals repayment strain, while high housing cost burdens constrain consumption and savings, narrowing households' capacity to buffer shocks.

Housing fragility also depends on how housing is positioned in the household balance sheet as both a liability and an asset. Mortgage obligations tie households to fixed payment commitments that must be met out of current income, linking housing directly to the stability of earnings and borrowing conditions. When *mortgage obligations are large relative to available income*, even modest disruptions—such as income loss, rising interest rates, or changes in credit conditions—can place pressure on households' ability to sustain homeownership. At the same time, the role of housing as an asset varies across households. That is, *home value as a portion of total assets* matters. For some, housing is one component of a diversified portfolio; for others, it constitutes the primary or dominant form of wealth. When wealth is heavily concentrated in owner-occupied housing, households become more exposed to fluctuations in housing markets and have fewer alternative resources to draw upon in periods of stress. In this way, housing can simultaneously anchor wealth accumulation and concentrate financial risk, making both the scale of mortgage commitments and the degree of asset concentration central to understanding fragility.

Finally, housing fragility is evident in the ongoing demands that housing places on household budgets. *Housing costs that constitute a significant portion of total income* are an important indicator of financial strain. Housing expenses must be met regularly and often take priority over other forms of spending, making them a central constraint on household financial flexibility. When a substantial share of income is devoted to housing, households have less capacity to absorb income volatility, respond to unexpected expenses, or accumulate savings. As housing costs rise relative to income, the margin for adjustment narrows, increasing the likelihood that financial strain in one domain will spill over into others. Higher levels of housing cost burden signal more severe constraints, where households must make difficult trade-offs between maintaining housing payments and meeting other basic needs. These pressures are not limited to moments of crisis but are embedded in the everyday organization of household finances, making cost burdens a key dimension through which housing fragility is experienced and sustained.

Housing fragility should be understood as a condition of vulnerability rather than the occurrence of a specific adverse event. Households with high leverage, substantial repayment obligations, or a large concentration of wealth in housing are not necessarily experiencing financial distress at a given moment. Rather, these balance-sheet characteristics shape the extent to which future changes in housing prices, borrowing conditions, income streams, or other economic circumstances are likely to translate into financial strain. In this sense, fragility reflects the susceptibility of a household's financial position to disruption rather than disruption itself. The distinction is important because many households appear financially stable during periods of rising home values, favorable credit conditions, or steady income growth, yet remain highly exposed to adverse shocks. Conversely, households with relatively modest resources may exhibit lower levels of fragility if they maintain manageable debt obligations, diversified assets, and sufficient financial buffers. The measures used here therefore capture underlying exposure to housing- and credit-market risks by focusing on the organization of household balance sheets, providing indicators of the capacity to absorb shocks before financial distress becomes visible through outcomes such as delinquency, foreclosure, or default.

5. Wealth Stratification and Housing Fragility

Financialization implies that the distribution of housing-related risk is closely tied to the distribution of wealth. Because homeownership is structured through both asset accumulation and debt obligations, differences in wealth position shape not only the level of resources households hold but also the terms under which they engage housing and credit markets. Households with substantial wealth are more likely to enter and sustain homeownership with lower leverage, more diversified portfolios, and greater liquidity, allowing them to absorb fluctuations in housing values or borrowing conditions without destabilizing their broader financial position. In contrast, households with fewer resources are more likely to rely heavily on debt to access homeownership, to hold a large share of their wealth in housing, and to maintain limited financial buffers (Lin and Tomaskovic-Devey 2013; Wainer and Zabel 2020). These differences produce systematic variation in exposure to risk that is embedded in the structure of household balance sheets rather than arising only in moments of crisis. Although these broad patterns are well established in research on wealth inequality and homeownership, less is known about how they are reflected across multiple dimensions of housing fragility, how they differ according to households' positions in housing and wealth distributions, and whether they have persisted over time.

As a result, vulnerability is likely to increase as wealth declines, reflecting not only differences in resources but also differences in how ownership is financed, structured, and sustained. Moreover, because housing fragility is constituted through multiple interre-

lated features of the balance sheet—including leverage, asset concentration, repayment obligations, and ongoing cost burdens—these wealth-based differences are likely to appear across distinct dimensions of financial exposure rather than being confined to any single indicator. Taken together, this suggests that housing fragility is organized along a clear wealth gradient that is persistent and multidimensional, reflecting the unequal distribution of both economic resources and the financial structures through which homeownership is realized. It follows that:

Hypothesis 1a. *Housing fragility increases as wealth position declines and has remained stratified across the wealth distribution since the late 1980s.*

Hypothesis 1b. *Wealth stratification is evident across multiple dimensions of housing fragility, including debt relative to assets, housing's share of total assets, debt relative to income, and the likelihood of exceeding housing cost burden thresholds.*

6. Beyond Housing Prices: Net Worth and Vulnerability

The financialization of household finances also highlights that vulnerability is shaped not only by the value of housing assets but by the broader balance-sheet context in which those assets are held. Housing values capture exposure to local asset markets, but they do not fully reflect the financial capacity households possess to sustain ownership under changing conditions. Net worth, by contrast, incorporates both assets and liabilities and therefore more directly captures the resources available to buffer shocks, manage debt obligations, and maintain stability when market conditions shift. Households with similar housing values may occupy very different financial positions depending on the extent of their non-housing assets, their overall debt burdens, and their access to liquid reserves. As a result, vulnerability among homeowners is likely to be more closely tied to overall wealth position than to housing values alone, reflecting differences in the capacity to absorb losses, restructure obligations, and smooth consumption. This distinction is especially important in a financialized context in which access to credit, refinancing opportunities, and portfolio diversification shape how households respond to risk. Moreover, the implications of net worth versus housing value are not uniform across all aspects of housing fragility. Measures that capture leverage and repayment capacity—such as debt relative to assets or income and the extent to which housing costs constrain household budgets—are more directly linked to overall balance-sheet capacity and are therefore likely to exhibit clearer differentiation by net worth. By contrast, measures that capture the share of wealth held in housing reflect portfolio composition more directly and are less sensitive to broader resource constraints. Together, these considerations underscore that housing fragility is rooted in the structure of household finances as a whole, rather than in housing values alone, and that the distinction between overall wealth and housing-specific position is central to understanding variation in financial vulnerability among homeowners. That is:

Hypothesis 2a. *Housing fragility is more strongly associated with position in the overall net worth distribution than with position in the housing value distribution alone, and this distinction has persisted since the late 1980s.*

Hypothesis 2b. *The divergence between net worth position and housing value position is most pronounced in measures of leverage relative to assets and income and in housing cost burdens, and is less pronounced in the housing share of total assets.*

7. Educational Attainment and the Organization of Housing Risk

Variation in housing fragility also reflects differences in households' capacities to navigate financial institutions, manage complex credit arrangements, and make decisions under uncertainty. In uncertain housing and credit markets, the consequences of similar financial positions diverge because households must make commitments under indeterminate future conditions, where the timing, structure, and adjustment of debt become consequential for subsequent stability (Beckert 2016). Educational attainment plays a central role in shaping this capacity by influencing access to information, familiarity with financial products, and the ability to engage effectively with lenders and intermediaries. More educated households are generally better positioned to secure favorable mortgage terms, refinance when borrowing conditions change, and adjust their financial positions in response to shifts in interest rates or income. In contrast, households with lower levels of education may face constraints in accessing advantageous credit arrangements or in responding to changing market conditions, even when they hold similar levels of housing wealth. These differences do not simply reflect disparities in resources but also differences in how households are able to use and manage those resources within institutional contexts.

Importantly, the advantages associated with educational attainment are not limited to individual knowledge or technical expertise. Educational attainment is closely tied to broader differences in socioeconomic position that shape access to financial resources, professional services, institutional supports, and opportunities to manage risk. More educated households are often better positioned to draw on higher earnings, stronger social networks, professional financial advice, and other resources that facilitate favorable borrowing arrangements and financial flexibility. These advantages are particularly consequential in uncertain market environments because they expand households' capacity to anticipate, interpret, and respond to changing financial conditions. As a result, educational differences in housing fragility are likely to reflect a broad constellation of advantages that influence how households engage housing and credit markets rather than specialized financial expertise alone. Conversely, households with lower levels of education may face greater constraints in accessing these resources, limiting their ability to respond to changing borrowing conditions, restructure debt, or absorb financial shocks. Educational attainment thus captures not only differences in economic resources but also differences in the institutional supports and strategic capacities that shape households' ability to sustain financial stability over time.

It follows that housing fragility varies systematically by educational attainment, with lower levels of education associated with greater exposure to repayment strain and more limited flexibility in adjusting to financial pressures. At the same time, the implications of educational differences are not uniform across all dimensions of fragility. Measures that capture repayment capacity and ongoing budget constraints—such as debt relative to income and the extent to which housing costs absorb household income—are more directly shaped by the ability to manage obligations and adapt to changing conditions, and are therefore likely to show clearer educational gradients. By contrast, measures that reflect the composition of assets, such as the share of wealth held in housing, are less directly tied to institutional navigation and are therefore likely to exhibit smaller differences by education. Together, these patterns suggest that educational attainment structures not only access to resources but also the capacity to manage financial risk within homeownership.

Hypothesis 3a. *Housing fragility varies by educational attainment, with lower educational attainment associated with higher levels of fragility, and these differences have remained evident since the late 1980s.*

Hypothesis 3b. *Educational differences are more pronounced in measures of debt relative to income and housing cost burdens and are comparatively smaller in measures of housing's share of total assets.*

8. Data and Methods

I use data from the pooled 1989–2022 (most current) waves of the Survey of Consumer Finances (SCF) (Aladangady et al. 2023). The SCF is particularly well suited for this analysis because it is the only nationally representative U.S. household survey that provides high-quality information on families at the top of the income and wealth distributions. It includes comprehensive data on income—disaggregated by source—and on wealth, including the full composition of household assets and liabilities and information on education level, which are core to this study. The SCF also includes other demographic characteristics which are important as control variables in multivariate models.

The SCF is administered triennially by NORC at the University of Chicago on behalf of the Federal Reserve Board and is structured as a repeated cross-sectional survey with a dual-frame sample design. One component is a nationally representative area-probability sample that captures the income, wealth, and demographic characteristics of the U.S. population. The second component is a list sample, constructed from Internal Revenue Service Statistics of Income (SOI) data, which oversamples high-income and high-wealth households. This dual-frame approach allows the SCF to accurately represent the upper tail of the income and wealth distributions, which is critical for analyses of economic inequality. The unit of analysis is the Primary Economic Unit (PEU), defined as the economically dominant individual or couple in the household along with all financially interdependent members. For ease of exposition, I refer to PEUs as households throughout. All monetary values are expressed in 2022 dollars, and analyses apply the SCF's sampling weights. The pooled sample includes 58,148 households.

9. Dependent Variables

I analyze six measures of household financial status that capture distinct but related dimensions of housing fragility (see Figures 1–6). The ratio of **total household debt to total household assets** captures overall leverage, indicating the extent to which households rely on borrowed funds relative to their asset base and, therefore, their exposure to asset value declines. The ratio of **home value to total household assets** reflects the concentration of wealth in owner-occupied housing, distinguishing households with diversified portfolios from those whose financial position is heavily anchored in housing markets. **Total household debt relative to total household income** captures repayment capacity, indicating the extent to which ongoing debt obligations—including but not limited to mortgages—are supported by current income.

I also examine **home debt relative to total household income**, which isolates mortgage-related obligations and more directly captures the strain associated with sustaining home-ownership out of current earnings. Finally, I include two indicators of **housing cost burden**: whether total housing costs—including mortgage payments, property taxes, insurance, and utilities—exceed 30% of household income and whether they exceed 50%. These thresholds identify households facing moderate and severe financial strain, respectively, reflecting the degree to which housing expenses constrain consumption, limit savings, and reduce the capacity to absorb income shocks. Taken together, these measures capture leverage, asset concentration, repayment strain, and ongoing cost pressures—complementary dimensions through which housing fragility is manifested in household balance sheets.

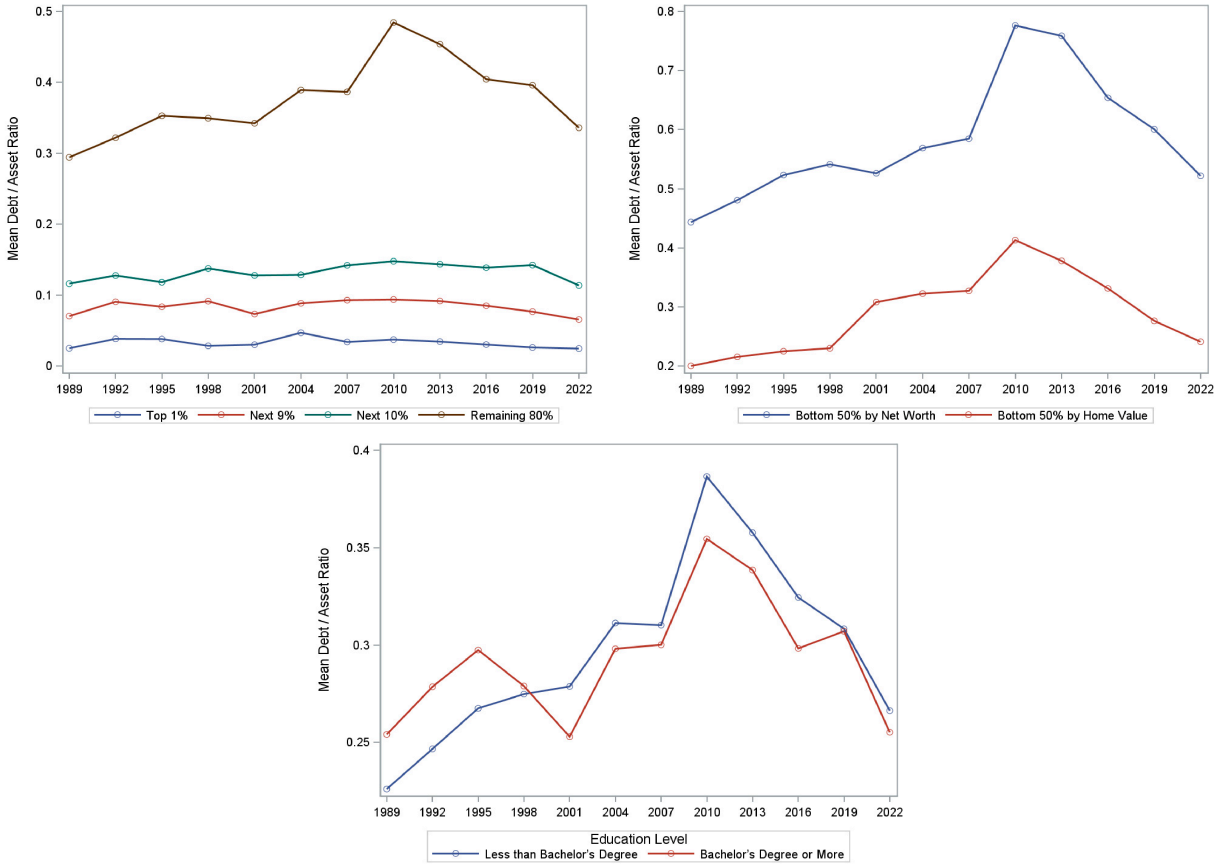

Figure 1. Ratio of Total Household Debt to Total Household Assets.

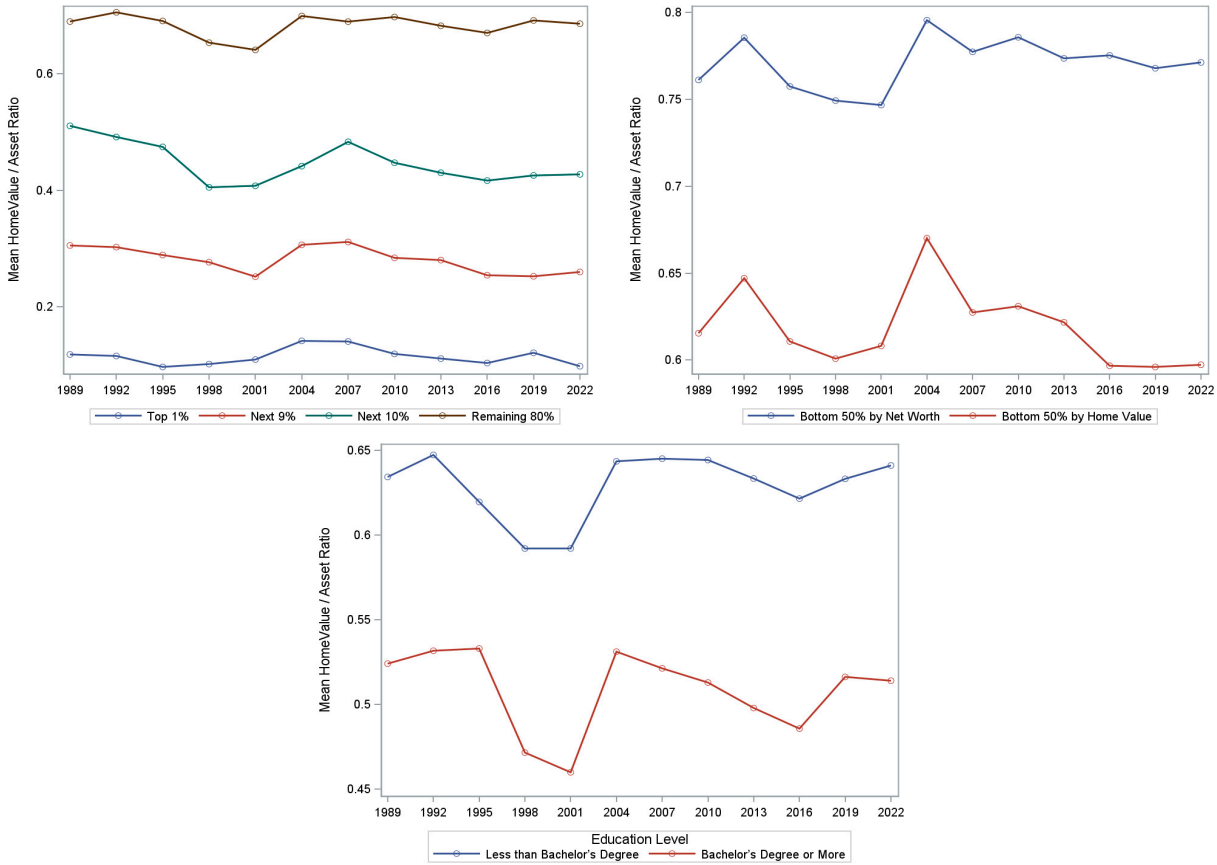

Figure 2. Ratio of Home Value to Total Household Assets.

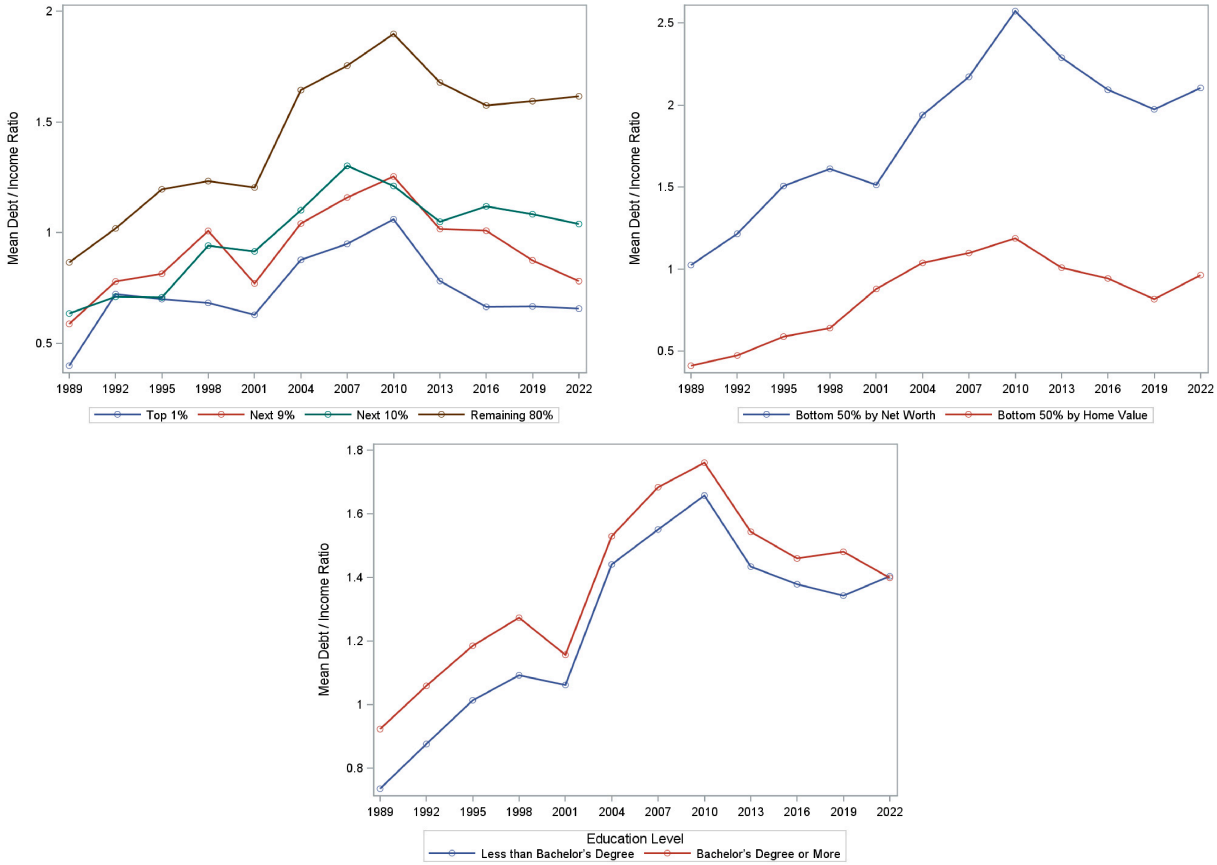

Figure 3. Ratio of Total Household Debt to Total Household Income.

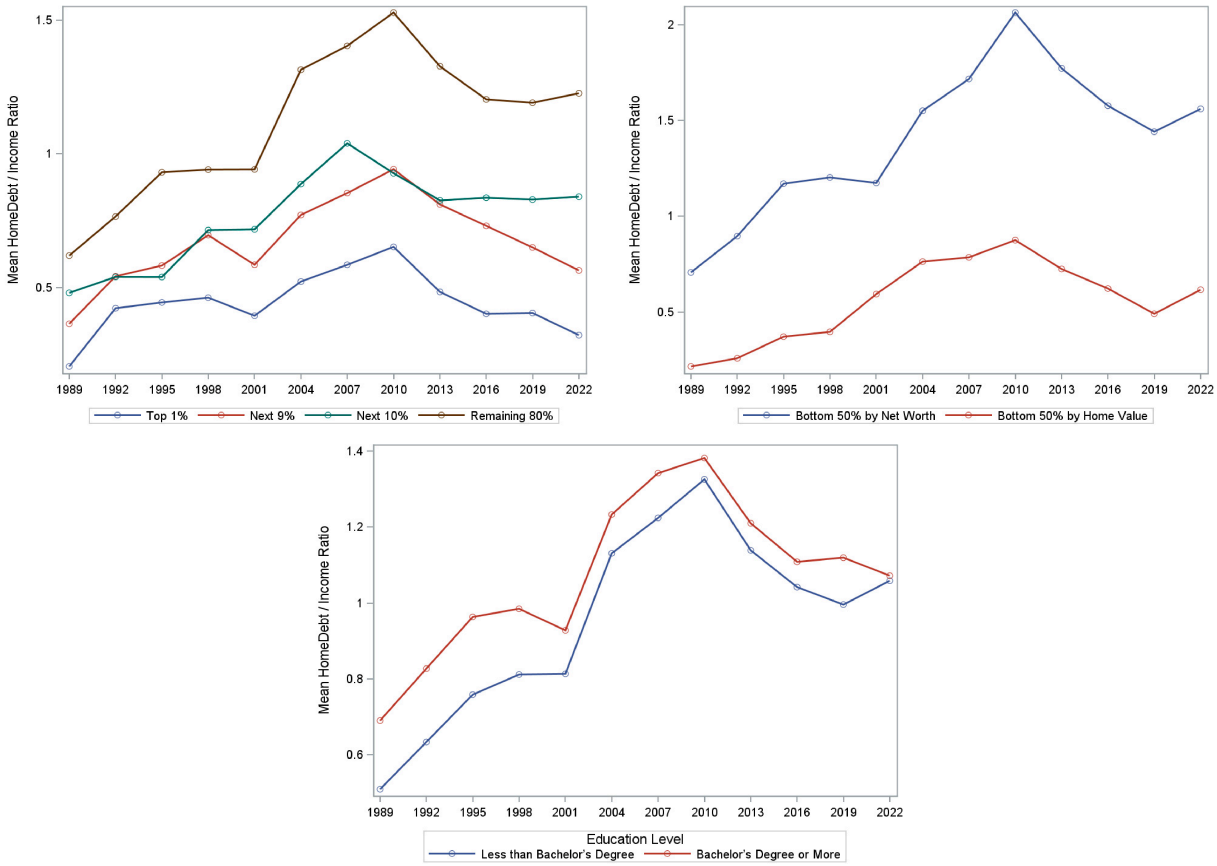

Figure 4. Ratio of Total Home Debt to Total Household Income.

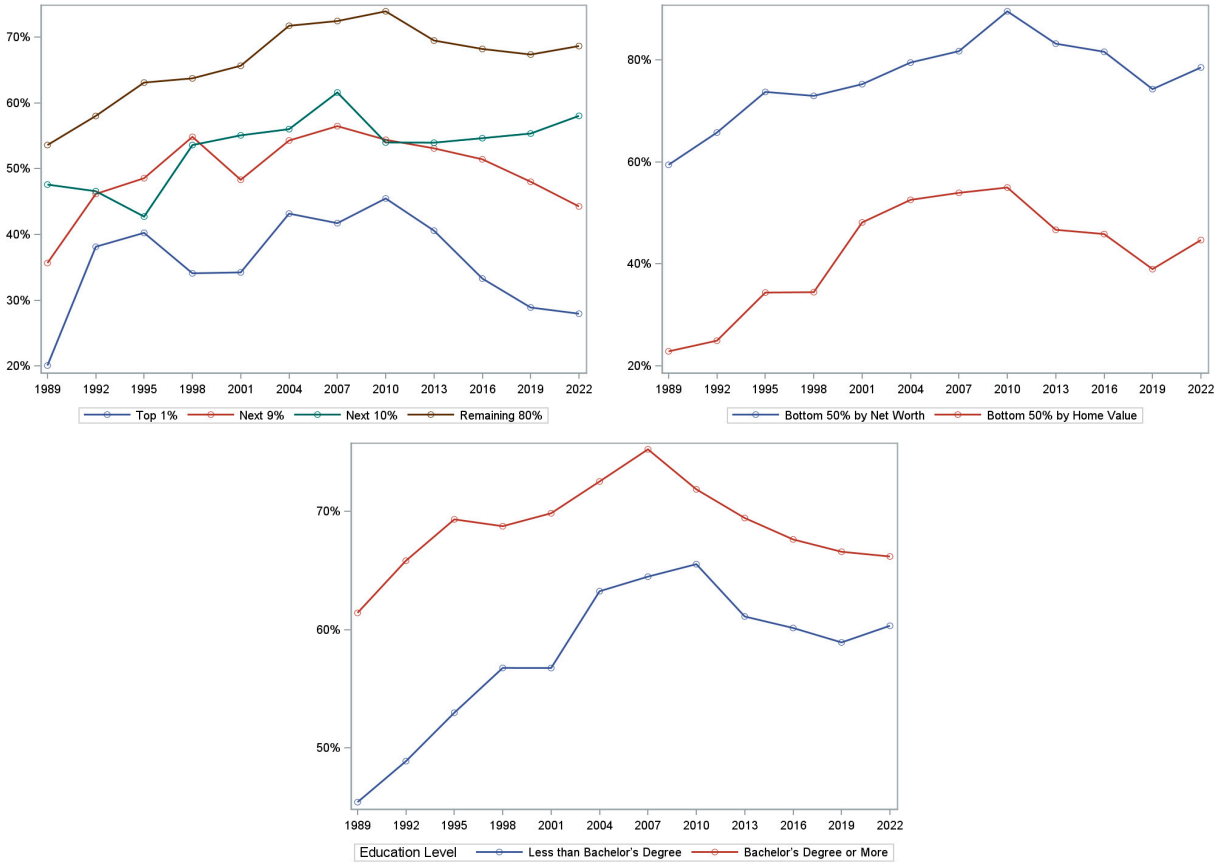

Figure 5. Housing Cost > 30% Total Household Income.

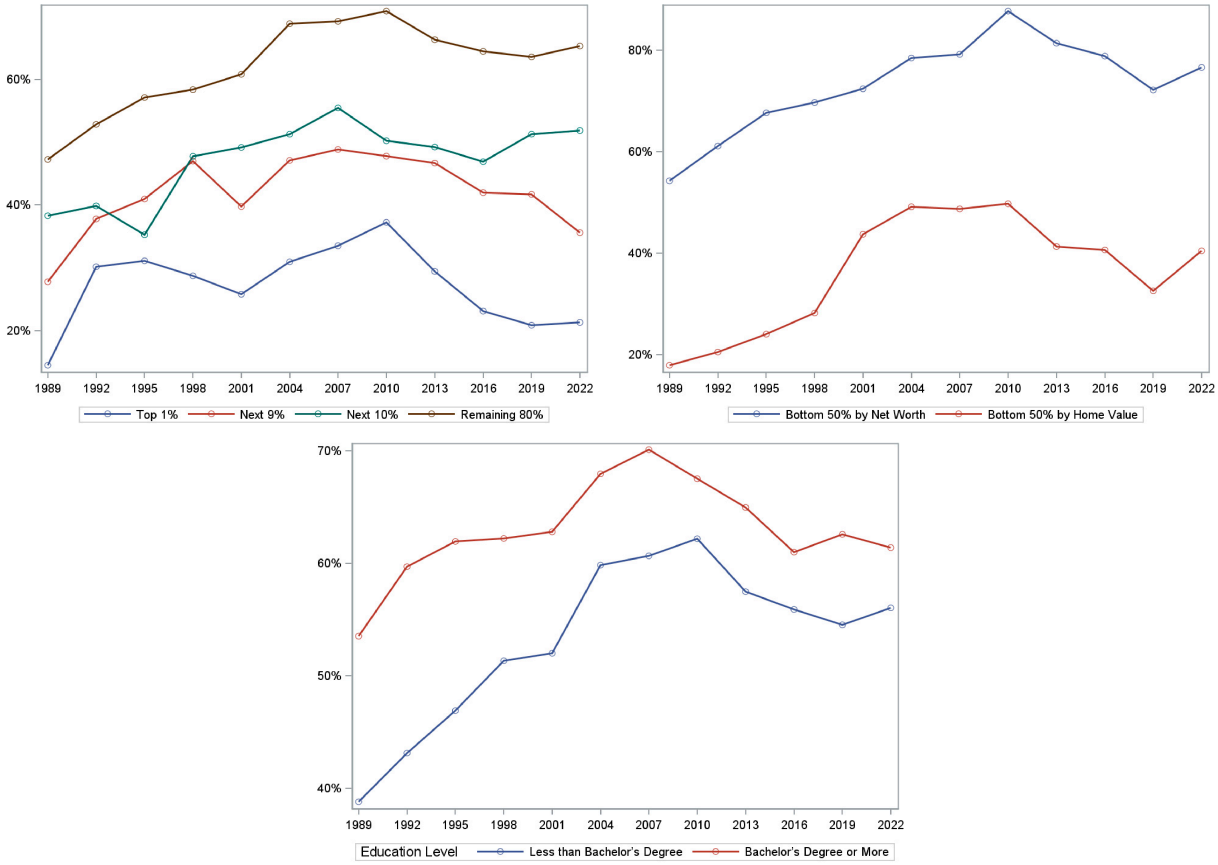

Figure 6. Housing Cost > 50% Total Household Income.

10. Independent Variables

My primary independent variables capture households' positions in the wealth distribution, their educational attainment, and the intersection of these dimensions. I classify households into four mutually exclusive **net worth groups**: the top 1 percent, the next 9 percent, the next 10 percent, and the remaining 80 percent, with the top 1 percent serving as the reference category. This specification captures the steep gradient in economic resources that characterizes the U.S. wealth distribution, and it allows for comparisons between those at the top of the distribution and the broader population of homeowners.

I also include an indicator of **educational attainment**, distinguishing households in which the head has a bachelor's degree or more from those with less education. Although education can be measured using more detailed categories or as a continuous measure, this dichotomy captures a meaningful institutional threshold that differentiates access to labor market opportunities, financial information, and credit market navigation, while maintaining sufficient cell sizes for interaction analyses across wealth groups. In addition, the bachelor's degree threshold has become an increasingly important marker of stratification in the contemporary United States, distinguishing households with substantially different economic opportunities and long-term wealth accumulation trajectories. Although this specification necessarily obscures some variation within broader educational categories, it captures a theoretically meaningful distinction that is central to the paper's focus on how educational attainment structures exposure to housing-related financial risk.

To examine whether the relationship between wealth position and housing fragility varies by education, I include interaction terms between net worth group and educational attainment. These interactions allow the effects of wealth position to differ across education groups, capturing how financial capacity and access to institutional resources shape exposure to housing-related risk within and across the wealth distribution. This specification makes it possible to distinguish between differences in exposure to housing-related risk that arise from unequal resource endowments and those that reflect variation in how households are positioned to engage financial and credit markets. In doing so, it provides a more precise assessment of whether housing fragility is primarily structured by wealth position or whether it also reflects differences in the capacity to manage and respond to financial risk across similarly situated households.

The analyses do not include interactions between educational attainment and income because the primary objective is to examine how housing fragility varies across wealth position and educational attainment rather than to isolate the specific mechanisms through which educational differences operate. Educational attainment is associated with a broad constellation of advantages—including earnings opportunities, access to financial resources, social networks, and institutional knowledge—that are often difficult to disentangle empirically. Income is one component of this broader set of advantages rather than a competing explanation for educational differences. As a result, the analysis focuses on whether educational differences in housing fragility persist across positions in the wealth distribution, allowing educational attainment to capture the broader socioeconomic conditions through which households engage housing and credit markets.

11. Control Variables

I include a set of demographic and socioeconomic controls to account for compositional differences across households. These include **age** and **age squared** to capture life-cycle patterns in borrowing and asset accumulation. **Marital status** is measured using indicators for never married (reference), divorced or separated, widowed, and married or cohabiting, reflecting differences in household structure that may influence both resource pooling and financial obligations. **Race and ethnicity** are captured using indicators for White non-Latino

(reference), Black, Latino, Asian, and other racial or ethnic groups, accounting for well-documented differences in access to credit markets and wealth accumulation. **Work status** is measured using indicators for working for someone else (reference), self-employment, and retired, unemployed, or other non-working statuses, which reflect variation in income stability and exposure to labor market risk. Together, these controls account for key demographic and economic factors that may shape both wealth position and housing-related financial vulnerability.

12. Analyses

I use a combination of descriptive and multivariate analyses to examine patterns of housing fragility among U.S. homeowners. The descriptive analyses provide the primary empirical foundation for the paper and are presented in a series of figures, each corresponding to one dimension of housing fragility. For each outcome, I present three panels in each figure that map directly onto the core dimensions of the analysis. The first panel in each figure examines differences across the wealth distribution, comparing households in the top 1 percent, the next 9 percent, the next 10 percent, and the remaining 80 percent. This presentation highlights the extent to which housing fragility follows a systematic gradient in economic resources. The second panel in each figure focuses on the lower half of the distribution, where both the descriptive patterns and theoretical approach suggest particularly pronounced vulnerability. Here, I distinguish households by their position in the overall net worth distribution and their position in the housing wealth distribution, allowing for a direct comparison of whether fragility is more closely tied to overall financial resources or to the value of housing assets alone. The third panel in each figure presents differences by educational attainment, comparing households with and without a bachelor's degree to assess how institutional capacity and market navigation shape exposure to housing-related risk. Taken together, these figures provide a comprehensive view of how housing fragility is organized across wealth position, portfolio composition, and education, and how these patterns have shifted over time.

The figures serve as more than descriptive illustrations. They provide a direct visual representation of the paper's core empirical patterns, showing how housing fragility is distributed across wealth groups, how overall net worth compares to housing-specific position, and how educational attainment is associated with exposure to housing-related risk. Because the study focuses on long-run patterns rather than short-term fluctuations, presenting these relationships graphically also facilitates comparison across survey years and dimensions of fragility.

To complement the descriptive analyses, I estimate multivariate regression models for each outcome. For continuous measures of housing fragility, I use generalized least squares models, which are well suited to the skewed distributions that characterize household assets, debts, and income. For the two indicators of housing cost burden—whether housing expenses exceed 30% or 50% of income—I estimate logistic regression models. All models include the full set of independent variables described above, including indicators of wealth position, educational attainment, and their interactions, as well as demographic and socioeconomic controls. These models assess whether the relationships observed in the descriptive analyses persist after accounting for compositional differences across households and provide a more systematic evaluation of how wealth position, portfolio composition, and education are associated with multiple dimensions of housing fragility. The multivariate results are presented in Appendix A.

13. Results: Wealth Gradients in Housing Fragility

The results provide strong support for Hypotheses 1A and 1B which proposed that housing fragility is systematically structured by wealth position and that this pattern is evident across multiple dimensions of financial exposure. Across all six figures, the first panel reveals a clear and consistent gradient in which fragility increases as wealth declines. Households in the top 1 percent exhibit the lowest levels of leverage, the lowest debt burdens relative to income, and the lowest likelihood of experiencing housing cost burdens, indicating that their financial positions are less tightly constrained by borrowing and ongoing payment obligations. In contrast, households in the remaining 80 percent consistently exhibit the highest levels across these same measures, reflecting greater reliance on debt, more limited capacity to buffer income or asset shocks, and tighter budget constraints. The next 9 percent and next 10 percent fall between these extremes in a largely monotonic pattern, underscoring that housing fragility is not simply a distinction between the very top and everyone else but is distributed along a continuous gradient of economic resources. This ordering is evident across each outcome, including leverage relative to assets, the concentration of wealth in housing, debt relative to income, and the likelihood of exceeding housing cost thresholds, indicating that fragility is multidimensional rather than confined to any single aspect of household finances. The magnitude of these differences is substantial, particularly for measures tied to repayment capacity and cost burdens, where lower-wealth households face markedly higher levels of strain.

These patterns align closely with the theoretical approach emphasizing financialization and the organization of risk through household balance sheets. Households at the top of the wealth distribution appear to hold housing in ways that are less dependent on debt financing, less concentrated in a single asset, and less constrained by current income, allowing them to maintain stability even as market conditions shift. By contrast, households with fewer resources exhibit financial positions that are more tightly coupled to credit markets and income flows, making them more sensitive to changes in housing prices, borrowing conditions, and earnings. Importantly, the wealth gradient in fragility is evident across all measures and persists across the full time period examined, indicating that these differences are not limited to specific economic contexts but reflect durable features of how homeownership is structured across the distribution. Taken together, the first panels of the figures demonstrate that housing fragility is both persistent and multidimensional, and that it is strongly differentiated by wealth position in ways that are consistent with the unequal distribution of resources and the financial arrangements through which homeownership is realized.

Notably, the institutional context of homeownership changed substantially during the period I examined. Mortgage securitization expanded, credit markets became increasingly integrated into broader financial systems, institutional investors assumed a larger role in housing markets, and housing became more deeply connected to national and global capital flows. These developments altered both the opportunities and risks associated with homeownership by changing access to credit, reshaping borrowing practices, and increasing the extent to which household balance sheets were linked to financial markets. Although the specific forms of market organization evolved over time, these changes collectively intensified the financial dimensions of homeownership and increased the importance of understanding how vulnerability is distributed across households occupying different positions in housing and credit markets.

In addition, the analyses focus on documenting how housing fragility was organized across homeowners over the period examined rather than on estimating period-specific changes in these relationships. As a result, conclusions regarding persistence are based on the repeated observation of similar patterns across SCF waves rather than on formal

tests of temporal stability using interactions between survey year and the key explanatory variables. The descriptive figures are particularly useful for this purpose because they display these relationships separately for each survey wave, making it possible to assess whether the overall organization of housing fragility remained evident across substantially different housing, credit, and economic environments. The goal is therefore to identify enduring patterns of stratification among homeowners rather than to model the specific historical processes through which those patterns may have changed over time.

14. Results: Net Worth and Housing Fragility

The results provide strong support for Hypotheses 2A and 2B, indicating that housing fragility is more closely associated with overall net worth than with housing value alone. The second panel of each figure reinforces this pattern by distinguishing households in the lower half of the distribution according to their position in the net worth distribution versus the housing wealth distribution. Across outcomes, housing fragility is more closely aligned with net worth position than with housing value alone. Households with relatively low net worth exhibit substantially higher levels of leverage, greater debt burdens relative to income, and a higher likelihood of exceeding housing cost thresholds, even when their housing values are comparable to those of other homeowners. By contrast, households with similar housing values but greater overall net worth consistently display lower levels of financial strain. This pattern indicates that exposure to housing-related risk is not adequately captured by housing values in isolation, but instead reflects the broader configuration of assets and liabilities that determine households' capacity to absorb shocks and sustain ownership over time. The divergence between net worth and housing value is evident throughout the period examined, suggesting that the distinction is not confined to particular market conditions but reflects a stable feature of how financial vulnerability is organized among homeowners. This distinction underscores that in a financialized housing system, vulnerability is shaped less by the value of housing assets themselves than by the broader balance-sheet context in which those assets are held.

The magnitude of this divergence varies across dimensions of housing fragility in ways that are consistent with Hypothesis 2B. Differences between net worth and housing value are most pronounced in measures that capture leverage and repayment strain, including debt relative to assets, debt relative to income, and the likelihood of exceeding housing cost burdens. In these domains, households with limited net worth face markedly higher levels of constraint, indicating that broader balance-sheet capacity plays a central role in shaping exposure to financial pressure. By contrast, the distinction is less pronounced for the share of wealth held in housing, where patterns more directly reflect portfolio composition rather than overall financial capacity. These results underscore that housing fragility is rooted in the organization of household finances as a whole rather than in housing assets alone. They also reinforce the broader theoretical argument: financialization links homeownership to credit markets in ways that make overall balance-sheet resources central to stability, while under conditions of uncertainty, the ability to sustain commitments depends on the availability of buffers beyond housing itself. Taken together, the second panels demonstrate that net worth provides a more complete account of vulnerability than housing value alone and that the divergence between the two is most consequential in dimensions of fragility tied to repayment obligations and ongoing financial strain.

15. Results: Education and Housing Fragility

Housing fragility also differs systematically by educational attainment, with less-educated households experiencing consistently higher levels of financial strain across outcomes. That is, the results provide strong support for Hypotheses 3A and 3B, showing

that education is an important dimension on which homeowners' financial stability varies, with the differences particularly evident in measures of repayment capacity and ongoing financial obligations. The third panel of each figure shows a consistent pattern in which households with a bachelor's degree or more exhibit lower levels of debt relative to income, lower home debt burdens, and a substantially lower likelihood of exceeding both the 30 percent and 50 percent housing cost thresholds compared to less-educated households. These differences are evident across the full period examined and persist within wealth strata, indicating that educational gradients in fragility are not simply a reflection of differences in resource levels. By contrast, differences by education are notably smaller for the share of total assets held in housing, where more- and less-educated households display relatively similar levels of concentration. The contrast across outcomes is striking: while education is strongly associated with measures that capture the ability to meet and manage ongoing obligations, it is only weakly associated with measures that reflect how assets are allocated. This pattern suggests that educational attainment is less central to whether households accumulate housing wealth than to how they sustain and manage the financial commitments that accompany ownership.

These findings align closely with the theoretical approach emphasizing action under uncertainty and variation in strategic capacity. In domains such as debt relative to income and housing cost burdens, the observed differences point to the importance of ongoing decision-making—whether to refinance, how to structure borrowing, and how to adjust expenditures in response to changes in income or interest rates. More-educated households appear better able to make these adjustments in ways that limit exposure to repayment strain, resulting in consistently lower levels of financial pressure even when they hold similar housing assets. Less-educated households, by contrast, appear more constrained in their ability to respond to changing conditions, leading to higher and more persistent levels of burden. The weaker educational gradients in the housing share of assets reinforce this interpretation: portfolio composition reflects longer-term allocation decisions that are less sensitive to day-to-day financial management and institutional navigation. Taken together, these results indicate that educational attainment shapes housing fragility not primarily through differential access to housing wealth, but through differences in how households engage with financial institutions and manage obligations under uncertain conditions. In a financialized housing system, where stability depends on the continuous management of debt and exposure to market shifts, these differences in capacity translate directly into differences in financial vulnerability among homeowners.

16. Conclusions and Discussion

Homeownership is widely understood as a cornerstone of financial stability, yet its capacity to provide durable economic security varies substantially across households. This study examined variation in housing fragility among U.S. homeowners and asked how vulnerability to housing- and credit-market disruptions is organized across wealth position, portfolio composition, and educational attainment. Housing is the primary means through which most households accumulate wealth and secure long-term economic stability, but it also ties households to debt obligations, asset-price fluctuations, and financial arrangements that can amplify vulnerability under changing market conditions. These tensions have become increasingly consequential as housing has become more deeply integrated into financial markets through the expansion of mortgage credit, the growing centrality of asset-based wealth, and the increasing reliance on debt-financed ownership. Under these conditions, ownership itself does not necessarily provide security. Instead, stability depends on how ownership is structured through leverage, repayment obligations, liquidity, and the concentration of wealth in housing. Focusing specifically on homeowners makes it possible

to isolate variation within ownership itself rather than differences between owners and renters, while incorporating measures that extend beyond housing values alone captures the broader balance-sheet conditions that shape households' ability to absorb shocks and sustain financial commitments over time.

I drew on two theoretical perspectives—financialization and action under uncertainty—to conceptualize housing fragility as a multidimensional condition rooted in the organization of household balance sheets and in unequal capacities to navigate financial institutions and market uncertainty. From this perspective, housing fragility reflects not only disparities in resources, but also differences in how households engage credit markets, structure debt, respond to changing borrowing conditions, and manage exposure to financial risk. This approach emphasizes that vulnerability is often embedded in ordinary financial arrangements rather than confined to moments of crisis such as foreclosure or default. It also highlights that similar levels of housing wealth can correspond to very different levels of economic security depending on the broader organization of household assets, debts, and repayment obligations. The analysis thus shifts attention away from homeownership as a uniformly stabilizing status and toward the uneven ways ownership is financed, sustained, and experienced across households in the contemporary United States.

The findings showed that housing fragility was organized along three intersecting dimensions: wealth position, the broader configuration of household assets and liabilities, and educational attainment. First, I found strong and consistent evidence that housing fragility was systematically organized across the wealth distribution. Across all six indicators, lower-wealth homeowners exhibited higher levels of leverage, greater repayment strain, and substantially higher housing cost burdens than households positioned higher in the net worth distribution. These differences were not confined to periods of market crisis, but instead persisted throughout the full 1989–2022 period, indicating that fragility reflected an enduring feature of how homeownership was structured rather than a temporary disruption associated with particular economic downturns. The findings further showed that wealth stratification extended across multiple dimensions of fragility simultaneously. Lower-wealth households were more likely to hold debt levels that were high relative to both assets and income, to devote larger shares of income to housing costs, and to maintain portfolios heavily concentrated in owner-occupied housing. These patterns suggest that vulnerability among homeowners reflects not only fewer economic resources, but also qualitatively different forms of engagement with housing and credit markets. Homeownership among lower-wealth households was more likely to depend on debt-financed access to appreciating assets and on financial arrangements that left households exposed to fluctuations in interest rates, housing prices, and income streams. By contrast, households at the top of the wealth distribution consistently maintained lower levels of leverage, lower repayment burdens, and more diversified asset holdings, allowing them to absorb market shifts with less disruption to their broader financial positions. Taken together, these findings indicated that housing fragility was deeply embedded in the unequal organization of household balance sheets and that the risks associated with homeownership were distributed unevenly across the wealth hierarchy.

The findings do not overturn the well-established observation that lower-wealth households face greater financial constraints than their wealthier counterparts. Rather, they demonstrate how those constraints are reflected in multiple dimensions of housing fragility that extend beyond housing values alone. The results further show that homeowners occupying similar positions in housing markets often differ substantially in their broader balance-sheet resources and exposure to financial risk. By distinguishing net worth position from housing position and by examining educational differences among homeowners, the

analysis highlights forms of variation in housing-related vulnerability that are not captured by conventional measures of homeownership or housing wealth alone.

Second, I found that housing fragility was more closely associated with overall net worth than with housing values alone and that educational attainment structured vulnerability in ways that extended beyond differences in resources. Homeowners with similar levels of housing wealth often occupied markedly different positions in terms of leverage, repayment burdens, and housing cost strain depending on their broader balance-sheet resources. In particular, households in the lower half of the net worth distribution consistently exhibited higher levels of fragility than households occupying similar positions in the housing wealth distribution, indicating that housing values alone did not adequately capture households' capacity to withstand financial disruptions. This divergence was especially pronounced in measures tied to repayment obligations and ongoing financial strain, including debt relative to income and housing cost burdens, while differences were smaller for measures capturing the share of wealth held in housing. These findings underscored that the stability associated with homeownership depended less on housing assets themselves than on the broader configuration of assets, liabilities, and liquidity surrounding those assets.

Finally, the results showed that educational attainment differentiated exposure to housing-related risk. Less-educated homeowners consistently experienced higher debt burdens and greater housing cost strain than homeowners with a bachelor's degree or more, even within similar wealth positions. These differences were especially pronounced for measures tied to repayment capacity and ongoing financial obligations, suggesting that education shaped not only access to resources but also households' capacities to navigate uncertain market conditions, refinance debt, manage repayment obligations, and respond to changing financial circumstances. Together, the findings demonstrated that housing fragility reflected more than inequality in housing wealth alone. It also reflected unequal capacities to manage financial risk within increasingly complex and financialized housing and credit markets.

This study has several limitations. First, although the theoretical discussion emphasizes strategic capacity and action under uncertainty, the SCF does not include direct measures of these processes. This limitation is particularly relevant to the educational attainment findings. The argument developed here is that educational attainment captures broader differences in households' capacities to navigate housing and credit markets, but the data do not permit direct observation of the mechanisms through which those capacities operate. As a result, educational attainment serves as an indicator of strategic capacity rather than a direct measure of it. Future research would benefit from incorporating measures such as financial literacy, refinancing behavior, mortgage-shopping strategies, interactions with financial professionals, and other indicators of how households respond to uncertainty in housing and credit markets. Such measures would make it possible to evaluate more directly the mechanisms through which educational differences become associated with housing fragility. In addition, educational attainment is measured using a bachelor's-degree threshold that captures an important institutional distinction but may obscure heterogeneity within broader educational categories. Future research could examine whether the patterns documented here vary across finer-grained levels of educational attainment, including distinctions among households with some college education, associate's degrees, and postgraduate training.

Second, the analyses rely on repeated cross-sectional data, making it impossible to observe how housing fragility evolves within households over time or to identify the causal processes through which fragility develops and persists. Longitudinal data would make it possible to examine transitions into and out of housing fragility and to assess

the long-term consequences of sustained financial vulnerability. Future research could also evaluate temporal stability more directly through models incorporating interactions between survey year and key explanatory variables, making it possible to assess whether the relationships documented here strengthened, weakened, or remained stable across different historical periods. This limitation is particularly relevant to the relationship between net worth and housing fragility. Although the findings indicate that housing fragility is more strongly associated with overall net worth than with housing value alone, the analyses cannot establish the causal direction of this relationship. Lower net worth may increase vulnerability by limiting households' ability to absorb shocks and sustain financial commitments, but prior financial shocks may also contribute to lower net worth. Longitudinal data would make it possible to distinguish more clearly among these processes and to assess how wealth position and housing fragility evolve together over time.

Third, although the SCF provides unparalleled information on household assets and liabilities, it contains limited information on local housing-market conditions, lending environments, and institutional features of housing markets that may shape exposure to risk. Future research linking household balance sheets to local housing-market characteristics would provide a richer understanding of how housing fragility is produced and maintained across different institutional and geographic contexts.

These findings have broader implications for how scholars understand housing, wealth, and economic security in the contemporary United States. Discussions of housing inequality often focus on access to ownership or differences in home values, but the results here suggest that the conditions under which ownership is financed and sustained are equally consequential. Homeownership did not operate as a uniform source of stability even during periods of rising housing values and expanding asset ownership. Instead, the same institution generated sharply different forms of economic exposure depending on households' leverage, liquidity, broader balance-sheet resources, and capacities to manage financial obligations under uncertain conditions. This distinction matters because contemporary housing systems increasingly require households to assume financial risks that were once distributed more broadly across employers, governments, and financial institutions themselves.

Under these conditions, economic insecurity may emerge not only through exclusion from ownership, but also through inclusion in forms of ownership that are highly leveraged, weakly buffered, and deeply dependent on continued market stability. The findings suggest that housing has become an increasingly important mechanism through which economic inequality is reproduced within the homeowner population itself. These patterns also carry important implications for housing policy. Policies that focus primarily on expanding access to homeownership may overlook substantial variation in the financial conditions under which ownership is achieved and sustained. The results indicate that lower-wealth households often enter and maintain homeownership through arrangements characterized by greater leverage, higher repayment burdens, and more limited financial buffers, leaving them more vulnerable to shifts in housing, credit, and labor markets. These findings do not imply that access to homeownership should be restricted. Rather, they suggest that promoting ownership and promoting financial security are not necessarily identical objectives. Efforts to strengthen households' ability to sustain ownership during periods of economic stress—including policies that reduce repayment strain, facilitate refinancing, increase liquidity buffers, or provide temporary support during financial disruptions—may be as important as policies designed to increase rates of ownership. Understanding housing fragility therefore requires moving beyond binary distinctions between owners and renters and toward greater attention to the financial structures through which ownership is organized, maintained, and experienced over time.

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Appendix A

Table A1. GLS Models of Total Household Debts to Total Household Assets.

	Model 1			Model 2			Model 3		
	β	SE		β	SE		β	SE	
Net Worth Group									
Top 1%	—			—			—		
Next 9%	0.051	0.006	***	0.043	0.005	***	0.029	0.011	**
Next 10%	0.1	0.006	***	0.086	0.005	***	0.056	0.011	***
Remaining 80%	0.347	0.005	***	0.283	0.005	***	0.237	0.001	***
Education									
Less than Bachelor's Degree				—			—		
Bachelor's Degree or More				0.039	0.001	***	−0.013	0.012	
Age				−0.016	0	***	−0.016	0	***
Age^2				0	0	***	0	0	***
Marital Status									
Never Married				—			—		
Divorced/Separated				0.07	0.003	***	0.071	0.003	***
Widowed				0.016	0.003	***	0.017	0.003	***
Married/Cohabiting				0.067	0.002	***	0.067	0.002	***
Race/ethnicity									
White non-Latino				—			—		
Black				0.048	0.002	***	0.048	0.002	***
Latino				0.029	0.002	***	0.031	0.002	***
Asian				−0.042	0.008	***	−0.041	0.008	***
Other				0.012	0.003	***	0.012	0.003	***
Work Status									
Work for someone else				—			—		
Self-employed				−0.038	0.002	***	−0.039	0.002	***
Retired, Unemployed, Other				−0.053	0.002	***	−0.053	0.002	***
Interactions									
Top 1%*Without BA							—		
Top 1%*With BA or more							—		
Next 9%*Without BA							—		
Next 9%*With BA or more							0.012	0.012	
Next 10%*Without BA							—		
Next 10%*With BA or more							0.029	0.012	*
Remaining 80%*Without BA							—		
Remaining 80%*With BA or more							0.068	0.012	***

n = 182,180; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cells include GLS regression coefficients and standard errors.

Table A2. GLS Models of Home Value to Total Household Assets.

	Model 1			Model 2			Model 3		
	β	SE		β	SE		β	SE	
Net Worth Group									
Top 1%	—			—			—		
Next 9%	0.165	0.004	***	0.146	0.004	***	0.154	0.008	***
Next 10%	0.33	0.004	***	0.294	0.004	***	0.309	0.008	***
Remaining 80%	0.569	0.004	***	0.505	0.004	***	0.536	0.008	***
Education									
Less than Bachelor's Degree				—			—		
Bachelor's Degree or More				−0.013	0.001	***	0.021	0.009	*
Age				−0.007	0	***	−0.007	0	***
Age^2				0	0	***	0	0	***
Marital Status									
Never Married				—			—		
Divorced/Separated				0.032	0.002	***	0.032	0.002	***
Widowed				0.038	0.002	***	0.037	0.002	***
Married/Cohabiting				−0.019	0.002	***	−0.019	0.002	***
Race/ethnicity									
White non-Latino				—			—		
Black				0.035	0.002	***	0.034	0.002	***
Latino				0.084	0.002	***	0.083	0.002	***
Asian				0.086	0.006	***	0.084	0.006	***
Other				0.071	0.002	***	0.07	0.002	***
Work Status									
Work for someone else				—			—		
Self-employed				−0.035	0.001	***	−0.035	0.001	***
Retired, Unemployed, Other				0.029	0.001	***	0.029	0.001	***
Interactions									
Top 1%*Without BA							—		
Top 1%*With BA or more							—		
Next 9%*Without BA							—		
Next 9%*With BA or more							−0.006	0.009	
Next 10%*Without BA							—		
Next 10%*With BA or more							−0.01	0.0009	
Remaining 80%*Without BA							—		
Remaining 80%*With BA or more							−0.047	0.009	***

n = 182,180; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cells include GLS regression coefficients and standard errors.

Table A3. GLS Models of Total Household Debt to Total Household Income.

	Model 1			Model 2			Model 3		
	β	SE		β	SE		β	SE	
Net Worth Group									
Top 1%	—			—			—		
Next 9%	0.194	0.026	***	0.247	0.024	***	0.129	0.053	*
Next 10%	0.263	0.026	***	0.35	0.024	***	0.183	0.052	***
Remaining 80%	0.73	0.025	***	0.68	0.024	***	0.455	0.051	***
Education									
Less than Bachelor's Degree				—			—		
Bachelor's Degree or More				0.192	0.006	***	−0.069	0.057	
Age				−0.025	0.001	***	−0.025	0.001	***
Age^2				0	0		0	0	

Table A3. *Cont.*

	Model 1			Model 2			Model 3		
	β	SE		β	SE		β	SE	
Marital Status									
Never Married				—			—		
Divorced/Separated				0.27	0.013	***	0.272	0.013	***
Widowed				−0.084	0.014	***	−0.08	0.014	***
Married/Cohabiting				−0.055	0.011	***	−0.052	0.011	***
Race/ethnicity									
White non-Latino				—			—		
Black				0.133	0.01	***	0.135	0.01	***
Latino				0.342	0.011	***	0.347	0.011	***
Asian				0.448	0.041	***	0.453	0.041	***
Other				0.264	0.015	***	0.266	0.015	***
Work Status									
Work for someone else				—			—		
Self-employed				0.274	0.009	***	0.272	0.009	***
Retired, Unemployed, Other				−0.043	0.008	***	−0.044	0.008	***
Interactions									
Top 1%*Without BA							—		
Top 1%*With BA or more							—		
Next 9%*Without BA							—		
Next 9%*With BA or more							0.127	0.059	*
Next 10%*Without BA							—		
Next 10%*With BA or more							0.175	0.059	**
Remaining 80%*Without BA							—		
Remaining 80%*With BA or more							0.319	0.057	***

n = 182,180; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cells include GLS regression coefficients and standard errors.

Table A4. GLS Models of Total Home Debt to Total Household Income.

	Model 1			Model 2			Model 3		
	β	SE		β	SE		β	SE	
Net Worth Group									
Top 1%	—			—			—		
Next 9%	0.238	0.021	***	0.271	0.019	***	0.167	0.043	***
Next 10%	0.334	0.021	***	0.391	0.02	***	0.247	0.042	***
Remaining 80%	0.695	0.02	***	0.646	0.019	***	0.469	0.042	***
Education									
Less than Bachelor's Degree				—			—		
Bachelor's Degree or More				0.173	0.005	***	−0.036	0.046	
Age				−0.022	0.001	***	−0.022	0.001	***
Age^2				0	0		0	0	
Marital Status									
Never Married				—			—		
Divorced/Separated				0.229	0.011	***	0.231	0.011	***
Widowed				−0.038	0.012	**	−0.035	0.012	**
Married/Cohabiting				−0.029	0.009	***	−0.027	0.009	**
Race/ethnicity									
White non-Latino				—			—		
Black				0.036	0.008	***	0.038	0.008	***
Latino				0.24	0.009	***	0.243	0.009	***
Asian				0.328	0.033	***	0.33	0.033	***
Other				0.217	0.012	***	0.217	0.012	***

Table A4. *Cont.*

	Model 1			Model 2			Model 3		
	β	SE		β	SE		β	SE	
Work Status									
Work for someone else				—			—		
Self-employed				0.153	0.007	***	0.152	0.007	***
Retired, Unemployed, Other				−0.076	0.007	***	−0.077	0.007	***
Interactions									
Top 1%*Without BA							—		
Top 1%*With BA or more							—		
Next 9%*Without BA							—		
Next 9%*With BA or more							0.115	0.048	*
Next 10%*Without BA							—		
Next 10%*With BA or more							0.161	0.048	***
Remaining 80%*Without BA							—		
Remaining 80%*With BA or more							0.246	0.047	***

n = 182,180; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cells include GLS regression coefficients and standard errors.

Table A5. Logistic Regression Models: Housing Costs Exceed 30% Income.

	Model 1			Model 2			Model 3		
	β	SE		β	SE		β	SE	
Net Worth Group									
Top 1%	—			—			—		
Next 9%	0.578	0.001	***	0.731	0.001	***	0.321	0.002	***
Next 10%	0.731	0.001	***	1	0.001	***	0.483	0.002	***
Remaining 80%	1.285	0.001	***	1.507	0	***	0.907	0.002	***
Education									
Less than Bachelor's Degree				—			—		
Bachelor's Degree or More				0.546	0	***	−0.145	0.002	***
Age				−0.039	0	***	−0.038	0	***
Age^2				0	0	***	0	0	***
Marital Status									
Never Married				—			—		
Divorced/Separated				0.731	0	***	0.737	0	***
Widowed				0.365	0	***	0.378	0	***
Married/Cohabiting				0.695	0	***	0.704	0	***
Race/ethnicity									
White non-Latino				—			—		
Black				0.036	0	***	0.039	0	***
Latino				−0.044	0	***	−0.036	0	***
Asian				0.041	0.001	***	0.047	0	***
Other				0.016	0	***	0.017	0	***
Work Status									
Work for someone else				—			—		
Self-employed				−0.042	0	***	−0.050	0	***
Retired, Unemployed, Other				−0.567	0	***	−0.569	0	***
Interactions									
Top 1%*Without BA							—		
Top 1%*With BA or more							—		
Next 9%*Without BA							—		
Next 9%*With BA or more							0.458	0.002	***
Next 10%*Without BA							—		
Next 10%*With BA or more							0.580	0.002	***
Remaining 80%*Without BA							—		
Remaining 80%*With BA or more							0.824	0.002	***

n = 182,180; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cells include logistic regression coefficients and standard errors.

Table A6. Logistic Regression Models: Housing Costs Exceed 50% Income.

	Model 1			Model 2			Model 3		
	β	SE		β	SE		β	SE	
Net Worth Group									
Top 1%	—			—			—		
Next 9%	0.664	0.001	***	0.796	0.001	***	0.359	0.002	***
Next 10%	0.889	0.001	***	1.131	0.001	***	0.558	0.002	***
Remaining 80%	1.501	0.001	***	1.684	0.001	***	1.022	0.002	***
Education									
Less than Bachelor's Degree				—			—		
Bachelor's Degree or More				0.528	0	***	−0.236	0.002	***
Age				−0.042	0	***	−0.041	0	***
Age^2				0	0	***	0	0	***
Marital Status									
Never Married				—			—		
Divorced/Separated				0.628	0	***	0.634	0	***
Widowed				0.235	0	***	0.247	0	***
Married/Cohabiting				0.484	0	***	0.493	0	***
Race/ethnicity									
White non-Latino				—			—		
Black				0.006	0	***	0.009	0	***
Latino				0.074	0	***	0.083	0	***
Asian				0.192	0.001	***	0.197	0.001	***
Other				0.100	0	***	0.102	0	***
Work Status									
Work for someone else				—			—		
Self-employed				0.037	0	***	0.026	0	***
Retired, Unemployed, Other				−0.471	0	***	−0.473	0	***
Interactions									
Top 1%*Without BA							—		
Top 1%*With BA or more							—		
Next 9%*Without BA							—		
Next 9%*With BA or more							0.490	0.002	***
Next 10%*Without BA							—		
Next 10%*With BA or more							0.647	0.002	***
Remaining 80%*Without BA							—		
Remaining 80%*With BA or more							0.893	0.002	***

n = 182,180; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cells include logistic regression coefficients and standard errors.

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