

# Correlation of Insurance and Retirement Product Penetration with Wealth Inequality in the U.S. Main Report

May | 2023





# Correlation of Insurance and Retirement Product Penetration with Wealth Inequality in the U.S.

## Main Report

### AUTHORS

Steve Bochanski, FSA, MAAA  
Paige DeMeter, FCAS, MAAA  
Jayeeta Sen Mazumder  
Sean Moore, FCAS, MAAA  
Irmeya Ouedraogo, ASA, MAAA


### SPONSOR

Diversity, Equity and Inclusion Research  
Advisory Council


### CONTRIBUTORS

Jesvir Harkoo, FSA, MAAA  
Hong Beng Lim, PhD  
Collin Nill  
Sourabh Prasad

This report is published with a companion supplemental report *Correlation of Insurance and Retirement Product Penetration with Wealth Inequality in the U.S.: Supplemental Report*, available at <https://www.soa.org/resources/research-reports/2023/corr-ins-ret-wealth-inequality-us/>.



**Give us your feedback!**  
Take a short survey on this report.

[Click Here](#)

### Caveat and Disclaimer

The opinions expressed and conclusions reached by the authors are their own and do not represent any official position or opinion of the Society of Actuaries Research Institute, the Society of Actuaries or its members. The Society of Actuaries Research Institute makes no representation or warranty to the accuracy of the information.

Copyright © 2023 by the Society of Actuaries Research Institute. All rights reserved.

# CONTENTS

- Executive Summary ..... 4**
  - Key Findings: Questions 1 & 2: Current Differences in Ownership (Penetration) Rates .....4
  - Key Findings: Question 3: Trends.....5
  - Question 4: Relationship to Wealth Inequality .....5
  - Approach and Limitations .....6
- Section 1: Introduction ..... 8**
  - 1.1 Research Objective.....8
  - 1.2 Income and Wealth Inequality by Race and Ethnicity .....8
    - 1.2.1 Definitions of Race or Ethnicity.....8
    - 1.2.2 Definitions of Income, Wealth and U.S. CBG .....9
    - 1.2.3 Background .....10
  - 1.3 Insurance and Retirement Products and Wealth Transfer .....11
    - 1.3.1 Homeowners and Renters .....11
    - 1.3.2 Life Insurance .....12
    - 1.3.3 Retirement Products .....13
- Section 2: Statistical Analysis Approach ..... 15**
  - 2.1 Data and Data Sources .....15
    - 2.1.1 Evaluation Date .....15
    - 2.1.2 Data Sources .....15
  - 2.2 Overview of Methodology and Approach.....16
    - 2.2.1 Regression Analysis Methodology .....16
    - 2.2.2 Final Regression Variables .....16
    - 2.2.3 Presentation of Regression Coefficients for Categorical Variables .....17
    - 2.2.4 Interpreting Regression Coefficients .....17
  - 2.3 Limitations .....18
- Section 3: Results ..... 19**
  - 3.1 Overview .....19
  - 3.2 Results of Race or Ethnicity-Only Models .....19
    - 3.2.1 Homeowners or Renters Insurance .....22
    - 3.2.2 Life Insurance .....22
    - 3.2.3 Retirement Products .....23
  - 3.3 Key Findings of Expanded Race, Wealth and Other Variables Model .....23
    - 3.3.1 Implied Marginal Product Penetrations.....25
    - 3.3.1 Income and Wealth Inequality In Our Data .....27
  - 3.4 Detailed Results.....28
    - 3.4.1 Homeowners and Renters Insurance .....28
    - 3.4.2 Life Insurance Products.....32
    - 3.4.3 Retirement Products .....33
  - 3.5 Trends Across Time .....35
    - 3.5.1 Homeowners or Renters Insurance Products.....36
    - 3.5.2 Life Insurance Products.....38
    - 3.5.3 Retirement Products .....39
- Section 4: Concluding Remarks ..... 41**
  - 4.1 Summary of Findings .....41
  - 4.2 Relationship to Wealth Inequality, Limitations and Other Areas of Future Research .....42
- Section 5: Acknowledgments ..... 44**
- References ..... 45**
- About The Society of Actuaries Research Institute ..... 46**

# Correlation of Insurance and Retirement Product Penetration with Wealth Inequality in the U.S.

## Main Report

### Executive Summary

The Society of Actuaries (“SOA”) Research Institute, an education and research organization dedicated to enabling the provision of expert advice and relevant solutions for financial, business and societal problems involving risk, has dedicated a portion of its research efforts to objectively exploring issues within the insurance, retirement and financial industries that affect people of color or other dimensions of diversity in the United States. Income and wealth inequality by racial and ethnic groups in the U.S. are well documented, and home ownership is well documented as a key element of wealth and the inter-generational transfer of wealth. Several elements of the inequalities have been individually studied. This research project seeks to develop a broader understanding of the relationship between ownership of insurance and retirement products and the income and wealth gap. In particular, our core research has focused on the following questions:

- Does the ownership of insurance and retirement savings products vary by race or ethnicity in the U.S.? How significant is this?
- Can we infer reasons why these variations in ownership exist?
- How has the prevalence of these insurance and retirement savings products by race or ethnicity changed across time?
- What is the relationship between insurance and retirement products and services and income and wealth inequality?

Insurance and retirement products offer protection against a variety of financial risks to both businesses and individuals. We have focused on ownership of three categories of products that impact personal wealth: homeowners and renters insurance, life insurance and retirement products. To supplement our research and provide broader context on income and wealth inequality, we include findings from the Survey of Consumer Finances (SCF), based on financial data from 1989 to 2019 for U.S. families (described in more detail in Section 1 and Section 3.5).

### KEY FINDINGS: QUESTIONS 1 & 2: CURRENT DIFFERENCES IN OWNERSHIP (PENETRATION) RATES

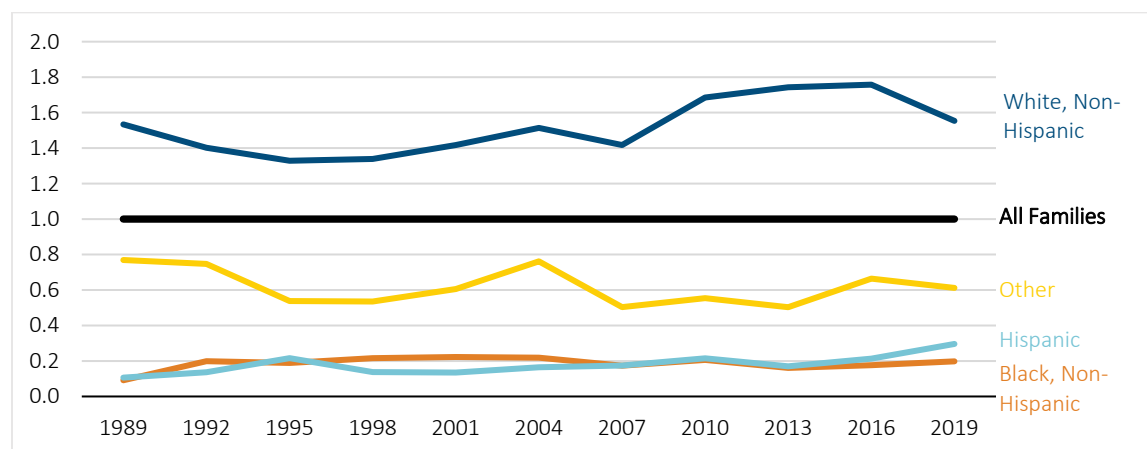
We are aware of existing research on disparities in life insurance and retirement, separately. Our research looks for trends in ownership across personal lines property, life insurance, and retirement products. In addition, our research seeks to understand the extent to which observed disparities in insurance and retirement product ownership are explained by disparities in income and wealth.

In our research, we observed disparities in the penetration of life insurance, retirement products, and homeowners or renters insurance by race or ethnicity. We found that these disparities were largely explained by differences in net worth across racial or ethnic groups in the U.S. and, after controlling for net worth, penetration rates were relatively similar across racial or ethnic groups. Figure 1 summarizes the relative differences in net worth by race or

ethnicity in the U.S. between 1989 and 2019, which generally align with the relative disparities in insurance and retirement ownership we observed in our research.

**Figure 1**

**MEDIAN NET WORTH BETWEEN 1989–2019, BY RACE OR ETHNICITY—RELATIVE INDEX TO ALL U.S. FAMILIES**



Source: Federal Reserve Board, Survey of Consumer Finances, 1989–2019.

Notes: (1) The SCF does not publicly report data on Asian or Asian Americans. According to the Board of Governors of the Federal Reserve, who carries out the Survey, Other consists of a diverse set of families that cannot be disaggregated because of small sample size. The Federal Reserve Board announced that the 2022 survey would oversample minority families (the term used by the SCF). As a result, data on Asian or Asian American families may be published in future surveys. (2) The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute's terms for Black or African American and Hispanic or Latino, and white.

**This suggests the existence of a self-perpetuating cycle in which those with higher net worth have higher usage of insurance and retirement products, which contributes to intergenerational wealth transfer and higher net worth for the surviving generation.**

Further research into how the insurance and retirement needs of both lower wealth communities and marginalized communities in the U.S. can be met may identify opportunities to help close this gap in conjunction with other policies and programs. For a more complete discussion, see Section 1.2 and commentary throughout the report.

### KEY FINDINGS: QUESTION 3: TRENDS

We performed a regression analysis to analyze disparities in homeowners or renters insurance, life insurance, and retirement product penetration. The data used in our regression analysis contains only data from 2019. We were unable to obtain historical penetration data for homeowners or renters insurance and all types of life insurance by race or ethnicity in the U.S. from any source. We were able to find historical penetration on retirement products from the SCF. In addition, the SCF tracks financial metrics that may proxy trends in homeowners or renters insurance and life insurance penetration. Leveraging data from the SCF on homeownership and mortgages (as a proxy for homeowners or renters insurance), cash value life insurance (as a proxy for all life insurance products), and retirement products, we do not observe strong evidence that the gaps in penetration rates are closing across time. See Section 3.5 for a full discussion.

### QUESTION 4: RELATIONSHIP TO WEALTH INEQUALITY

Significant research, including research produced by the SCF, suggests that intergenerational wealth transfer is a significant driver of wealth inequality in the U.S (see Section 1.2). Many wealthy individuals grew up in wealthy families. As a result, wealth disparities by race or ethnicity in the U.S. perpetuate with each generation. Significant

debate has occurred around this cycle, including a variety of policy proposals such as free college education and reparations for the descendants of enslaved Americans, among others.

Our research suggests that there may be additional opportunities for insurance and retirement products to support wealth building and intergenerational wealth transfer (see Section 1.3) for marginalized communities in conjunction with other programs and policies. Our data shows that a significant portion of the U.S. population does not own the products studied:

- Homeowners/Renters insurance: 24%
- Life insurance (58%)
- Retirement (47%).

Opportunities exist for further research to understand whether low penetration rates result from lower income households having more immediate financial needs and not being able to afford the currently available products, products that do not meet the needs of marginalized groups, particularly those with lower financial wealth, or whether low penetration is a result of lack of awareness or a lack of need as a result of social programs. See Section 4 for additional discussion.

## APPROACH AND LIMITATIONS

To study differences in ownership rates of homeowners or renters insurance, life insurance, and retirement products by race or ethnicity, ideally, we would have recent data on a sample of individuals representative of the U.S. population that contained product ownership and demographic information, including race or ethnicity. However, we are unaware of a source for such data. Instead, we obtained data on insurance and retirement products penetration rates by geographical area (specifically, 2019 U.S. Census block group, or CBG, data). We connected that data to the 2019 U.S. Census demographic data at a CBG level. With this dataset, we used a multiple linear regression approach to study the relationship between race or ethnicity and insurance and retirement product penetration. See Section 2 for a full discussion of data and methodology.

First, to understand if disparities exist in insurance and retirement product penetration by race or ethnicity in the U.S. regardless of wealth or other demographic factors, we performed a “simple” linear regression, using only race or ethnicity as independent variables and each product as dependent variables (R/E-only model). The adjusted R<sup>2</sup> for this model was rather low, suggesting that under the multiple linear regression model race or ethnicity explains only approximately 30% of the variability in insurance and retirement product penetration. Generally, the industry standard is that an adjusted R<sup>2</sup> value of 60% or higher is considered good. However, we note that different analyses have different benchmarks for adjusted R<sup>2</sup>, depending on the type of data and applicability of analysis. To better understand the drivers of variation in homeowners or renters insurance, life insurance, and retirement product penetration, we expanded our models by adding net worth and other demographics (“expanded for net worth and other demographics,” or EFNWOD model) such as education, age, and marital status as independent variables. We observe the adjusted R<sup>2</sup> s for the EFNWOD models are between 81% and 87%, implying that the models explain a large proportion of the variation in homeowners or renters insurance, life insurance, and retirement product penetration. We acknowledge that correlations exist between independent variables within our model. In Section 2, we discuss how we have mitigated the impact of multicollinearity.

Our data does not break down the components of net worth. However, we note that net worth generally considers investment accounts, including retirement accounts and certain life insurance balances. We are unable to quantify the extent to which the increase in adjusted R<sup>2</sup> results from having some components of net worth in the dependent variable.

Throughout this report, we discuss limitations underlying our research. In particular, data availability and reliability has constrained our analysis. Section 2.1 describes the available data sources, and our approach in detail along with the associated limitations. Our data is at a geographic unit level (census block group) rather than an individual level. As a result, our model shows correlations or effects of increasing the proportion of the demographic (variable) in a CBG rather than the effect a demographic has on likelihood an individual owns a given insurance or retirement product.

With respect to the modeling approach, we used multiple linear regression to enable the study of relationships between multiple variables and produce results that are easy to understand and explain. We acknowledge that other statistical approaches could have been used. A more complete discussion of the advantages, disadvantages and our rationale may be found in Section 2.

In addition, our data contains ownership of either homeowners or renters insurance. We acknowledge not owning a Homeowners policy if you are a homeowner is a more risky financial decision than not owning a renters insurance policy if you are a renter and would have greater implications for wealth building and wealth transfer. However, our data does not contain details on owning homeowners insurance separately from owning renters insurance. If a data source becomes available, we recommend this as an area for future research.

Lastly, many of our demographic variables have some degree of correlation with one another. In Section 2, we discuss how we have mitigated the impact of multicollinearity.



**Give us your feedback!**

Take a short survey on this report.

[Click Here](#)

**SOA**  
**Research**  
INSTITUTE

## Section 1: Introduction

### 1.1 RESEARCH OBJECTIVE

The objective of this research project is to investigate the correlation between insurance and retirement products ownership and income and wealth inequality across various racial and ethnic groups in the U.S. In particular, our core research has focused on the following questions:

1. Does the ownership of insurance (including retirement saving) products vary significantly by race or ethnicity in the U.S.? How significant is this? (Section 2 & 3)
2. Based on available data, can we infer reasons why these variations in prevalence exist? (Sections 2 and 3.1–3.4)
3. How has the prevalence of these insurance products by race or ethnicity changed across time? (Section 3.5)
4. What is the relationship between insurance and retirement products and services and income and wealth inequality? (Section 4)

In our research, we have focused on ownership of three categories of products that impact personal wealth: homeowners and renters insurance, life insurance, and retirement products.

### 1.2 INCOME AND WEALTH INEQUALITY BY RACE AND ETHNICITY

#### 1.2.1 DEFINITIONS OF RACE OR ETHNICITY

In this report, we include race or ethnicity data from two sources: the SCF and the American Community Survey (ACS).

##### 1.2.1.1 SCF

In the SCF data, the race or ethnicity of a family are “classified according to the self-identification of that family’s original respondent to the SCF interview. For greater comparability with earlier SCF data, the data reported in this article group respondents into four classifications based on their responses to the racial identification question: white non-Hispanic, Black non-Hispanic, Hispanic or Latino, and other or multiple races. The “other or multiple race” classification consists of respondents identifying as Asian, American Indian, Alaska Native, Native Hawaiian, Pacific Islander, other race, and all respondents reporting more than one racial identification...

Starting in 1998, SCF respondents were allowed to report more than one racial identification; in surveys before then, only one response was recorded... respondents reporting multiple racial identifications in the surveys starting with 1998 are classified as “other or multiple races.” In the 2019 SCF, 6.8 percent of respondents reported more than one racial identification, up from 6.4 percent in 2016, 6.1 percent in 2013, 5.4 percent in 2007, and 2.3 percent in 2004” (Bhutta et al, 2020).

The Federal Reserve Board announced that the 2022 survey would oversample minority families (the term used by the SCF) to allow for more data on smaller populations. As a result, data on Asian or Asian American families may be published in future surveys (Moore, 2021).

In addition, the SCF data is based on “families.” The SCF definition “differs from that typically used in other government studies. In the SCF, a household unit is divided into a primary economic unit (PEU)—the family—and everyone else in the household. The PEU is intended to be the economically dominant single person or couple



(whether married or living together as partners) and all other persons in the household who are financially interdependent with that economically dominant person or couple. This report also designates a reference person within the PEU, not to convey a judgment about how an individual family is structured but as a means of organizing the data consistently. For example, the age and educational classifications ascribed to families throughout this report describe the age and education of the reference person. If a couple is economically dominant in the PEU, the reference person is the male in a mixed-sex couple or the older person in a same-sex couple. If a single person is economically dominant, that person is designated as the family reference person in this report” (Bhutta et al, 2020).

#### **1.2.1.2 ACS**

The race or ethnicity categories are self-reported by individuals. The ACS asks separately whether an individual identifies as Hispanic or Latino, and which race an individual identifies with. For purposes of this report, if an individual identifies as Hispanic or Latino, they are grouped as Hispanic or Latino. Otherwise, they are grouped in the following categories:

1. White alone;
2. Black or African American alone;
3. American Indian alone; Alaska Native alone; American Indian and Alaska Native tribes specified or American Indian or Alaska Native, not specified and no other races;
4. Asian alone;
5. Native Hawaiian and Other Pacific Islander alone
6. Some Other Race alone; and
7. Two or more races.

### **1.2.2 DEFINITIONS OF INCOME, WEALTH AND U.S. CBG**

In this report, we include income and net worth data from three sources: the SCF, the American Community Survey (ACS) and an additional proprietary data set.

#### **1.2.2.1 SCF**

The SCF collects information on families’ income, defined as total income before taxes for the calendar year preceding the survey, and net worth, defined as the difference between families’ gross assets and their liabilities, at the time of the interview (Bhutta et al, 2020). The majority of the interview data was collected between May and December 2019 although a small fraction of interview data was collected in the first four months of 2020.

#### **1.2.2.2 ACS**

The income data from the ACS is the median household income from the past 12 months in 2019 dollars from a given U.S. CBG. The ACS did not contain data on net worth.

U.S. CBGs, which are “statistical divisions of census tracts, are generally defined to contain between 600 and 3,000 people and are used to present data and control block numbering. A block group [BG] consists of clusters of blocks within the same census tract... A BG usually covers a contiguous area. Each census tract contains at least one BG, and BGs are uniquely numbered within the census tract. Within the standard census geographic hierarchy, BGs never cross state, county, or census tract boundaries, but may cross the boundaries of any other geographic entity “(U.S. Census Bureau).

The ACS is based on survey data in which income is self-reported. However, as discussed in Section 2.1, the ACS demographic estimates use interim, smaller sample surveys and design-based or model-based estimation techniques to project 2019 data from the 2010 U.S. Census.

**1.2.2.3 Proprietary Data for Net Worth**

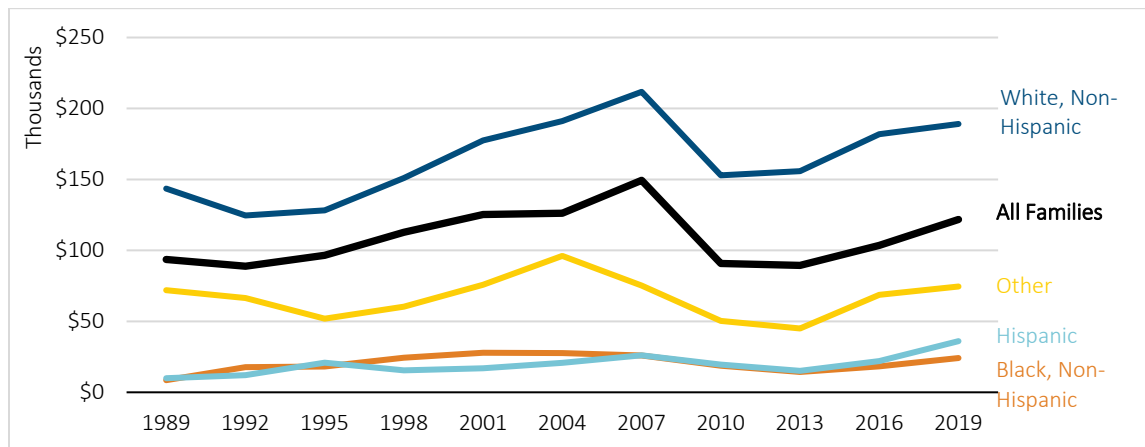
Similar to the SCF, net worth is defined as the difference between households’ gross assets and their liabilities based on data collected and modeled in 2019. See Section 2.1 for more details.

**1.2.3 BACKGROUND**

The existence of income and wealth disparities among racial and ethnic groups in the U.S. is well established. There is significant research on the history of legal and societal practices that have contributed to the observed income and wealth gap. A suggested list (by no means exhaustive) for further reading on these historical and legal practices is contained in this report’s companion *Supplemental Report*.

The Survey of Consumer Finances (SCF), which is a cross-sectional survey of U.S. families conducted every three years between 1989 and 2019 (please see Section 3.5 for further discussion), shows the median net worth among white families has consistently exceeded that of the median U.S. family (see Figure 2). In 2019 median net worth for white families was 55% higher than the median U.S. family compared with Black or African American families and Hispanic or Latino families, which were 80% and 70% below the median U.S. family, respectively.

**Figure 2**  
**MEDIAN FAMILY NET WORTH BETWEEN 1989–2019 BY RACE OR ETHNICITY**



Source: Federal Reserve Board, Survey of Consumer Finances, 1989–2019.

Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute’s terms for Black or African American and Hispanic or Latino, and white.

The SCF found that of the families in the wealthiest one percent, 89% of the reference people were white, 10% were other, 1% were Black or African American, and less than 1% were Hispanic or Latino (Bricker, Goodman, Moore, and Henriques Volz, 2020). This compares to the families in the 2019 survey as a whole in which 65% of the reference people were white, 14% Black or African American, 10% Hispanic or Latino, and 11% other (Bhutta, Bricker, Chang, Dettling, Goodman, Hsu, Moore, Reber, Volz, Windle, 2020).

Researchers have estimated that direct, intergenerational wealth transfers (through inheritance or gifts) accounts for a quarter to a half of household wealth in the U.S (Feiveson and Sabelhaus, 2018). Indirect wealth transfers (such as investment in education or inheriting a family business) further increase the contribution to household wealth. As a result, the wealthiest individuals generally grew up in wealthy families. Because higher educational attainment is associated with higher net worth, in their research as part of the SCF, Bricker et. al use a parent with a college degree as a proxy for the financial status of a person’s household growing up. Table 1 shows the average inheritance (and expected inheritance) by wealth group in the 2019 SCF (Bricker, Goodman, Moore, and Henriques Volz, 2020).

**Table 1**  
**INTERGENERATIONAL WEALTH TRANSFER—INHERITANCE AND PARENTAL EDUCATION**

Wealth Group	Mean Inheritance Received (Thousands)	Mean Expected Inheritance (Thousands)	Parent With College Degree
Bottom 50%	\$10	\$29	28%
50%–90%	\$46	\$60	33%
90%–99%	\$174	\$267	47%
Top 1%	\$719	\$941	58%
Total Population	\$46	\$72	32%

Source: Federal Reserve Board, 2019 Survey of Consumer Finances.

Note: The SCF defines wealth as “the difference between the market value of assets owned by a family and the amount owed in debts” (Bricker, Goodman, Moore, and Henriques Volz, 2020).

Furthermore, as a result of wealth historically being disproportionately concentrated in white households, white families are more likely to experience intergenerational wealth transfer. For example, as shown in Table 2, the 2019 SCF showed that nearly 30% of white families received an inheritance or gift, compared to about 10% of Black families, 7% of Hispanic families, and 18% of other families. In addition, the inheritances received tended to be larger for white families than other groups (Bhutta, Chang, Dettling, and Hsu, 2020).

**Table 2**  
**INTERGENERATIONAL WEALTH TRANSFER—INHERITANCE**

	White, non-Hispanic	Black, non-Hispanic	Hispanic	Other
Percent of families who received an inheritance	30%	10%	7%	18%
Conditional median inheritance	\$89,000	\$86,000	\$52,000	\$59,000
Percent of families who expect an inheritance	17%	6%	4%	15%
Conditional median expected inheritance	\$196,000	\$100,000	\$150,000	\$100,000
% Parent(s) have a college degree	34%	25%	15%	40%

Source: Federal Reserve Board, 2019 Survey of Consumer Finances.

Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute’s terms for Black or African American and Hispanic or Latino, and white.

### 1.3 INSURANCE AND RETIREMENT PRODUCTS AND WEALTH TRANSFER

In this section, we provide an overview of the three products studied in this report (homeowners or renters insurance, life insurance, and retirement product) with commentary on how these products provide financial protection and support intergenerational wealth transfer.

#### 1.3.1 HOMEOWNERS AND RENTERS

##### *Background*

Standard homeowners insurance covers damage to a home’s structure and contents if a destructive, insured event, such as a fire, occurs. In addition to covering the cost of rebuilding or repairs to the home, if the event causes a home to be uninhabitable, insurance covers living expenses associated with alternative housing. Coverage also includes the policyholders’ legal liability for any injuries and property damage to others caused by the policyholder or household members. However, homeowners policies do not cover all events. In particular, policies generally exclude losses as a result of a flood or an earthquake; coverage for those events are sold as separate policies (in some cases through government programs). Renters insurance and condominium insurance are similar to

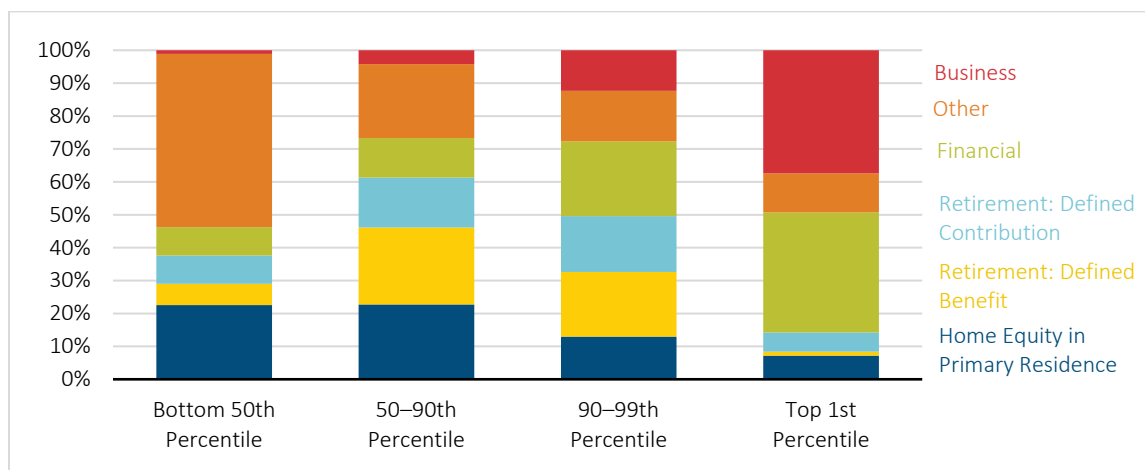
homeowners except that damage to the structure is not covered for renters; for condo insurance, only certain parts of the interior structure are covered (Insurance Information Institute). The structure for apartment and condominium buildings are covered by separate policies purchased by the owner of the apartment building or the condominium association, respectively.

Within the data used in the statistical analysis described in Sections 2 and 3, the survey data identifies the percent of households with any type of homeowners or renters insurance.

**Role in Wealth-Building and Wealth-Transfer**

Researchers debate whether home ownership leads to wealth building. Some researchers argue that wealth leads to homeownership not vice versa (Darity and Hamilton, 2018). Other researchers contend that homeownership has historically had strong financial returns and, as a result, is important to wealth building for families (Goodman and Mayer, 2018). Regardless of whether homeownership is a cause of or an effect of wealth, homeowners insurance protects a sizable asset for many families, particularly those in the bottom 90th percentile of family wealth. Figure 3 shows the distribution of household assets split into the following categories: home equity in the primary residence, defined benefit retirement accounts, defined contribution retirement accounts, other financial assets, businesses, and all other assets (Bricker, Goodman, Moore, and Henriques Volz, 2020).

**Figure 3**  
**ASSET DISTRIBUTION OF FAMILIES GROUPED BY PERCENTILE OF WEALTH**



Source: Federal Reserve Board, 2019 Survey of Consumer Finances.

We note the mean total assets for the bottom 50th percentile of families is only \$94,000 compared to \$740,000 for the 50th to 90th percentiles, \$4,134,000 for the 90-99th percentile, and \$28,973,000 for the top 1st percentile.

Our research studies the prevalence of homeowners or renters insurance. We did not study disparities in homeowners insurance alone and disparities in level of insurance coverage and cost of coverage. In addition, in our literature review, we did not find any existing research on disparities in cost and coverage by race or ethnicity; as a result, this may be an area for future research. Our literature review is summarized in this report’s companion *Supplemental Report*.

**1.3.2 LIFE INSURANCE**

**Background**

Two main categories of life insurance exist: term life insurance and permanent life insurance. An overview of the two categories follows (Insurance Information Institute):

- Term life insurance. Provides coverage for a specific time period. For example, parents of young children may buy a 20-year term life insurance policy to ensure that, in the event of the parents' early death, sufficient funds will be available to pay for the children's college. If the insured is still alive at the expiration of the policy, no death benefit is paid. However, policies generally include an option to renew coverage. Although term life insurance policies do not have a cash value for the insured, the policies can create wealth for the beneficiary. Term life insurance generally costs less than permanent life insurance.
- Permanent life insurance. Provides coverage for as long as the insured lives. The death benefit will be paid although the timing of the payment is uncertain. Permanent life insurance generally includes a savings component that is tax-deferred. Several types of permanent life insurance policies exist, including whole (ordinary) life, universal life, variable life, and variable/universal life, which accumulate cash value with varying degrees of investment risk and rates of return. The cash value represents wealth for the insured. The death benefit represents the potential wealth to the beneficiary.

Certain types of permanent life insurance, such as final expense insurance, offer a small benefit to cover funeral costs. The LIMRA 2021 Barometer Study found that the Black or African American community is more likely to think of life insurance as final expense insurance, which offers less wealth protection than other types of life insurance. The study noted further research is needed to understand what behaviors within the industry caused this knowledge gap to exist and how to more effectively educate Black or African Americans on other financial benefits of life insurance. (LIMRA, 2021 Barometer Study).

Within the SCF data, "cash value life insurance is the current (nonzero) value of any life insurance policies with a cash value that can be withdrawn. The survey measures the value of such policies according to their current cash value, not their death benefit... This designation excludes term life insurance policies, which only provide a death benefit." (Bhutta et al, 2020)

Within the data used in the statistical analysis described in Sections 2 and 3, the survey data identifies the percent of adults with any type of life insurance.

#### ***Role in Wealth-Building and Wealth-Transfer***

Both permanent and term life insurance promote wealth building for beneficiaries by offering financial protection. In addition, life insurance can be part of an investment strategy. Although the rates of returns may be lower than other investment options for permanent life insurance, diversification benefits and tax advantages may exist for families with substantial wealth. In addition, permanent life insurance controlled by an irrevocable life insurance trust can offer tax advantages for intergenerational wealth transfer by protecting death benefits from income, gift, and estate taxes.

Although different types of life insurance offer varying degrees of wealth preservation and wealth transfer, our research focuses on disparities in the prevalence of any type of life insurance (both employer-sponsored and individually purchased). We did not study disparities in life insurance by product type or by cost or amount of coverage.

### **1.3.3 RETIREMENT PRODUCTS**

#### ***Background***

Retirement plans can be offered through work (employer sponsored) or set up by an individual (individual retirement plans). Employer-sponsored retirement plans also can be subdivided by the type of benefit: defined benefit and defined contribution. Defined benefit plans (also called pension plans) are employer funded and offer fixed, pre-established monthly benefits for employees at retirement. In a defined contribution plan, employees and sometimes employers make regular contributions into a retirement account, most commonly a 401(k) plan, which accumulates with investment returns for the employee's use at retirement (U.S. Department of Labor). Individual

retirement plans — most commonly traditional and Roth IRAs — are investment accounts that offer a tax advantage by virtue of tax-free growth or deferred taxation (FINRA). While long term care insurance is part of retirement security, our research does not include long term care insurance.

Within the SCF data, retirement accounts “include individual retirement accounts, Keogh accounts, and certain employer-sponsored accounts, such as 401(k), 403(b), and thrift savings accounts from current or past jobs; other current job plans from which loans or withdrawals can be made; and accounts from past jobs from which the family expects to receive the account balance in the future. This definition of employer-sponsored plans is intended to confine the analysis to accounts that are portable across jobs and for which families will ultimately have the option to withdraw the balance. Usually, such accounts may be invested in virtually any asset, including stocks, bonds, pooled investment funds, options, and real estate. In principle, employer-sponsored plans may be invested in a similarly broad way, but, in practice, a person’s choices for investment are sometimes limited to a narrower set of assets.” (Bhutta et al, 2020)

Within the data used in the statistical analysis described in Sections 2 and 3, the survey data identifies the percent of households with any pension, retirement (including 401(k)), or tax-deferred savings plan.

#### ***Role in Wealth-Building and Wealth-Transfer***

Retirement plans promote wealth building although they may come with restricted investment options and limitations on contributions and benefits. Combined with contribution limits, retirement plans generally are not a significant share of total assets for the wealthiest 1% in the U.S. However, retirement savings are a significant asset for many families (see Figure 1).

We note that different types of retirement plans offer advantages and disadvantages depending on individual circumstances. In our research, however, we have not looked at disparities between different types of plans in this report.

## Section 2: Statistical Analysis Approach

In this section, we provide an overview of our statistical analysis including our approach to selecting our data and methodology along with advantages and limitations. In this report's companion *Supplemental Report*, we provide a more in-depth discussion of our approach.

We conducted a statistical analysis to answer two of our research questions:

8. Does the ownership of insurance (including retirement saving) products vary by race or ethnicity in the U.S.? How significant is this?
9. Can we infer reasons why these variations in prevalence exist?

To study differences in ownership rates of homeowners or renters insurance, life insurance, and retirement products by race or ethnicity, ideally, we would have recent data on a sample of individuals who are representative of the U.S. population that contained product ownership and demographic information, including race or ethnicity. This would allow us to directly study penetration (ownership) rates by race or ethnicity. It would also allow us to draw conclusions from our model at an individual level (i.e., how likely an individual is to have insurance based on demographic characteristics). However, such data is unavailable.

Instead, we obtained data on insurance and retirement products penetration rates by geographical area (specifically, 2019 U.S. Census block group, or CBG, data). We connected that data to the 2019 U.S. Census demographic data at a CBG level. With this dataset, we used a multiple linear regression approach to study the relationship between race or ethnicity and insurance and retirement product penetration.

### 2.1 DATA AND DATA SOURCES

In selecting the data to include in our models, we considered various data sources for insurance and retirement product penetration, race or ethnicity, geography, and other demographic information along with the advantages and disadvantages of each data source, which we describe in this report's companion *Supplemental Report*.

#### 2.1.1 EVALUATION DATE

We have conducted our statistical research using 2019 data because we are not researching the impacts of the COVID-19 pandemic, which started in 2020 in the U.S. Our dataset does not contain data prior to 2019, which would be necessary to enable longitudinal studies.

#### 2.1.2 DATA SOURCES

We selected data from three primary sources:

##### A. Demographics

When available, we selected data variables from the 2019 ACS because of its well-established methodology and scope. Specifically, we relied on the 2019 ACS one-year estimates.

##### B. Insurance and retirement product penetration rate

Insurance and retirement product penetration rate data is from a proprietary marketing dataset, which is extrapolated from a nationally representative survey of household interviews conducted between Q2 2018 through Q1 2020.

##### C. Median household net worth

We used 2019 net worth data developed for marketing purposes from multiple sources, such as forms completed for subscription services and credit reports, and available at a household level from our proprietary database. As information on each household varies in its completeness, the vendor provided imputed values using business rules and modeling algorithms for fields where data was not otherwise available.

The final list of variables used, and their source and original granularities, are shown in Appendix A Table A.1 in this report's companion *Supplemental Report*. In addition, we considered other demographic variables that ultimately were dropped from our model or not found in the available data sets. These variables are summarized in Appendix A, Table A2 in the companion *Supplemental Report*.

## 2.2 OVERVIEW OF METHODOLOGY AND APPROACH

Once we identified the key data sources, we reviewed the data to identify issues of completeness, collinearity and correlation with other variables and selected the final data to include in our statistical analysis. Using the selected data, first, we performed a preliminary data analysis. Next, we designed a multiple linear regression model to align with our key research questions. A full discussion our preliminary data analysis and choice of model are discussed in Sections 2.2.1 and 2.2.2, respectively, of this report's companion *Supplemental Report*.

### 2.2.1 REGRESSION ANALYSIS METHODOLOGY

Based on the considerations and preliminary data analysis, we ran our regression models at a U.S. CBG level, aggregating household level variables to census block level averages.

To understand what (if any) disparities exist, we ran initial "simple" models (one for each product, homeowners or renters insurance, life insurance, and retirement products) using only race or ethnicity as independent variables and the penetration rates of the product as dependent variables (R/E-only models) to assess whether disparities in homeowners or renters insurance, life insurance, and retirement product penetration rates exist by race or ethnicity.

Next, because our research questions focus on disparities in homeowners or renters insurance, life insurance, and retirement product penetration after controlling for differences in income and wealth, we expanded our regressions to include demographic variables and controlled for the impact of income and wealth. We controlled for the impact of income and wealth levels in two ways.

- First, in what we refer to as the models "expanded for other demographics by income band" (EFOD-IB), we divided our U.S. CBGs into five bands of median household income, which are roughly equal in population size. We then ran separate regressions for each quintile. This approach allowed us to identify differences that may exist in Insurance and retirement product penetration and race or ethnicity controlling for differences in income level.
- Second, we ran a regression on all CBGs without bucketing into income bands and included a wealth variable (log of net worth) as an additional independent variable (EFNWOD model).

We discuss in more detail features of the regression analysis in Section 2.2.3 of this report's companion *Supplemental Report*.

### 2.2.2 FINAL REGRESSION VARIABLES

After identifying variables of interest from our available data sets, we use the forward regression to determine the set of wealth and demographic variables to include in the regression see the discussion in Section 2.2.3 of this report's companion *Supplemental Report*. The set of variables selected for each category is shown below.



1. Wealth variables (“EFNWOD model” only)
  - a. Log of Net worth: Log of average household net worth in the U.S. CBG.
2. Additional demographic variables (or sets of variables)
  - a. Marital Status (4 variables): Proportion of residents aged 15+ in the U.S. CBG currently: never been married, married, divorced, and widowed.
  - b. Education (5 variables): Proportion of residents in the U.S. CBG with each of the following educational attainment levels: less than high school, high school, some college, bachelor’s degree, and postgraduate or professional degree.
  - c. Language Barrier or Limited English-Speaking Status: Proportion of households in the U.S. CBG with limited English-speaking status.
  - d. Household status (4 variables): Proportion of households in the U.S. CBG that are nonfamily households, or family households with: 2, 3, or 4+ members.
  - e. Access to transportation: Proportion of households in the U.S. CBG that drive or carpool to work.
  - f. Internet Access: Proportion of households in a U.S. CBG with internet access.
  - g. Age: Median age of adults in U.S. CBG.
  - h. Sex: Proportion of female residents in U.S. CBG.
  - i. Urbanicity (3 variables): whether the block group is an urban, suburban or rural development level.
  - j. Percentage of population that is foreign born: Proportion of individuals in the U.S. CBG that are born outside of the U.S.

Considerations regarding the interpretation and presentation of our regression results are discussed below.

### 2.2.3 PRESENTATION OF REGRESSION COEFFICIENTS FOR CATEGORICAL VARIABLES

For categorical variables, such as race, statisticians and data scientists traditionally run regressions by choosing one category, typically the largest category, as the baseline and fitting regression coefficients for each of the remaining categories. Statisticians then interpret the regression results as the average difference in the dependent variable for individuals belonging to a given category relative to the baseline category. While this is a standard statistical approach, comparisons to the baseline category and the lack of a coefficient for the baseline category may be non-intuitive to non-statisticians. In addition, the baseline category might be interpreted as being the “typical” category. This is particularly problematic when studying race or ethnicity in the United States, in which case whites, as the most populous group in the U.S., would be the base category. To avoid interpretations of a base category as “typical” in presenting our results, we did not show a base category. Instead, we created a national average baseline, which allows us to present coefficients for each variable within a category. We discuss the math behind this presentation in Section 2.2.5 of this report’s companion *Supplemental Report*.

### 2.2.4 INTERPRETING REGRESSION COEFFICIENTS

In presenting our regression coefficients, we include p-values. P-values are a widely accepted measure of statistical significance. Specifically, p-values represent the probability that we would observe the regression coefficient given the null hypothesis is true with the null hypothesis being the coefficient for the regression is zero (0). We observe p-values can be artificially inflated by multicollinearity and artificially lowered by lower numbers of unique observations for a particular variable, which we discuss in more detail in Section 2.2.6 of this report’s companion *Supplemental Report*.

As we interpreted model results, we did not rely on regression coefficients associated with high p-values, i.e., greater than or equal to 0.05. For transparency, we marked coefficients with high p-values in our regression tables with italicized text. We note that very few of the coefficients in our models had high p-values outside of the smaller categories for race or ethnicity. While we have included the results in these categories, we do not focus on these categories in our interpretations as these categories have unknown heterogeneity.

## 2.3 LIMITATIONS

In this section, we summarize the limitations underlying our research that are discussed in more detail throughout this report and this report's companion *Supplemental Report*. In particular, data availability and reliability has constrained our analysis. For example, our data was extrapolated from a sample to the U.S. population using various techniques, including modeling algorithms. Errors in modeling of the data can translate into margins of error for the coefficients in this report. However, this risk should be weighed against the benefit that this extrapolation produced a larger more complete dataset, which increased the power of our model. The extrapolation is a standard approach done by the data vendor, using a set of algorithms to arrive at the result. We believe this approach should minimize modeler's bias. Section 2.1 of this report's companion *Supplemental Report* describes the available data sources, and our approach in detail along with the associated limitations.

In addition, our data is at a U.S. CBG level rather than an individual level. As a result, our model shows correlations or effects of increasing the proportion of the demographic (variable) in a U.S. CBG rather than the effect a demographic has on likelihood an individual owns a given insurance or retirement product.

With respect to the modeling approach, we used multiple linear regression to enable the study of relationships between multiple variables and produce results that are easy to understand and explain. We acknowledge that other statistical approaches could have been used. A more complete discussion of the advantages, disadvantages and our rationale may be found in Section 2.2 of this report's companion *Supplemental Report*.

Lastly, many of our demographic variables have some degree of correlation with one another. In Section 2.2.3 of this report's companion *Supplemental Report*, we discuss how we have mitigated the impact of multicollinearity.

## Section 3: Results

### 3.1 OVERVIEW

In our research, we observed disparities in the penetration of homeowners or renters insurance, life insurance, and retirement products by race or ethnicity. We found that these disparities were largely explained by differences in net worth across racial or ethnic groups in the U.S. and, after controlling for net worth, penetration rates were relatively similar across racial or ethnic groups.

Extensive research has been performed on the topic of societal systemic racism and how it has led to disparities in wealth among racial groups (see Introduction for some of this research). Life insurance, retirement, and homeowners or renters insurance products play a role in providing financial protection (and thereby supporting intergenerational wealth transfer). In our research, we observe a self-perpetuating cycle in which, with each generation, those with higher net worth have higher usage of life insurance, retirement, and homeowners or renters insurance products, which contributes to intergenerational wealth transfer. Further research into how the insurance and retirement needs of both lower-wealth communities and marginalized communities in the U.S. can be met may identify opportunities to help close this gap in conjunction with other policies and programs.

### 3.2 RESULTS OF RACE OR ETHNICITY-ONLY MODELS

To understand if disparities exist in Insurance and retirement product penetration across race or ethnic groups, we first regressed product penetration rates against race or ethnic groups with no other independent variables. Table 3 shows the results of these models for each of the three products.

Please note that we have used “heat map” color coding in our coefficient tables. Teal denotes a negative coefficient, and gold denotes a positive coefficient. The more intense color denotes a larger absolute value of the coefficient relative to the other coefficients within the table. For example, in Table 4, Asian or Asian American variable in the retirement products R/E Only Model is colored the darkest shade of gold indicating that having a high percent of the population identifying as Asian or Asian American as the strongest explanatory power over retirement product penetration compared to the other variables.

**Table 3**  
**INSURANCE OR RETIREMENT PRODUCT PENETRATION BY RACE OR ETHNICITY—COEFFICIENTS**

		Homeowners or Renters R/E Only Model	Life Insurance R/E Only Model	Retirement Products R/E Only Model
Larger Populations	Asian or Asian American	0.21%	0.15%	0.62%
	Black or African American	-0.19%	-0.11%	-0.30%
	Hispanic or Latino	-0.14%	-0.09%	-0.18%
	White	0.07%	0.04%	0.07%
Smaller Populations	Native American	-0.29%	-0.20%	-0.58%
	Multi-Racial	-0.16%	-	-0.10%
	Pacific Islander	-0.14%	-0.16%	-0.25%
	Other	-0.02%	<i>0.01%</i>	0.48%
Adjusted R-Squared		32%	30%	28%

Note: *gray italicized* denotes a coefficient with a p-value greater than .05, which may indicate the coefficient is not statistically significant.

The coefficients in the table can be interpreted as: the penetration of the insurance or retirement products in a CBG is expected to change by x% when the population of that particular racial group in a CBG is changed by 1% while keeping other groups as is. For example, in our preliminary model for retirement products using only race or ethnicity as a variable, a 1% increase among Asian or Asian Americans is associated with a .62% higher level of product penetration.

The table is divided into larger and smaller populations to account for the quantity of data inputs available for the model and resulting reliability of coefficients. Among the four largest populations, Asian or Asian Americans and whites are associated with higher insurance and retirement penetration and Blacks or African Americans and Hispanics or Latinos are associated with lower insurance and retirement penetration relative to the national average. We observe greater disparities in retirement product penetration compared to life insurance penetration. For the smaller populations, the data is rather thin. However, our analysis suggests Native American, Pacific Islander, and people who identify as multi-racial have lower homeowners or renters insurance, life insurance, and retirement product penetration compared to the national average. In contrast, people who identify as “other races” have homeowners or renters insurance and life insurance penetration similar to the national average and higher retirement product penetration.

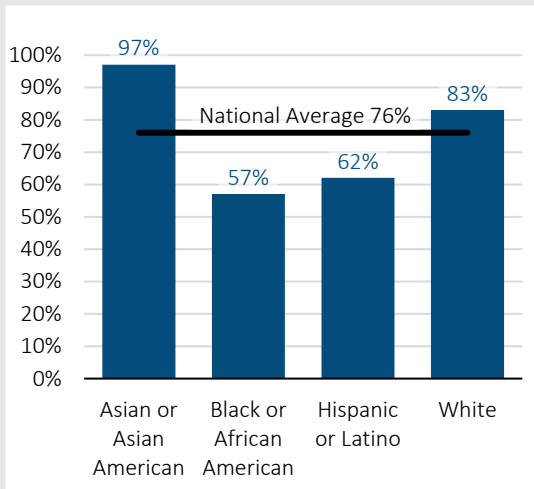
Lastly, although we observe statistically significant relationships between race or ethnicity and Insurance and retirement product penetration, the adjusted R2 for each model is relatively low, suggesting that race or ethnicity is not the main explanatory variable for variations in insurance and retirement product penetration.

To illustrate the impact of the differences in coefficients in Table 3, we added (one at a time) 1% more people of a given race or ethnicity for each of the four largest racial or ethnic groups and calculated an implied product penetration rate among the 1% of additional people. By increasing the population by only one group at a time, we are able to attribute the estimated change in penetration rate to a single racial or ethnic group. We refer to this as the “implied marginal penetration.”

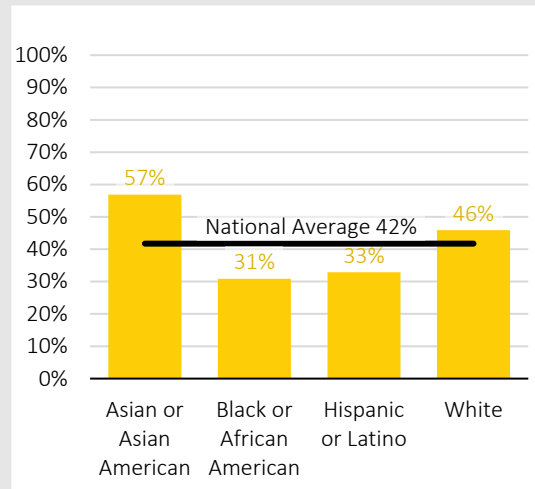
Figures 4–6 illustrate for each of the products studied the implied marginal penetration by the four largest populations defined by race or ethnicity prior to controlling for any other demographics. For example, in Figure 4, for illustrative purposes, if we were to add an additional 1% more Asian or Asian American people, the model would estimate that 97% of those additional people would have homeowners or renters insurance. In each of these graphs, insurance penetration rates for Asian or Asian Americans are significantly above the national average for each product. Insurance penetration rates for whites are slightly above the national average. In contrast, insurance penetration rates for Blacks or African Americans and Hispanics or Latinos fall well below the national average.

IMPLIED MARGINAL PENETRATION RATES BY RACE AND ETHNIC GROUP

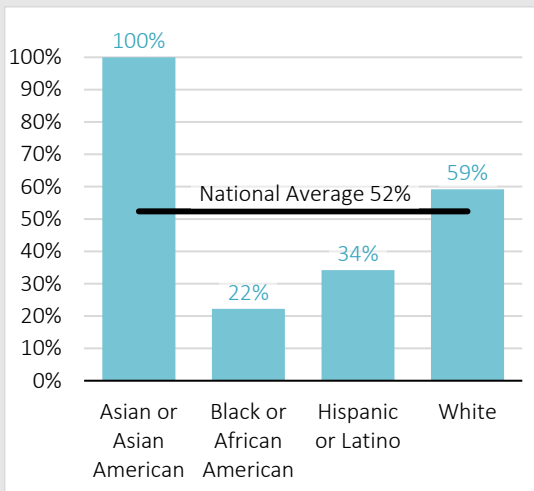
**Figure 4**  
HOMEOWNERS OR RENTERS INSURANCE



**Figure 5**  
LIFE INSURANCE



**Figure 6**  
RETIREMENT PRODUCTS



Note: the simplified calculation implies a penetration over 100%; this is a limitation of this calculation. We have capped at 100% for the purposes of this illustration.

As an example of how to read the graphs above, using our illustration in Figure 4 for homeowners or renters insurance, our analysis implies marginal penetration rates for Asian or Asian Americans and white that are 21% and 7%, respectively, higher than the national average. On the other hand, our analysis implies marginal penetration rates for Blacks or African Americans and Hispanics or Latinos, -0.14% that are 19% and 14%, respectively, below the national average. Figure 5 for life insurance and Figure 6 for retirement products can be interpreted similarly.

We provide additional context for the findings above for each of the products below:

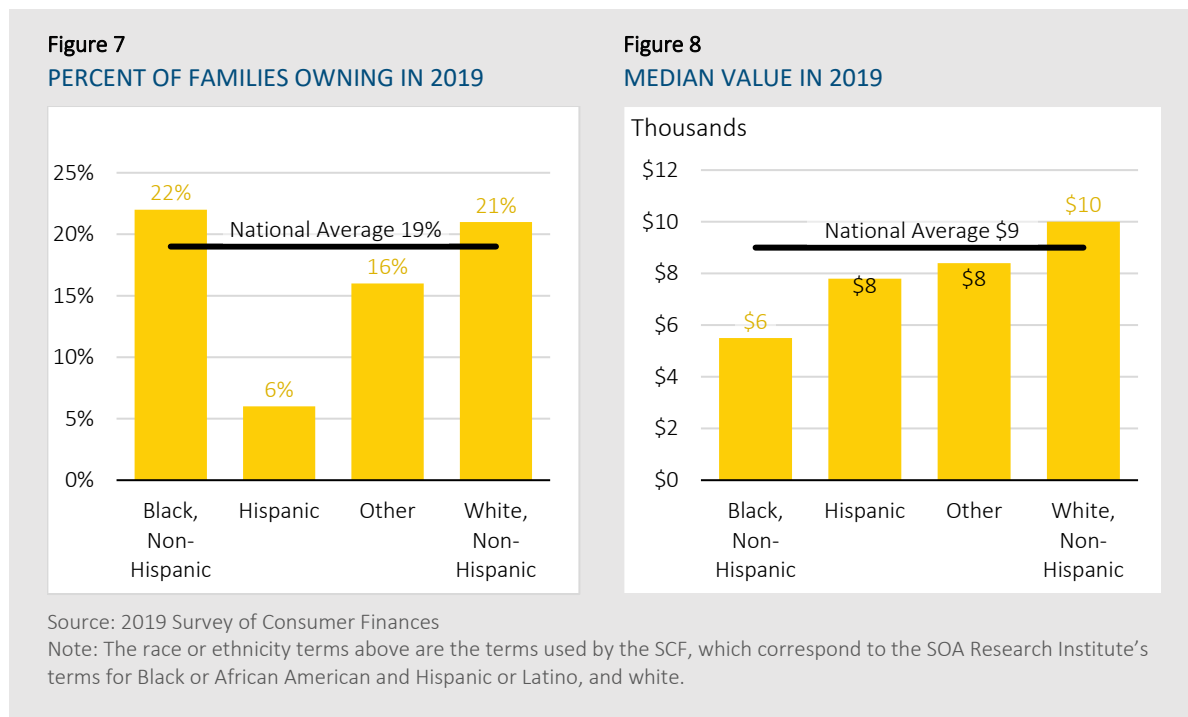
### 3.2.1 HOMEOWNERS OR RENTERS INSURANCE

The national average penetration rate of 76% for homeowners or renters insurance is relatively high compared to life insurance and retirement product penetration. Homeowners insurance is generally required to get a mortgage. Similarly, many rental companies require renters insurance to sign a lease. As a result, one would expect that a significant percent of the population has homeowners or renters insurance.

### 3.2.2 LIFE INSURANCE

Our findings (shown in Figure 5) regarding differences in life insurance by racial or ethnic group are slightly different from the 2019 SCF in part because the SCF only publishes statistics on cash value life insurance whereas our analysis includes all life insurance products. Specifically, the SCF found that Black or African American and white households had similar rates of having cash value life insurance and Hispanics or Latinos were the least insured group as shown in Figure 7. We note that in some cultures, extended family is the primary form of insurance.

#### CASH VALUE LIFE INSURANCE



Generally, cash value life insurance is considered an investment vehicle. However, we observe both the mean and median value of the asset (Figure 8) is significantly lower for Black or African American and Hispanic or Latino suggesting Black or African American penetration rates may be high as a result of ownership of final expense products, which are technically considered cash value life insurance but do not have an investment component and do not significantly contribute to wealth transfer.

In addition, we note that the SCF does not report data on Asian or Asian Americans (see Section 1.2.1 for an explanation).

Future research is needed to delve into racial or ethnic group disparities by type and value of life insurance product in the U.S. as well as disparities in attitudes toward, motivation to buy, and knowledge of life insurance products.

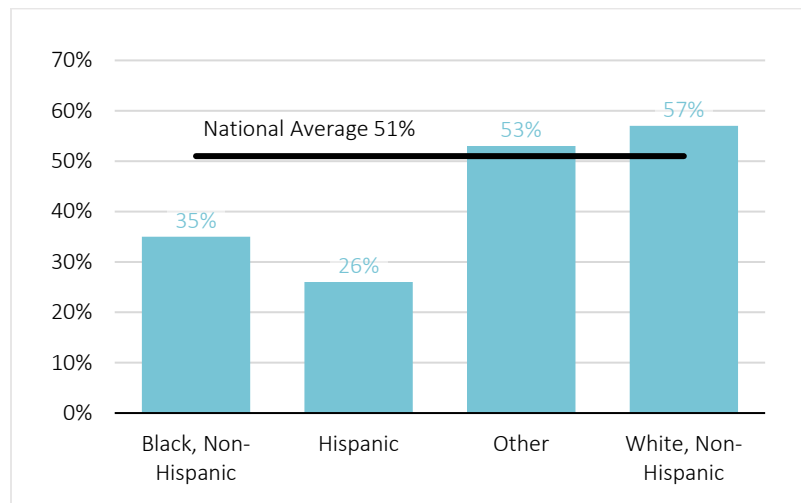
### 3.2.3 RETIREMENT PRODUCTS

While our study shows that Blacks or African Americans have the lowest retirement account penetration followed by Hispanics or Latinos (Figure 6), this finding is slightly different from the SCF, which found that Hispanic or Latino households have the lowest penetration rate of owning retirement accounts, followed by Blacks or African Americans.

Figure 9 presents data from the Survey of Consumer Finances showing the percentage of individuals in a racial group that own a retirement account.

**Figure 9**

#### PERCENT OF FAMILIES WITH RETIREMENT ACCOUNTS, BY RACE AND ETHNIC GROUP



Source: Federal Reserve Board, 2019 Survey of Consumer Finances.

Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute's terms for Black or African American and Hispanic or Latino, and white.

### 3.3 KEY FINDINGS OF EXPANDED RACE, WEALTH AND OTHER VARIABLES MODEL

#### *EFNWOD Model and EFOD-IB Models*

To analyze whether or not the observed disparities in insurance and retirement product penetration across race or ethnic groups were associated with known disparities in other demographic areas (such as income, wealth, and educational attainment) or whether the disparities are specific to insurance and retirement products, we added mean net worth in a CBG to our regression, followed by the other demographic variables listed in Section 2.2.4.

Tables 4–6 show the coefficients from the first, race-only, model and the coefficients from our extended models.

**Table 4**  
**HOMEOWNERS OR RENTERS INSURANCE PENETRATION—RACE OR ETHNICITY REGRESSION COEFFICIENTS**

		R/E Only Model	+ Net Worth EFNW Model	+ Other Demographics EFNWOD Model
Larger Populations	Asian or Asian American	0.21%	-0.04%	-0.03%
	Black or African American	-0.19%	-0.04%	-0.02%
	Hispanic or Latino	-0.14%	-0.03%	-0.02%
	White	0.07%	0.02%	0.02%
Smaller Populations	Native American	-0.29%	-0.07%	-0.04%
	Multi-Racial	-0.16%	-0.05%	-0.07%
	Pacific Islander	-0.14%	<i>0.00%</i>	-0.05%
	Other	-0.02%	-0.08%	-0.04%
Adjusted R-Squared		32%	78%	81%

Note 1: *gray italicized* denotes a coefficient with a p-value greater than .05, which may indicate the coefficient is not statistically significant.

**Table 5**  
**LIFE INSURANCE PENETRATION—RACE/ETHNICITY REGRESSION COEFFICIENTS**

		R/E Only Model	+ Net Worth EFNW Model	+ Other Demographics EFNWOD Model
Larger Populations	Asian or Asian American	0.15%	-0.02%	-0.02%
	Black or African American	-0.11%	-0.01%	0.00%
	Hispanic or Latino	-0.09%	-0.02%	-0.02%
	White	0.04%	0.01%	0.01%
Smaller Populations	Native American	-0.20%	-0.05%	-0.03%
	Multi-Racial	-0.12%	-0.05%	-0.06%
	Pacific Islander	-0.16%	-0.06%	-0.09%
	Other	<i>0.01%</i>	-0.03%	-0.01%
Adjusted R-Squared		30%	79%	83%

Note 1: *gray italicized* denotes a coefficient with a p-value greater than .05, which may indicate the coefficient is not statistically significant.



**Table 6**  
**RETIREMENT PRODUCT PENETRATION—RACE OR ETHNICITY REGRESSION COEFFICIENTS**

		R/E Only Model	+ Net Worth EFNW Model	+ Other Demographics EFNWOD Model
Larger Populations	Asian or Asian American	0.62%	0.17%	0.09%
	Black or African American	-0.30%	-0.03%	-0.04%
	Hispanic or Latino	-0.18%	0.00%	0.02%
	White	0.07%	-0.01%	0.00%
Smaller Populations	Native American	-0.58%	-0.18%	-0.07%
	Multi-Racial	-0.10%	0.09%	-0.08%
	Pacific Islander	-0.25%	0.00%	0.09%
	Other	0.48%	0.36%	0.24%
Adjusted R-Squared		28%	81%	87%

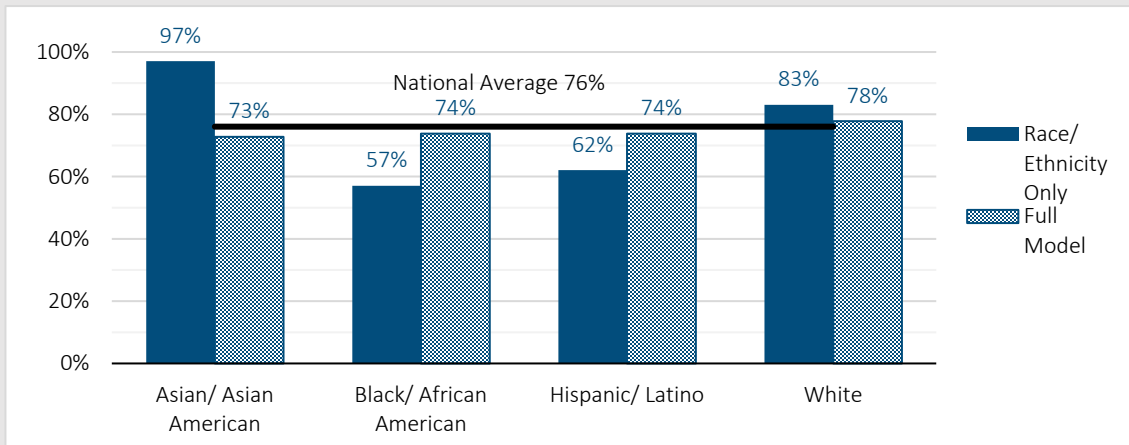
Note 1: *gray italicized* denotes a coefficient with a p-value greater than .05, which may indicate the coefficient is not statistically significant.

The tables show that most of the disparities in insurance and retirement products can be explained by disparities in net worth. When net worth is added to the regression, the gaps in coefficients narrow significantly, resulting in very little difference in penetration between racial groups. In addition, adding net worth to the regression significantly increases the fit of the model (R<sup>2</sup>).

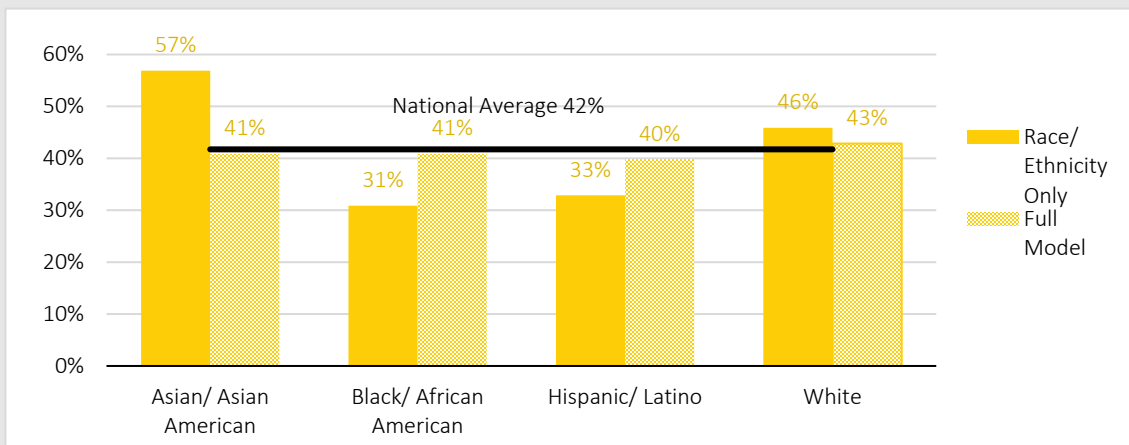
### 3.3.1 IMPLIED MARGINAL PRODUCT PENETRATIONS

Similar to Section 3.2.1, to illustrate the impact of the regression coefficients, we calculated the implied marginal penetration rates of the EFNWOD model and compared these to the initial implied marginal penetration rates of the race or ethnic group only model. After including net worth, the disparities in marginal penetration are much smaller, and homeowners or renters insurance, life insurance, and retirement product penetrations are close to the national average across all racial groups. See Figures 10–12.

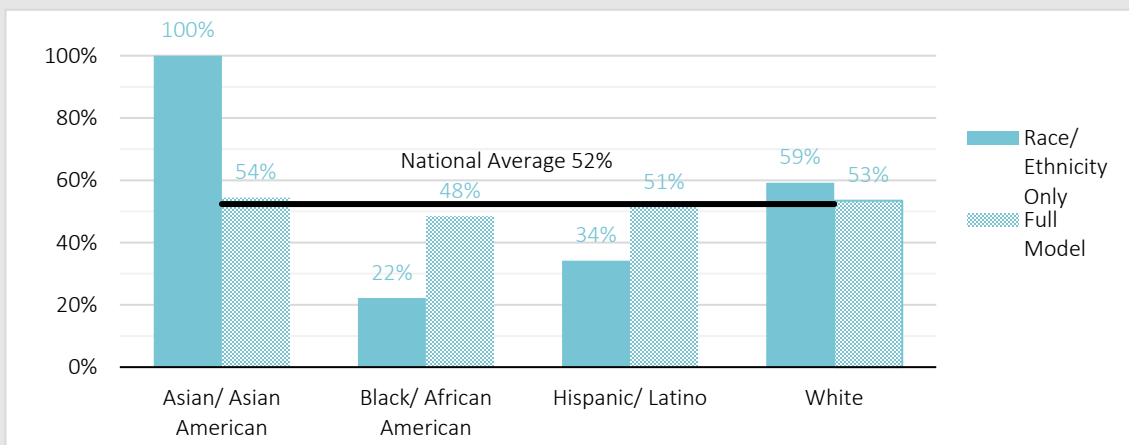
**Figure 10**  
**IMPLIED MARGINAL HOMEOWNERS OR RENTERS INSURANCE PENETRATION BY RACE AND ETHNIC GROUP**



**Figure 11**  
**IMPLIED MARGINAL LIFE INSURANCE PENETRATION BY RACE AND ETHNIC GROUP**



**Figure 12**  
**IMPLIED MARGINAL RETIREMENT PRODUCT PENETRATION BY RACE AND ETHNIC GROUP**



Based on the EFNWOD model, penetration for both homeowners or renters insurance (Figure 10) and life insurance (Figure 11) appear to be within a 3% range for the four largest racial or ethnic groups after accounting for variations in insurance penetration associated with other demographics. Similar to the race-only model, of the financial products we studied, the largest disparities across racial or ethnic groups are in the prevalence of retirement products.

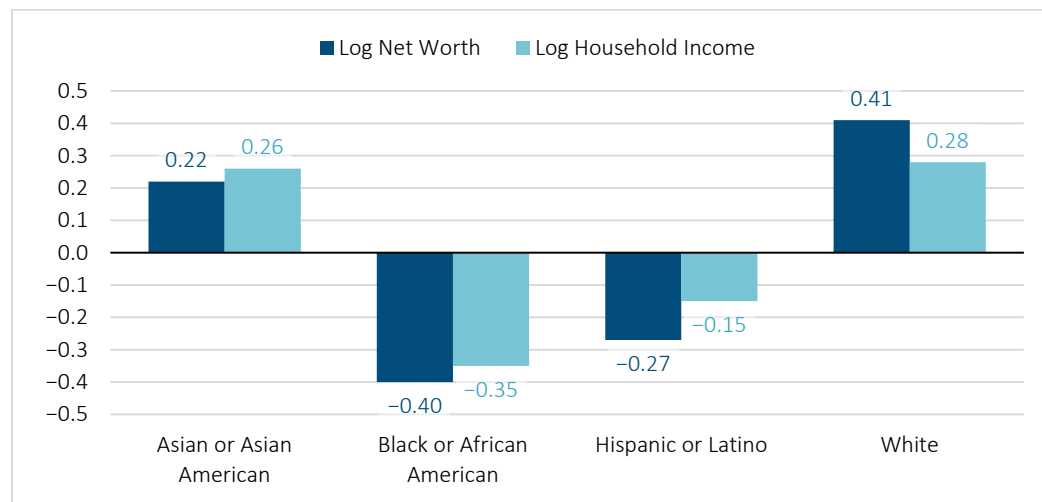
### 3.3.1 INCOME AND WEALTH INEQUALITY IN OUR DATA

Disparities in income and wealth between racial and ethnic groups is well established in the literature, and our data also shows a strong correlation between wealth and race in the U.S. (Figure 13). Specifically, when we include wealth in our models, the explanatory power of race or ethnicity decreases.

For both Asians or Asian Americans and whites, a positive correlation exists between race or ethnicity and income or wealth. For Asians or Asian Americans, the correlation between race or ethnicity and income is higher than the correlation between race or ethnicity and net worth, whereas for whites, the reverse is true. Whites are the only group for which a higher positive correlation exists with net worth than income, which is in line with research that whites have benefited more from intergenerational wealth transfer than other groups (Bhutta, Chang, Dettling, and Hsu, 2020). For Blacks or African Americans and Hispanics or Latinos, a negative correlation exists with net worth and household income, highlighting the disparities in both metrics. Research shows that Black or African American and Hispanic or Latino populations have experienced less intergenerational wealth transfer than white Americans.

**Figure 13**

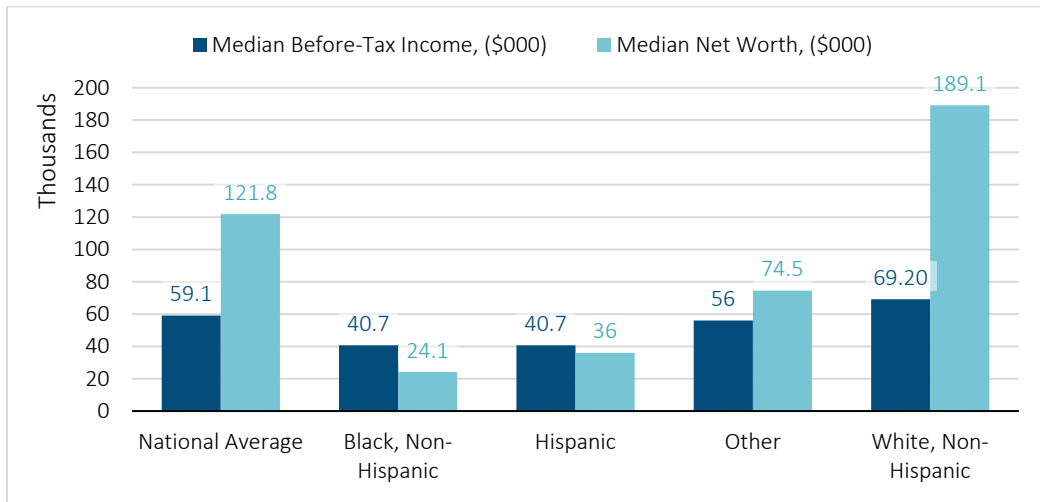
#### CORRELATION BETWEEN RACIAL OR ETHNIC GROUP AND INCOME OR WEALTH



Our data is generally consistent with the findings from the 2019 SCF.

Figure 14 reports data from the 2019 Survey of Consumer Finances showing similar disparities in income and wealth between white, Black or African Americans, and Hispanic or Latino populations. This graph shows greater disparities in net worth than in income.

**Figure 14**  
**2019 MEDIAN FAMILY BEFORE-TAX INCOME OR WEALTH BY RACIAL AND ETHNIC GROUP**



Source: Federal Reserve Board, 2019 Survey of Consumer Finances.

Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute's terms for Black or African American and Hispanic or Latino, and white.

### 3.4 DETAILED RESULTS

As previously described, we studied the impact of income and wealth on insurance and retirement product penetration in two ways: first by including net worth as an independent variable and second by running our separate regressions for each income band quintile. In the income band regressions, we do not include net worth as a variable because household income and net worth are highly correlated and represent similar characteristics. In the discussion above, we focused on the model across all income bands, which included net worth as an independent variable (EFNWOD model). In the Sections 3.4.1–3.4.3, we also present the results of the regressions by income band (EFOD-IB model). The results are generally consistent across all three products. Definitions of all variables can be found in Appendix A in the companion *Supplemental Report*.

#### 3.4.1 HOMEOWNERS AND RENTERS INSURANCE

Table 7 presents the results of our homeowners or renters insurance regressions. As with previous tables, we used a heat map coloring within the table to visualize the strength of the coefficients and trends across income bands. Gold designates a positive correlation; teal a negative correlation. The stronger the color intensity, the stronger the relative explanatory power. Because the coefficient on log of mean net worth is significantly larger than the other coefficients, we have excluded net worth from the heat map to identify other variables with explanatory power. For readability, Table 7 shows the resulting coefficients only. Results with p-values and confidence intervals may be found in Appendix B in the companion *Supplemental Report*.

**Table 7**  
**HOMEOWNERS AND RENTERS INSURANCE MODEL COEFFICIENTS**

		EFNWOD Model	EFOD-IB Model 1: < \$40,000	EFOD-IB Model 2: \$40,000-\$53,000	EFOD-IB Model 3: \$53,000-\$67,000	EFOD-IB Model 4: \$67,000-\$90,000	EFOD-IB Model 5: >=\$90,000
	Log Mean Net Worth	5.22%					
Race or Ethnicity	Asian or Asian American	-0.03%	-0.03%	0.00%	-0.01%	<i>0.02%</i>	0.00%
	Black or African American	-0.02%	-0.05%	-0.05%	-0.05%	-0.04%	-0.02%
	Hispanic or Latino	-0.02%	-0.02%	-0.04%	-0.05%	-0.04%	-0.04%
	White	0.02%	0.03%	0.03%	0.03%	0.02%	0.02%
Education	No High School Degree	-0.15%	-0.24%	-0.21%	-0.17%	-0.16%	-0.12%
	High School Grad	0.02%	-0.09%	-0.07%	-0.06%	-0.06%	-0.04%
	Some College	0.02%	-0.02%	0.00%	0.01%	0.02%	0.03%
	College Degree	0.04%	0.14%	0.12%	0.08%	0.08%	0.05%
	Graduate Degree	-0.04%	0.28%	0.19%	0.16%	0.11%	0.06%
Marital Status	Never Married	-0.04%	-0.06%	-0.05%	-0.03%	<i>-0.01%</i>	<i>-0.01%</i>
	Currently Married	0.02%	0.05%	0.03%	0.02%	0.00%	-0.01%
	Divorced	-0.01%	-0.11%	-0.06%	-0.06%	-0.03%	0.01%
	Widowed	0.10%	<i>0.08%</i>	0.10%	0.10%	0.10%	0.10%
Household Size	Non-Family HHs	-0.03%	-0.12%	-0.10%	-0.09%	-0.09%	-0.08%
	HHs w/ 2 Members	0.01%	0.04%	0.02%	0.02%	0.00%	0.01%
	HHs w/ 3 Members	0.02%	0.04%	0.03%	0.02%	0.04%	0.05%
	HHs w/ 4+ Members	0.02%	0.11%	0.11%	0.10%	0.11%	0.08%
Urbanicity	Urban	X	X	0.35%	0.66%	0.55%	0.35%
	Suburban	X	X	<i>0.20%</i>	0.21%	0.30%	<i>0.45%</i>
	Rural	X	X	-1.15%	-1.59%	-1.77%	-2.03%
Other	Internet Access	0.10%	0.06%	0.06%	0.07%	0.07%	X
	Median Age	X	0.31%	0.28%	0.22%	0.22%	0.14%
	Drove or Carpoled	0.06%	0.05%	0.05%	0.06%	0.05%	0.05%
	Foreign Born	X	-0.11%	-0.12%	X	-0.05%	X
	Limited English speaking	X	X	X	-0.15%	-0.11%	-0.08%
Adjusted R-Squared		81%	49%	45%	42%	43%	50%
National Average Penetration		76%	61%	72%	78%	83%	89%

Note 1: *gray italicized* denotes a coefficient with a p-value greater than .05, which may indicate the coefficient is not statistically significant.

Note 2: X denotes a coefficient that was not included in the model because the forward regression found that adding the variable (i.e., limited English speaking status) or set of related variables (i.e., urbanicity) did not significantly improve model stability. We measured model stability through  $R^2$ . Demographic variables that incrementally increased the  $R^2$  by less than 0.25% were dropped from our final model.

As discussed earlier, in the EFNWOD model, net worth has the greatest explanatory power of all the variables. However, race or ethnicity, educational attainment, marital status, household size, internet access, and access to transportation (drove or carpoled) all had some explanatory power. The EFNWOD model has an adjusted R2 of 81%, meaning that this model explains 81% of the variability in homeowners or renters insurance penetration (the response variable); an adjusted R2 of this size is generally considered high among data scientists.

In the EFOD-IB models, where net worth is not included as a variable, the demographic variables had somewhat stronger explanatory power. Variables found to be significant without net worth as a control — urbanicity, median age, foreign born, and limited English-speaking status—were found to not add significantly to the model after controlling for differences in net worth. Even so, the EFOD-IB models have an adjusted R2 less than 50%, which means the income band models explain less than half of the variability in homeowners or renters insurance penetration. However, the income bands are still useful in understanding the strength of the relationship between each variable and homeowners or renters insurance penetration.

**3.4.1.1 Race or Ethnicity**

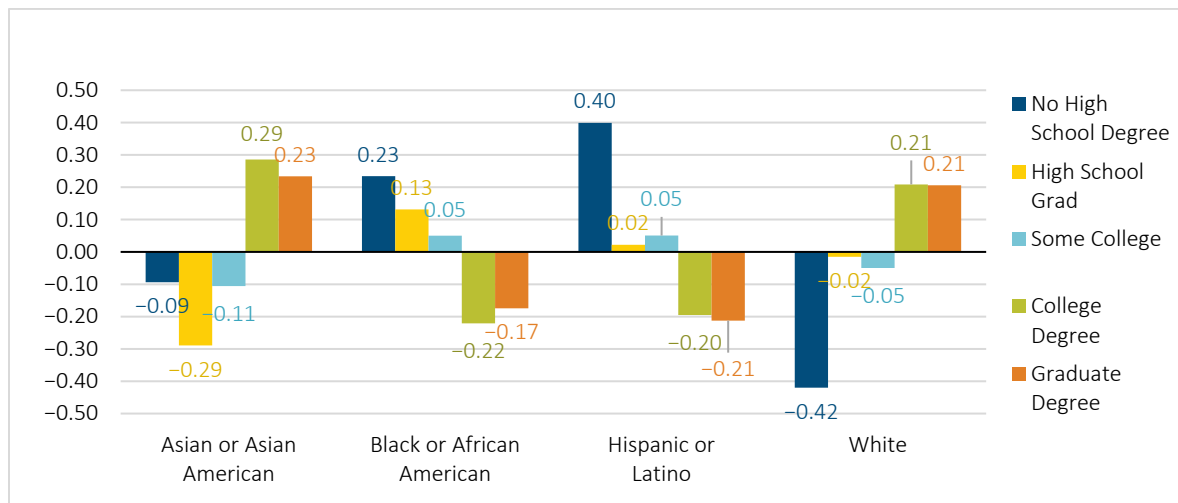
As discussed above, after including net worth in the EFNWOD model, the explanatory power of race or ethnicity drops significantly. However, whites are associated with higher homeowners or renters insurance penetration compared to the national average, and all other races or ethnicities are associated with lower homeowners or renters insurance penetration compared to the national average. These trends generally are consistent across all income bands, although for the higher income bands, Asians or Asian Americans are associated with similar or higher homeowners or renters insurance penetrations compared to the national average.

**3.4.1.2 Education**

Higher levels of educational attainment are associated with higher homeowners or renters insurance penetration with one exception. In the EFNWOD model, having a graduate degree is associated with lower insurance penetrations than having a bachelor’s degree. Educational attainment has a much larger coefficient in the income band models, which do not include log of net worth as an independent variable.

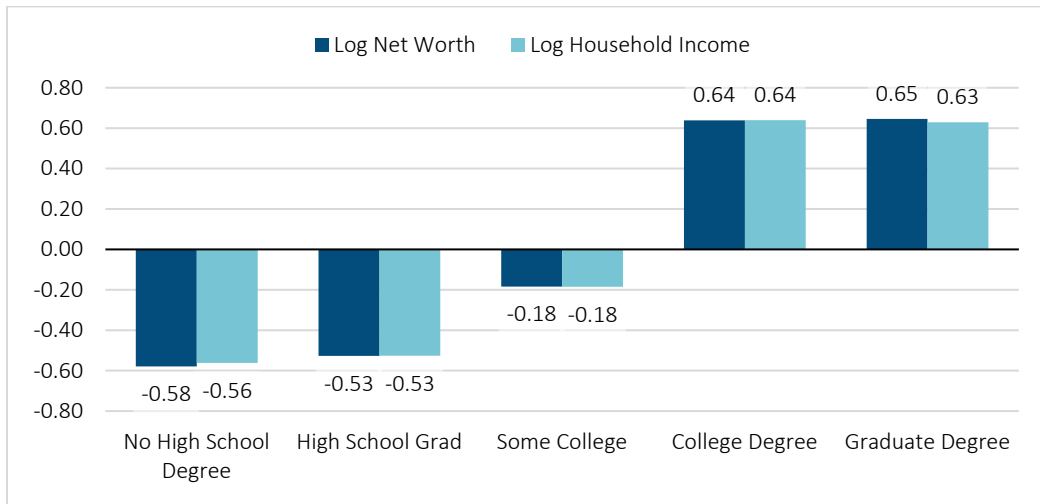
A significant body of research has studied the disparities in education between race or ethnic groups in the U.S. Figure 15 shows the correlation between race or ethnicity and educational attainment in our data. In addition, our data shows positive correlation between educational attainment and income and wealth (Figure 16).

**Figure 15**  
**CORRELATION BETWEEN RACE OR ETHNICITY AND EDUCATIONAL ATTAINMENT**



From Figure 16, we observe that CBGs with a higher concentration of whites or Asians or Asian Americans also have a higher percentage of the population who have college or graduate degrees and a lower percentage of the population who do not have college or graduate degrees. In contrast, CBGs with a higher concentration of Blacks or African Americans or Hispanics or Latinos have a higher percentage of the population who have not obtained a college degree or graduate degree.

**Figure 16**  
CORRELATION BETWEEN EDUCATIONAL ATTAINMENT AND INCOME OR WEALTH

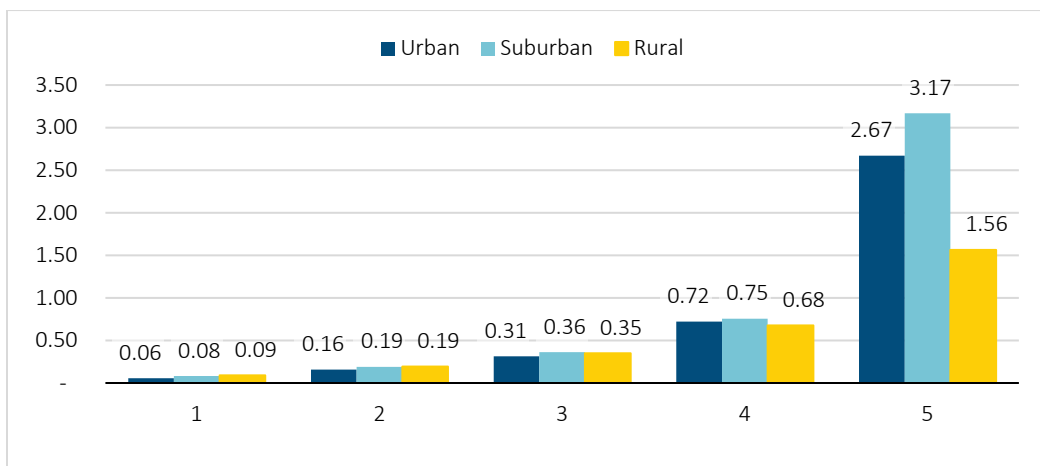


**3.4.1.3 Urbanicity**

Urbanicity was not found to add significantly to the EFNWOD model. However, in the EFOD-IB models, we observe that living in an urban or suburban environment is associated with higher homeowners or renters insurance penetration and living in a rural environment is associated with lower penetration for all but the lowest income band, and this relationship generally becomes more pronounced in the higher income bands (with the exception of urban in the highest income band, which shows a decrease in coefficient).

We observe that the mean net worth within each income band is comparable across urban, suburban, and rural areas in the first four income bands. Although we observe a higher mean net worth for urban and suburban CBGs compared to rural CBGs in the highest income band, we observe similar relationships between urbanicity and homeowners or renters insurance penetration as in the other bands. As a result, higher net worth in urban and suburban locations does not appear to be driving the relationship between urbanicity and homeowners or renters insurance penetration (see Figure 17) although differences in net worth may be contributing to the stronger explanatory power of the rural variable in the highest income band.

**Figure 17**  
MEAN NET WORTH (\$M) BY INCOME BAND AND URBANICITY



Note 1: the income bands are defined as follows: 1: less than \$40,000; 2: \$40,000 - \$53,000; 3: \$53,000 - \$67,000; 4: \$67,000 - \$90,000; and 5: greater than \$90,000.

### 3.4.2 LIFE INSURANCE PRODUCTS

Table 8 presents the results of our life insurance regressions. For readability, the Table 8 shows only coefficients. Results with p-values and confidence intervals can be found in Appendix B in the companion *Supplemental Report*.

**Table 8**

#### LIFE INSURANCE PRODUCTS MODEL

		EFNWOD Model	EFOD-IB Model 1: < \$40,000	EFOD-IB Model 2: \$40,000-\$53,000	EFOD-IB Model 3: \$53,000-\$67,000	EFOD-IB Model 4: \$67,000-\$90,000	EFOD-IB Model 5: >=\$90,000
	Log Mean Net Worth	3.11%					
Race or Ethnicity	Asian or Asian American	-0.02%	-0.02%	-0.01%	0.00%	0.00%	0.00%
	Black or African American	0.00%	-0.02%	-0.03%	-0.02%	-0.01%	0.00%
	Hispanic or Latino	-0.02%	-0.01%	-0.03%	-0.04%	-0.04%	-0.04%
	White	0.01%	0.01%	0.02%	0.02%	0.02%	0.02%
Education	No High School Degree	-0.11%	-0.14%	-0.14%	-0.13%	-0.13%	-0.10%
	High School Grad	-0.01%	-0.05%	-0.05%	-0.04%	-0.03%	-0.04%
	Some College	0.01%	-0.01%	0.00%	0.01%	0.01%	0.01%
	College Degree	0.05%	0.08%	0.08%	0.06%	0.06%	0.06%
	Graduate Degree	0.00%	0.16%	0.12%	0.11%	0.09%	0.07%
Marital Status	Never Married	X	-0.03%	-0.03%	-0.02%	-0.01%	<i>0.00%</i>
	Currently Married	X	0.02%	0.02%	0.01%	0.00%	-0.01%
	Divorced	X	-0.05%	-0.04%	-0.05%	-0.03%	<i>-0.02%</i>
	Widowed	X	0.06%	0.08%	0.09%	0.10%	0.09%
Household Size	Non-Family HHs	-0.03%	-0.05%	-0.05%	-0.06%	-0.07%	-0.08%
	HHs w/ 2 Members	-0.01%	0.02%	0.01%	0.01%	0.00%	0.01%
	HHs w/ 3 Members	0.03%	0.02%	0.01%	0.02%	0.04%	0.05%
	HHs w/ 4+ Members	0.04%	0.04%	0.06%	0.06%	0.08%	0.08%
Urbanicity	Urban	X	X	0.13%	0.59%	0.70%	0.32%
	Suburban	X	X	<i>0.18%</i>	0.15%	0.18%	<i>0.41%</i>
	Rural	X	X	-0.81%	-1.27%	-1.51%	-1.87%
Other	Internet Access	0.05%	0.03%	0.04%	0.05%	0.05%	X
	Median Age	0.08%	0.16%	0.16%	0.14%	0.14%	0.11%
	Drove or Carpoled	0.05%	X	X	0.04%	0.06%	0.06%
	Foreign Born	X	-0.04%	X	X	-0.04%	-0.03%
	Limited English speaking	X	X	-0.07%	-0.06%	X	X
Adjusted R-Squared		83%	50%	46%	42%	43%	55%
National Average Penetration		42%	32%	38%	42%	46%	50%

Note 1: *gray italicized* denotes a coefficient with a p-value greater than .05, which may indicate the coefficient is not statistically significant.

Note 2: X denotes a coefficient that was not included in the model because the forward regression found that adding the variable (i.e., limited English speaking status) or set of related variables (i.e., urbanicity) did not significantly improve model stability. We measured model stability through  $R^2$ . Demographic variables that incrementally increased the  $R^2$  by less than 0.25% were dropped from our final model.

As with homeowners or renters insurance, in the EFNWOD model, net worth has the greatest explanatory power of all the variables for life insurance. However, net worth has less explanatory power for life insurance than for homeowners or renters insurance and retirement products. In addition, race or ethnicity, educational attainment, household size, internet access, median age, and access to transportation or drove or carpoled had some



explanatory power, which we will discuss below. The EFNWOD model has an adjusted R2 of 83%, which indicates this model is also sufficient in explaining variability in life insurance penetration.

In the EFOD-IB models, where net worth is not included as a variable, the other variables had somewhat stronger explanatory power, and variables that did not have explanatory power, such as marital status, urbanicity, foreign born, and limited English-speaking status, became significant. However, the EFOD-IB models have R2 less than or equal to 55%, which means the income band models explain roughly half of the variability in homeowners or renters insurance penetration.

Many of the observations for homeowners or renters insurance apply to life insurance. In our commentary below, we focus on areas where we have observed differences from homeowners or renters insurance.

#### ***Race or Ethnicity***

In the EFNWOD model, Black or African Americans have life insurance penetration rates in line with the national average. Black or African Americans have a history of purchasing final expense or burial insurance (LIMRA, 2021 Barometer Study), which does not offer the same financial protection that other types of life insurance offer. As a result, further research is needed to assess the extent to which disparities in coverage may or may exist across race or ethnicity in the U.S.

#### ***Marital Status***

Unlike in homeowners or renters insurance, where marital status had explanatory value across all models, marital status was not found to add to the EFNWOD model, which appears counter intuitive. Further research is needed to better understand this finding.

#### ***Median Age***

Unlike in homeowners or renters insurance, median age was found to be statistically significant in the EFNWOD model. However, the explanatory power of median age was weaker for life insurance than homeowners or renters insurance in the EFOD-IB models.

### **3.4.3 RETIREMENT PRODUCTS**

Table 9 presents the results of our regressions for retirement products. For readability, Table 10 shows only coefficients. Results with p-values and confidence intervals can be found in Appendix B in the companion *Supplemental Report*.

**Table 9**  
**RETIREMENT PRODUCT MODEL**

		EFNWOD Model	EFOD-IB Model 1: < \$40,000	EFOD-IB Model 2: \$40,000-\$53,000	EFOD-IB Model 3: \$53,000-\$67,000	EFOD-IB Model 4: \$67,000-\$90,000	EFOD-IB Model 5: >=\$90,000
	Log Mean Net Worth	7.72%					
Race or Ethnicity	Asian or Asian American	0.09%	<i>0.04%</i>	0.08%	0.08%	<i>0.08%</i>	0.04%
	Black or African American	-0.04%	-0.07%	-0.10%	-0.10%	-0.08%	-0.06%
	Hispanic or Latino	0.02%	-0.05%	-0.05%	-0.04%	-0.04%	-0.04%
	White	0.00%	0.03%	0.03%	0.03%	0.02%	0.02%
Education	No High School Degree	-0.26%	-0.36%	-0.38%	-0.34%	-0.30%	-0.19%
	High School Grad	-0.07%	-0.19%	-0.19%	-0.17%	-0.14%	-0.12%
	Some College	0.02%	-0.07%	-0.02%	0.00%	0.02%	0.02%
	College Degree	0.20%	0.30%	0.29%	0.24%	0.21%	0.15%
	Graduate Degree	0.04%	0.51%	0.42%	0.34%	0.24%	0.16%
Marital Status	Never Married	X	-0.02%	0.00%	<i>0.00%</i>	<i>0.03%</i>	<i>0.03%</i>
	Currently Married	X	0.04%	0.02%	0.02%	-0.01%	-0.02%
	Divorced	X	-0.13%	-0.13%	-0.12%	-0.09%	<i>-0.04%</i>
	Widowed	X	<i>0.04%</i>	<i>0.05%</i>	0.08%	0.09%	0.10%
Household Size	Non-Family HHs	X	-0.07%	-0.06%	-0.06%	-0.08%	-0.07%
	HHs w/ 2 Members	X	0.02%	0.00%	0.00%	-0.01%	0.00%
	HHs w/ 3 Members	X	0.03%	0.02%	0.02%	0.04%	0.05%
	HHs w/ 4+ Members	X	0.07%	0.09%	0.09%	0.11%	0.09%
Urbanicity	Urban	1.02%	-0.19%	0.36%	0.83%	0.98%	1.01%
	Suburban	0.65%	0.60%	<i>0.84%</i>	<i>0.76%</i>	<i>0.79%</i>	<i>0.89%</i>
	Rural	-3.58%	-1.88%	-3.42%	-3.72%	-4.01%	-4.43%
Other	Internet Access	0.18%	0.10%	0.14%	0.15%	0.16%	0.11%
	Median Age	X	0.23%	0.29%	0.28%	0.30%	0.20%
	Drove or Carpoled	X	-0.07%	-0.09%	-0.06%	-0.04%	X
	Foreign Born	X	0.10%	0.09%	0.13%	X	X
	Limited English speaking	X	X	X	-0.14%	X	X
Adjusted R-Squared		87%	51%	49%	48%	48%	57%
National Average Penetration		52%	28%	42%	53%	64%	75%

Note 1: gray italicized denotes a coefficient with a p-value greater than .05, which may indicate the coefficient is not statistically significant.

Note 2: X denotes a coefficient that was not included in the model because the forward regression found that adding the variable (i.e., limited English speaking status) or set of related variables (i.e., urbanicity) did not significantly improve model stability. We measured model stability through  $R^2$ . Demographic variables that incrementally increased the  $R^2$  by less than 0.25% were dropped from our final model.

As with the other two products, in the EFNWOD model, net worth has the greatest explanatory power of all the variables. In fact, net worth has the strongest explanatory power for retirement s of all three products. In addition, urbanicity has strong explanatory power. Race or ethnicity, educational attainment, and internet access also had some explanatory power, to a lesser degree. The EFNWOD model has an adjusted R2 of 87%, an adjusted R2 of this size is generally considered high among data scientists.

In the EFOD-IB models, where net worth is not included as a variable, the other variables had somewhat stronger explanatory power. Variables that did not have explanatory power, such as marital status, household size, median

age, access to transportation or drove or carpoled, foreign born, and limited English-speaking status, became significant in at least one of the income bands. However, the EFOD-IB models have R<sup>2</sup> less than or equal to 58%, which means the income band models explain roughly half of the variability in homeowners or renters insurance penetration.

Many of the observations for homeowners or renters insurance and life insurance apply to retirement products. In our commentary below, we focus on areas where we have observed differences from the other two products.

#### *Race or Ethnicity*

In the EFNWOD model, we observe only Black or African American are associated with lower retirement product penetration compared to the national average penetration. Both Hispanic or Latino and Asian or Asian Americans are associated with retirement product penetration above the national average and whites are in line with the national average. The trends at an income band level are generally consistent with one exception: Hispanic or Latino flips to be associated with lower retirement product penetration.

#### *Urbanicity*

Of the three products studied, Urbanicity only added significantly to the retirement product EFNWOD model; however, we observe similar overall trends to the homeowners or renters insurance and life insurance EFOD-IB models. We observe that living in an urban or suburban environment is associated with higher retirement product penetration and living in a rural environment is associated with lower penetration. This relationship generally holds across the income bands with the effect being somewhat more pronounced at higher income bands. One potential explanation for the effect for retirement products specifically is that rural employers may be more likely to be small employers and therefore less likely to offer employer-based retirement plans.

#### *Marital Status*

Similar to life insurance, marital status did not significantly add to the EFNWOD model. In the EFOD-IB, we observe that never being married is associated with higher retirement product penetration (although the explanatory power is relatively small) compared to homeowners or renters insurance and life insurance, which had slightly negative coefficients. This may be a result of single people being offered retirement products through their work as opposed to homeowners or renters insurance and life insurance, which people are more likely to purchase on their own.

#### *Household Size*

In contrast to the other two products, household size did not significantly add to the EFNWOD model. However, the EFOD-IB models show similar trends of having higher retirement product penetration associated with larger household size.

#### *Transportation*

In contrast to the other two products, the driving or carpooling to work was not found to significantly add to the EFNWOD model. However, in four of the EFOD-IB models, driving or carpooling is associated with lower retirement product penetration.

### **3.5 TRENDS ACROSS TIME**

Our regression models used 2019 data. In addition, because our dataset did not include historical product penetration rates by race or ethnicity, we considered data from the SCF to provide insights into:

- Homeownership and mortgages (as an indicator for homeowners or renters insurance)
- Cash value life insurance (as an indicator for all life insurance products), and
- Ownership of retirement accounts.

Based on the SCF, disparities in homeownership or mortgages, cash value life insurance and retirement account ownership have not changed significantly since 1989. These indicators are not the same as the products included in our research, and we acknowledge that Insurance and retirement product penetration rates may follow different trends. However, to the extent these indicators are correlated with homeowners or renters insurance, life insurance, and retirement product penetration, it would not be unreasonable to conclude that disparities in insurance and retirement product penetration rates have not changed significantly since 1989.

The Federal Reserve Board has been sponsoring surveys of consumer finances periodically since the 1940s. The SCF survey has been conducted every three years since 1983, with the latest survey conducted in 2019. The SCF reports variables in terms of their median and mean values and, where applicable, the percent of the population that has the indicated financial instrument. The survey includes three significant financial events for U.S. families and the U.S. economy as a whole:

- Early 1990s recession (July 1990–Mar 1991);
- Early 2000s recession (Mar 2001–Nov 2001);
- The Great Recession (Dec 2007–June 2009).

When interpreting this data, it is important to consider: (1) The same families do not appear in each survey. Therefore, changes across time must be interpreted with respect to a “typical” family within a racial or ethnic group. (2) The types and numbers of families that make up each racial or ethnic group change across time as the underlying demographic composition of the U.S. population has changed. These compositional shifts increase the complexity in interpreting results across time.

Please note that the SCF divides a household unit “into a primary economic unit (PEU)—the family—and everyone else in the household. The PEU is intended to be the economically dominant single person or couple (whether married or living together as partners) and all other persons in the household who are financially interdependent with that economically dominant person or couple.” In addition, within each family, the report designates a reference person “not to convey a judgment about how an individual family is structured but as a means of organizing the data consistently.... If a couple is economically dominant in the PEU, the reference person is the male in a mixed-sex couple or the older person in a same-sex couple. If a single person is economically dominant, that person is designated as the family reference person in this report” (Bhutta et. al, 2020).

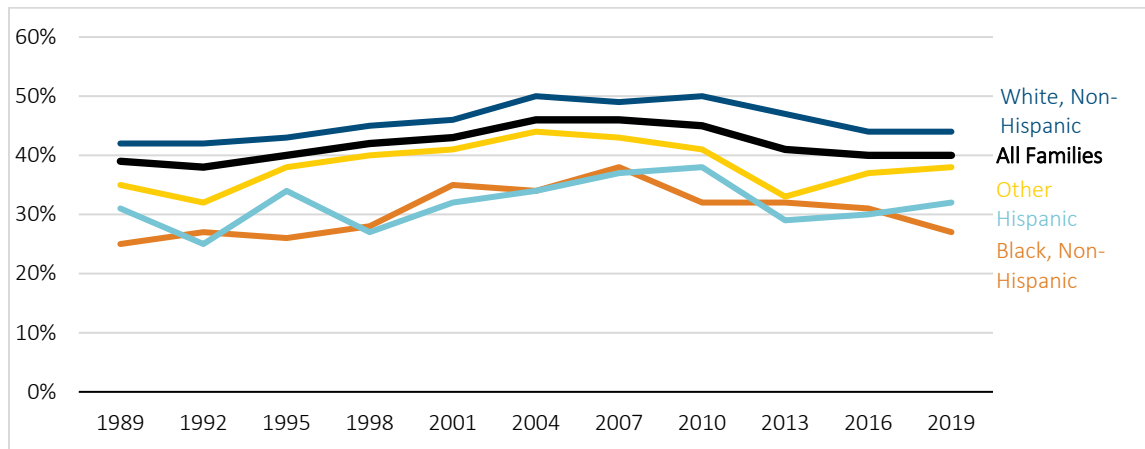
To reduce the impact of the changing racial or ethnic makeup of the U.S. population, we focused on more recent trends; in particular, we focused on the period from 2007 to 2019. This period includes the most significant post-WWII U.S. recession, (i.e., the Great Recession, [Dec 2007–June 2009]), which provides sufficient context for our results.

### 3.5.1 HOMEOWNERS OR RENTERS INSURANCE PRODUCTS

The SCF does not contain data on homeowners or renters insurance policies. However, mortgage companies generally require the borrower to purchase homeowners insurance. As a result, we considered SCF data regarding the percent of families with a mortgage or home equity loan as a proxy for trends in homeowners insurance penetration. Limitations on the use of this data as an indicator of trends in homeowners or renters insurance penetration may exist as a result of a significant difference between the percentage of households with a mortgage or home equity loan and the percentage of households with homeowners or renters insurance. Specifically, SCH data indicates that 40% of U.S. households had a mortgage or home equity loan in 2019 compared to a 76% prevalence of homeowners or renters insurance in our dataset. This difference may be because of renters insurance prevalence, but additional research would be needed to corroborate this assertion.

We observe similar disparities in having mortgages or home equity loans that we observe in homeowners or renters insurance penetration. Relative to all U.S. families, white families had higher rates of mortgage and home equity loans while Black or African American, Hispanic or Latino, and all other race or ethnicities had lower rates (see Figure 18). In addition, disparities appear to have grown since 2007. However, the volatility of the data precludes strong conclusions (see Figure 19).

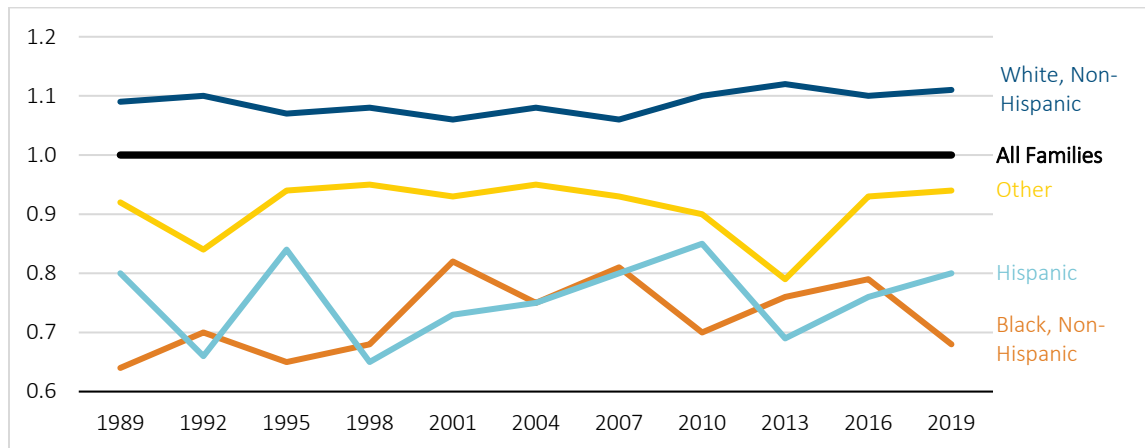
**Figure 18**  
**PERCENT OF FAMILIES HAVING MORTGAGE OR HOME EQUITY LOANS BETWEEN 1989–2019 BY RACE OR ETHNICITY**



Source: Survey of Consumer Finances, 1989–2019.  
 Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute’s terms for Black or African American and Hispanic or Latino, and white.

Mortgages and home equity loan participation rates increased for all races or ethnicities in the run up to the 2008 housing crash and ensuing recession.

**Figure 19**  
**INDEX: PERCENT OF FAMILIES HAVING MORTGAGE OR HOME EQUITY LOANS BETWEEN 1989–2019, BY RACE OR ETHNICITY—RELATIVE TO ALL U.S. FAMILIES**



Source: Survey of Consumer Finances, 1989–2019.  
 Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute’s terms for Black or African American and Hispanic or Latino, and white.

In addition, we observe the following trends:

- In the most recent period, Black families were the only group to see declines in 2013–2016 and 2016–2019.
- Increases in mortgages and home equity loans among Black or African American and Hispanic or Latino families during the early to mid-2000s largely eroded by 2019. No group has returned to pre-recession highs.
- Hispanic families saw the largest decline in participation in mortgages and home equity loans in the aftermath of the Great Recession.

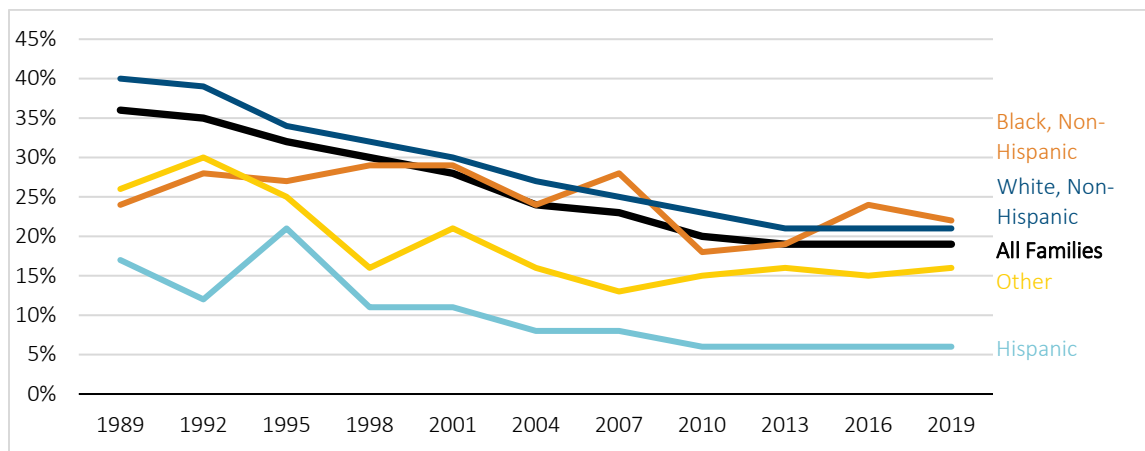
### 3.5.2 LIFE INSURANCE PRODUCTS

The only life insurance statistics published by the SCF relate to cash value life insurance. However, the percent of families that have cash value life insurance may be a reasonable indicator of trends in the penetration of all life insurance products despite the fact that the percentage of households with cash value life insurance (19%) in 2019 is lower than the national average of life insurance products in our dataset (42%). For purposes of our comparisons, we have assumed that the SCH trends in cash value life insurance are applicable to life insurance products.

We observe similar disparities in cash value life insurance that we observe in life insurance penetration with the notable exception that Black or African American families have a higher percent ownership than all U.S. families in recent years. This may be driven by higher ownership of final expense or burial insurance policies among Black or African American families (LIMRA, 2021 Barometer Study) (see Figure 20).

In addition, there is some indication of the disparities narrowing since 2007 for every group except Hispanics or Latinos, where the disparities appear to be widening. However, the data is too volatile to reach a strong conclusion (see Figure 20).

**Figure 20**  
**PERCENT OF FAMILIES HAVING CASH-VALUE LIFE INSURANCE BETWEEN 1989–2019, BY RACE AND ETHNIC GROUP**

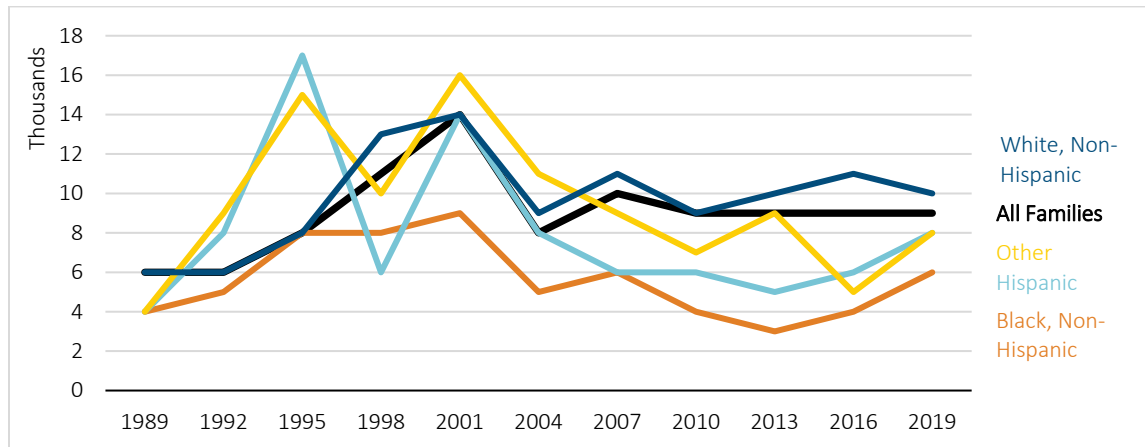


Source: Survey of Consumer Finances, 1989–2019.

Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute’s terms for Black or African American and Hispanic or Latino, and white.

In addition to differences in the prevalence of life insurance, coverage disparities may exist. Research has shown that Black or African Americans have been underinsured (LIMRA, 2021 Barometer Study). In addition, Figure 21 shows the median value of cash value life insurance is lower for Blacks or African Americans than for the other racial or ethnic groups.

**Figure 21**  
**MEDIAN FAMILY VALUE OF CASH-VALUE LIFE INSURANCE BETWEEN 1989–2019, BY RACE AND ETHNIC GROUP**



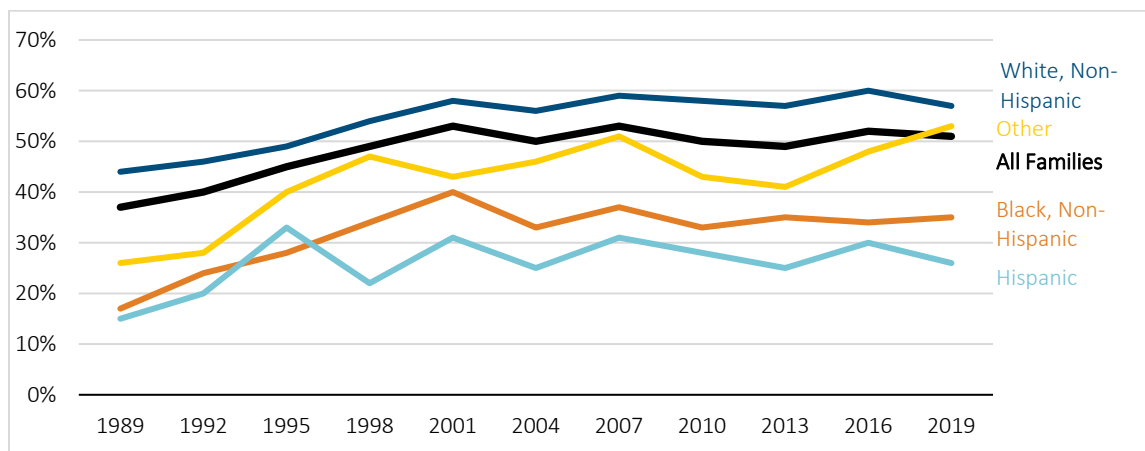
Source: Survey of Consumer Finances, 1989–2019.  
 Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute’s terms for Black or African American and Hispanic or Latino, and white.

The median cash value of life insurance increased for all categories in the first half of the 30-year survey period. However, in recent years, the median value has declined or remained relatively constant.

### 3.5.3 RETIREMENT PRODUCTS

SCF tracks ownership of retirement accounts — thrift or savings, 401(k), 403(b), profit sharing, tax-deferred annuities, and other, similar accounts. The survey shows that the percent of all U.S. families with retirement accounts increased from 37% in 1989 to 51% in 2019. A pronounced increase in retirement account utilization occurred during the 1990s, perhaps related to the growing number of retirement savings options available to families commensurate with gradual shift from defined benefit to defined contribution plans that has been occurring during the last 25 years or so (Butricia et al, 2009).

**Figure 22**  
**PERCENT OF FAMILIES HAVING RETIREMENT ACCOUNTS BETWEEN 1989–2019, BY RACE AND ETHNIC GROUP**



Source: Survey of Consumer Finances, 1989–2019.  
 Note: The race or ethnicity terms above are the terms used by the SCF, which correspond to the SOA Research Institute’s terms for Black or African American and Hispanic or Latino, and white.

Figure 22 illustrates that the percentage of families with retirement accounts increased for all races or ethnicities during this period, though to a lesser extent for Hispanics. This growth in utilization appears to have stalled following the 2001 recession. A notable exception is the Other category, which continued to rise despite two recessions, and even gained ground relative to all U.S. families.



## Section 4: Concluding Remarks

### 4.1 SUMMARY OF FINDINGS

Our core research focused on four questions, which we summarize below:

1. **Does the ownership of insurance (including retirement saving) products vary significantly by race or ethnicity in the U.S.?**

We observe disparities in homeowners or renters insurance, life insurance, and retirement product penetration by race or ethnicity in the U.S. Asians or Asian Americans and whites are associated with higher product penetration while Blacks or African Americans and Hispanics or Latinos are associated with lower insurance and retirement product penetration.

2. **Can we infer reasons why these variations in prevalence exist?**

Disparities in net worth across race or ethnicity in the U.S. explain most of the disparities in product penetration. In our research, we observe a self-perpetuating cycle in which, with each generation, those with higher net worth have higher usage of insurance and retirement products, which contributes to intergenerational wealth transfer.

In addition, we observed smaller explanatory power in other demographics. We observe higher educational attainment, larger household sizes, increased age, being married or widowed, having access to the internet, having an available car for transport, and living in a suburban or urban environment, are generally associated with higher insurance penetration (although we note a few exceptions in certain models).

3. **How has the prevalence of these insurance products by race or ethnicity changed across time?**

Leveraging data from the SCF on homeownership and mortgages (as a proxy for homeowners or renters insurance), cash value life insurance (as a proxy for all life insurance products), and retirement accounts, we do not observe strong evidence that gaps in insurance prevalence by racial or ethnic group are closing (or changing) across time.

4. **Implications of Findings and the Relationship to Income and Wealth Inequality**

Our data shows that a significant portion of the U.S. population does not own the insurance and retirement product studied:

Homeowners or renters insurance: 24%

Life insurance: 58%

Retirement products: 47%

Our analysis suggests that wealth is correlated with insurance and retirement product ownership and explains most of the disparities in insurance and retirement product ownership by race or ethnicity. This suggests the most opportunity to increase insurance and retirement product ownership among marginalized communities is likely with members of marginalized communities with lower income and wealth.

Increasing ownership of insurance and retirement products in communities with lower income and wealth may support wealth building and intergenerational wealth transfer. There is a body of research that

suggests that intergenerational wealth transfer is a significant driver of wealth inequality in the U.S. Ultimately, wealth generates more wealth.

#### **4.2 RELATIONSHIP TO WEALTH INEQUALITY, LIMITATIONS AND OTHER AREAS OF FUTURE RESEARCH**

Our research into the relationship between insurance and retirement products on income and wealth inequality in the U.S. is intended to be foundational as this is a highly complex topic with major public policy intersections. As a first step to untangle these interactions, we studied product penetration for three categories of insurance and retirement products: homeowners and renters insurance, life insurance, and retirement products. These categories, however, contain several distinct products, some of which have little potential to impact wealth building. Notably, we observe a higher (comparative) rate of life insurance ownership among Blacks or African Americans. Our literature review, however, suggests that this phenomenon may be driven by a higher rate of ownership for burial insurance, which has a minimal impact on wealth building as compared with other types of life insurance policies.

In addition, purchasing of products can be mandatory. For example, an individual is required to have homeowner's insurance to qualify for a mortgage, and renters insurance is often required to sign a lease. As a result, homeowners or renters insurance had the highest overall penetration rate of the three product groups studied. We have not studied disparities in homeowners insurance separately from disparities in renters insurance. Nor have we studied how disparities in homeowners insurance reflect real estate and lending practices.

Similarly, purchase of products can be part of an employee benefit plan or purely as an individual. Some types of jobs and employers are much more likely to have employee benefits than others. For example, most larger employers provide full-time employees with retirement and life insurance benefits. Small employers are much less likely to provide such benefits, and part-time employees and independent contractors are less likely to have such benefits. We have not studied the extent to which differences in life insurance or retirement assets reflect employment decisions.

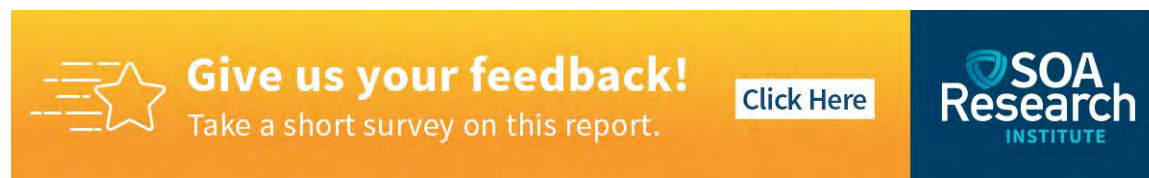
Some researchers have argued that insurance product ownership should be higher among the less well off (Gropper and Kuhnen, 2021). While individuals and families with more wealth may find it more cost effective to self-insure, individuals and families with less wealth have a greater need for the financial protection that insurance offers. However, researchers observed a similar result to our research—insurance ownership increases with wealth (Gropper and Kuhnen, 2021).


This leaves us with a question: why does a significant portion of the population—disproportionately Black or African American and Hispanic or Latino communities—lack insurance or retirement products? UNC researchers hypothesized that families with lower incomes have enough protection from government programs to forgo the purchase of additional insurance and the associated costs. Future research is needed to understand if low penetration rates result from a lack of need as a result of social programs. If that is not the case, further research is needed to understand if existing products or distribution methods are not meeting the specific needs of these communities, if affordability is the limiting factor, or if low penetration rates result from a lack of awareness or understanding in these communities of the products. Depending on the findings, one area of future research could focus on how to develop and market products more effectively.


In particular, retirement product ownership may be impacted by cultural expectations, preferences around family size and employment opportunities. With respect to cultural expectations, for example, some families expect each generation to save for retirement and be on their own, whereas others invest heavily in children and then expect the children and others in the family to help support the aging family members. Similarly, families with higher fertility rates have higher educational and child-rearing costs and may be less able to save for retirement. In addition, certain retirement (as well as life insurance) benefits are employer-sponsored. We have not studied the extent to which differences in retirement assets reflect employment decisions.

To understand how attitudes and preferences vary by race and ethnicity and the possible impact these attitudes or preferences have on insurance product ownership will require more data and multiple types of research. For example, individual interviews, focus groups or consumer surveys can be helpful for understanding why individuals make different purchase decisions.

Finally, our research is all point in time. Longitudinal data would be helpful to assess the link between insurance and retirement product ownership earlier in life and wealth accumulation later in life.



 **Give us your feedback!**  
Take a short survey on this report. [Click Here](#)

 SOA  
Research  
INSTITUTE

## Section 5: Acknowledgments

The researchers' deepest gratitude goes to those without whose efforts this project could not have come to fruition: the Project Oversight Group and others for their diligent work overseeing the research project, advising on methodology and approach, and arm's-length review of this study prior to publication.

Project Oversight Group members:

Sarayyah Baksh, FCAS

Brian G. M. Bayerle, FSA, MAAA

Patrick Fillmore, FCAS

Robert M. Gomez, FSA, CERA, MAAA

Kam Harris, FSA, MAAA

Carrie L. Kelley, FSA, MAAA

Andrew Melnyk, PhD

Mitchell N. Momanyi, FSA, MAAA

Zohair Motiwalla, FSA, MAAA

Colin M. Ramsay, ASA, MAAA, PhD

Anna M. Rappaport, FSA, MAAA

John W. Robinson, FSA, MAAA, FCA

At the Society of Actuaries Research Institute:

Lisa A. Schilling, Senior Research Actuary, FSA, EA, FCA, MAAA

## References

- Bhutta, Neil, Jesse Bricker, Andrew C. Chang, Lisa J. Dettling, Sarena Goodman, Joanne W. Hsu, Kevin B. Moore, Sarah Reber, Alice Henriques Volz, and Richard A. Windle. "Changes in U.S. Family Finances from 2016 to 2019: Evidence from the Survey of Consumer Finances." Federal Reserve Bulletin, Vol. 106, No. 5, Sept. 2020. <https://www.federalreserve.gov/publications/files/scf20.pdf> .
- Bhutta, Neil, Andrew C. Chang, Lisa J. Dettling, and Joanne W. Hsu with assistance from Julia Hewitt. "Disparities in Wealth by Race and Ethnicity in the 2012 Survey of Consumer Finances." FEDS Notes, Sept. 28, 2020. <https://www.federalreserve.gov/econres/notes/feds-notes/disparities-in-wealth-by-race-and-ethnicity-in-the-2019-survey-of-consumer-finances-20200928.htm> .
- Bricker, Jesse, Sarena Goodman, Kevin B. Moore, and Alice Henriques Volz with assistance from Dalton Ruh. "Wealth and Income Concentration in the SCF: 1989–2019" Fed Notes, 2020. <https://www.federalreserve.gov/econres/notes/feds-notes/wealth-and-income-concentration-in-the-scf-20200928.htm> .
- Butricia, Barbara A., Howard M. Iams, Karen E. Smith, and Eric J. Toder. "The Disappearing Defined Benefit Pension and Its Potential Impact on the Retirement Incomes of Baby Boomers" Social Security Bulletin, Vol. 69, No. 3, 2009. <https://www.ssa.gov/policy/docs/ssb/v69n3/v69n3p1.html> .
- Darity Jr., William, Darrick Hamilton, Mark Paul, Alan Aja, Anne Price, Antonio Moore, and Caterina Chiopris. "What We Get Wrong About Closing the Racial Wealth Gap." April 2018. <https://socialequity.duke.edu/wp-content/uploads/2020/01/what-we-get-wrong.pdf> .
- Feiveson, Laura and John Sabelhaus. "How Does Intergenerational Wealth Transmission Affect Wealth Concentration?" Fed Notes. 2018. <https://www.federalreserve.gov/econres/notes/feds-notes/how-does-intergenerational-wealth-transmission-affect-wealth-concentration-20180601.htm> .
- Goodman, Laurie S., and Christopher Mayer. "Homeownership and the American Dream" JOURNAL OF ECONOMIC PERSPECTIVES, VOL. 32, NO. 1, WINTER 2018, (pp. 31-58). <https://www.federalreserve.gov/econres/notes/feds-notes/how-does-intergenerational-wealth-transmission-affect-wealth-concentration-20180601.htm> .
- Insurance Information Institute. "How to choose the right type of life insurance." <https://www.iii.org/article/how-choose-right-type-life-insurance> .
- Insurance Information Institute. "What is homeowners insurance?" <https://www.iii.org/article/what-homeowners-insurance> .
- Insurance Information Institute. "What are the different types of permanent life insurance policies?" <https://www.iii.org/article/what-are-different-types-permanent-life-insurance-policies> .
- Lee, I.M., J.J. Hong, and P. Born. 2017. Insurance market development and income inequality. The International Review of Financial Consumers 2 (1): 43–53. <https://www.iafico.org/%EB%B3%B5%EC%A0%9C-archive-3> .
- LIMRA. "New Study Finds Black American Life Insurance Ownership Increased During the Pandemic but a Significant Coverage Gap Remains." July 2021. <https://www.limra.com/en/newsroom/news-releases/2021/new-study-finds-black-american-life-insurance-ownership-increased-during-the-pandemic-but-a-significant-coverage-gap-remains/> .
- Munnell, Alicia H., Wenliang Hou, and Geoffrey T. Sanzenbacher. "Trends in Retirement Security by Race/Ethnicity." Center for Retirement Research at Boston College. November 2018, Number 18-21. [https://crr.bc.edu/wp-content/uploads/2018/11/IB\\_18-21.pdf](https://crr.bc.edu/wp-content/uploads/2018/11/IB_18-21.pdf) .

## About The Society of Actuaries Research Institute

Serving as the research arm of the Society of Actuaries (SOA), the SOA Research Institute provides objective, data-driven research bringing together tried and true practices and future-focused approaches to address societal challenges and your business needs. The Institute provides trusted knowledge, extensive experience and new technologies to help effectively identify, predict and manage risks.

Representing the thousands of actuaries who help conduct critical research, the SOA Research Institute provides clarity and solutions on risks and societal challenges. The Institute connects actuaries, academics, employers, the insurance industry, regulators, research partners, foundations and research institutions, sponsors and non-governmental organizations, building an effective network which provides support, knowledge and expertise regarding the management of risk to benefit the industry and the public.

Managed by experienced actuaries and research experts from a broad range of industries, the SOA Research Institute creates, funds, develops and distributes research to elevate actuaries as leaders in measuring and managing risk. These efforts include studies, essay collections, webcasts, research papers, survey reports, and original research on topics impacting society.

Harnessing its peer-reviewed research, leading-edge technologies, new data tools and innovative practices, the Institute seeks to understand the underlying causes of risk and the possible outcomes. The Institute develops objective research spanning a variety of topics with its [strategic research programs](#): aging and retirement; actuarial innovation and technology; mortality and longevity; diversity, equity and inclusion; health care cost trends; and catastrophe and climate risk. The Institute has a large volume of [topical research available](#), including an expanding collection of international and market-specific research, experience studies, models and timely research.

Society of Actuaries Research Institute  
475 N. Martingale Road, Suite 600  
Schaumburg, Illinois 60173  
[www.SOA.org](http://www.SOA.org)