# Reducing Retirement Inequality

## Building Wealth and Old-Age Resilience

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# Contents

## Chapter 12

# Understanding Financial Vulnerability Among Asians, Blacks, and Hispanics in the United States

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Many studies have found that Blacks and Hispanics in the US are economically vulnerable and face greater economic challenges than do Whites; moreover, these generate persistent wealth gaps by race and ethnicity. Part of the reason is that Blacks and Hispanics are underrepresented in the top earnings quantiles, are more likely than Whites to be low-income, and are less likely to have access to employer-sponsored benefits including healthcare and retirement benefits (Akee et al. 2017; Gould et al. 2020; Gould and Wilson 2020). Additional analysis has demonstrated that, even before the onset of COVID-19 and its economic consequences, there was a significant gap in financial resilience between Black and White adults, and the least financially resilient households in America were disproportionally Black and Hispanic families (Hasler et al. 2017; Valdes et al. 2021). For example, Blacks were less confident about their ability to cope with an emergency expense of $2,000 within a month, and they were less likely to possess non-retirement savings, less likely to save and plan for retirement, and more likely to report feeling constrained by their debt (Yakoboski et al. 2020a, 2020b). Credit scores, an important objective indicator of financial vulnerability, also differ significantly across subgroups. For example, older Whites were twice as likely to report a good credit score compared to their non-White counterparts (Lusardi et al. 2020a, 2020b).

The COVID-19 crisis exacerbated those financial vulnerabilities, in part because minority communities were disproportionately impacted by the pandemic and its economic fallout. Throughout the pandemic, the rate of those at work dropped sharply because of lockdown measures, meaning that many Americans—and especially the most vulnerable—lost reliable incomes, and the loss of steady incomes increases financial vulnerability (Morduch and Schneider 2017). For instance, a large percentage of Blacks and Hispanics in 2022 reported that they had trouble making ends meet in

a typical month: 34 percent of Blacks and 37 percent of Hispanics had diffi-culty making ends meet, compared to 20 percent of Whites and 18 percent of Asians (Yakoboski et al. 2022). Overall, households with lower income levels and higher income volatility tended to prioritize saving for immedi-ate and basic needs, constraining their ability to save for emergencies or the long term (Yoong et al. 2019).

Besides receiving lower incomes, other factors that also contribute to greater vulnerability and low financial well-being have been identified in previous studies. First, demographic characteristics matter in explaining different financial well-being levels: for instance, younger persons, the less-educated, and lower-income individuals, as well as women, tend to be worse off in terms of financial well-being (Consumer Financial Protection Bureau [CFPB] 2015, 2017a, 2017b; Hasler et al. 2022; Lusardi 2019; Yakoboski et al. 2022). Demographic characteristics also help explain racial and ethnic dif-ferences. Thus, compared to White women, Black and Hispanic women are less likely to have accumulated assets and are more likely to exhibit costly borrowing behaviors, both factors associated with greater financial vulnera-bility (Clark et al. 2021). Moreover, single mothers show higher levels of financial vulnerability relative to their male counterparts (Malone et al. 2010).

Second, a lack of assets and high levels of indebtedness can also con-tribute to financial vulnerability (Christelis et al. 2009; Hasler et al. 2018; Jappelli et al. 2013). Other studies have discussed additional sources of financial distress, including using alternative financial services such as pawnshops and payday loans (Melzer 2011; Skiba and Tobacman 2019).

Third, financial vulnerability is likely to depend on money management skills and financial knowledge. The economic importance of financial litera-cy, including its link to financial behavior and outcomes, is documented in a large and growing empirical literature (Hastings et al. 2013; Lührmann et al. 2018; Lusardi and Mitchell 2014). Greater financial literacy can help people avoid taking on too much debt, for example. Gerardi et al. (2013) also found a robust relationship between numerical ability and mortgage default. Simi-larly, Lusardi and Tufano (2015) show that people lacking debt literacy were more likely to incur higher fees, use high-cost borrowing, and have excessive debt burdens. Additionally, research has documented that higher finan-cial knowledge and associated savvy financial behaviors such as retirement planning and precautionary savings are positively linked to a higher level of accumulated wealth and, ultimately, greater financial well-being (CFPB 2017b; Lusardi et al. 2017; Lusardi and Mitchell 2011).

Somewhat less is known about the financial situations, money manage-ment behaviors, and financial resilience of Asian respondents. A handful of previous studies have noted that Asians in the US are in a better economic position than Blacks and Hispanics (Hasler et al. 2022), and young Asians

were less financially fragile compared to their White counterparts. Prior to the pandemic, Asians in the US overall were 3 percentage points less likely to be financially fragile (Hasler et al. 2018), and they were less likely to partake in high-cost borrowing than Whites. Nevertheless, they were less likely to plan for retirement (de Bassa Scheresberg 2013). It is important to note, nevertheless, that the Asian subpopulation is quite diverse, both in terms of immigrant status and country of origin if they were not native-born. Studies have shown that immigrant Asians fare worse economically than Whites, though US-born Asians tend to fare better than their White native-born counterparts (Nam 2014; Takei and Sakamoto 2011).

In this chapter, we present an in-depth examination and analysis of financial vulnerability among Asians, Blacks, and Hispanics in the US. Rather than looking at a single specific financial behavior or subjective measure, we expand upon previous work by considering several objective financial vulnerability measures. We rely on two recent datasets, the 2021 National Financial Capability Study (NFCS) and the 2022 TIAA Institute-GFLEC Personal Finance Index[1] (P-Fin Index), to explore patterns of financial vulnerability across racial and ethnic subgroups, along with the factors that might explain these differences. The specific factors we identify include demographics (e.g., marital status and number of underage children), formal education, income, income shocks, financial resources, money management practices, and financial knowledge.

We find that more Blacks and Hispanics in the US report being financially vulnerable compared to Whites and Asians. Strikingly, Blacks and Hispanics score around 60 percent higher on our composite vulnerability score compared to Asians, and around 20 percent higher compared to Whites. The main factors contributing to these racial and ethnic gaps in financial vulnerability are youth, single parenthood, lack of savings and wealth, having too much debt, income shocks, costly money management practices, and low financial literacy levels. Our empirical findings are complemented by roundtable discussions with experts and thought leaders from National CAPACD and UnidosUS. National CAPACD (the National Coalition for Asian Pacific American Community Development, pronounced 'National Capacity') is an Asian American, Native Hawaiian, and Pacific Islander advocacy group and national intermediary that builds coalitions, publishes research, and provides resources to community-based organizations. UnidosUS (previously known as NCLR, National Council of La Raza) is the largest Hispanic civil rights and advocacy organization in America. The organization provides research, advocacy programs, and facilitates a network of around 300 community-based organizations.

In what follows, we first introduce our empirical strategy, data sources and sample, and the financial vulnerability indicators we use in the analyses. Next, we summarize the differences in specific financial vulnerability

indicators across Blacks, Hispanics, Asians, and Whites in the US, as well as the composite vulnerability score. Then we turn to an examination of the main factors likely contributing to this gap in financial vulnerability. The key factors are grouped into demographic characteristics, financial situations, money management practices, and financial literacy. A final section offers concluding remarks and recommendations for inclusive financial education programs and initiatives. Our research findings and recommendations will be useful in developing more inclusive and tailored financial education programs.

## Methodology

In this section, we outline our empirical strategy, the data sources, our financial vulnerability indicators, and descriptive statistics across the four racial and ethnic groups.

### Empirical strategy

To analyze racial and ethnic differences in financial vulnerability as well as the relationship between these factors predictive of vulnerability, we address the following research questions:

1. How does financial vulnerability differ among Asians, Blacks, Hispanics, and Whites in the US?
2. What are the contributing factors to financial vulnerability for Asian, Black, and Hispanic adults, and how do these factors differ from those for Whites?
3. How do financial literacy and financial education contribute to improving financial vulnerability?

To address them, we analyze six financial vulnerability indicators and a composite vulnerability score measured in two datasets, by racial and ethnic groups. Next, we examine how racial/ethnic financial vulnerability gaps differ by demographic characteristics, financial situations, money management behavior, and financial literacy. Our goal is to determine which factors—resources, behavior, knowledge, and demographics—may help explain racial and ethnic differences in financial vulnerability. We complement the descriptive analyses with multivariate regression analyses using ordinary least squares (OLS). In the most comprehensive specification, we relate the financial vulnerability score ($Y_i$) of individual $i$ to a set of controls, where $X_k$ is a vector of $k$ demographic variables including the respondent's race/ethnicity, age, gender, education, marital status, number of financially dependent children, household income, and work status. Further, we

include additional variables, such as shocks to income, as external factors contributing to financial vulnerability,[2] proxies for wealth,[3] and levels of financial literacy $(X_z)$:[4]

$$Y_i = \beta_0 + \beta_k X_k + \beta_z X_z + \varepsilon \qquad (1)$$

This analysis is performed on the full sample as well as on the racial/ethnic subgroups of key interest here. The latter offers deeper insights into how financial vulnerability and the factors that influence it vary across groups. Our quantitative analysis was complemented by roundtable discussions and in-depth interviews with experts from National CAPACD and UnidosUS, to validate our results with qualitative information.

## Data sources and summary statistics

Two large-scale surveys used in this chapter are the NFCS, a nationally representative survey commissioned by the FINRA[5] Investor Education Foundation to examine the financial capability of American adults (Lin et al. 2022), and the 2022 P-Fin Index survey.

The NFCS survey has been administered every three years since 2009; here we use the 2021 wave, which has a total of 27,118 observations. The NFCS sample is large enough to permit us to focus on Asian, Black, and Hispanic subpopulations, while at the same time controlling for key socioeconomic variables of interest. All statistics reported in this chapter use sampling weights provided in the NFCS, which make the dataset representative of the US population.

The P-Fin Index was designed to measure people's knowledge and understanding of the factors leading to sound financial decision-making and effective management of personal finances in the US (Yakoboski et al. 2022). The nationally representative data are collected via an annual survey, first fielded in 2017, developed by the TIAA Institute and the Global Financial Literacy Excellence Center, in consultation with Greenwald & Associates. With a broad set of 28 financial literacy questions, the P-Fin Index offers one of the most comprehensive measures of financial literacy currently available. The index is unique in its capacity to examine financial literacy across eight areas of personal finance within which individuals routinely function. These areas are *earning* (determinants of wages and take-home pay); *consuming* (budgets and managing spending); *saving* (factors that maximize accumulations); *investing* (investment types, risk and return); *borrowing/managing debt* (relationship between loan features and repayments); *insuring* (types of coverage and how insurance works); *comprehending risk* (understanding uncertain financial outcomes); and *go-to information sources* (recognizing appropriate sources and advice). The 2022 survey comprised 3,582 observations; Blacks, Hispanics, and Asians

in the US were over-sampled in 2022 to reach a minimum of 500 observations each, permitting us to analyze these historically underrepresented groups in more detail. Statistics using the P-Fin Index reported here use the weights provided, which make the dataset representative of the US population.[6]

The race and ethnicity variables for both surveys are constructed in the same way, based on the question asking respondents 'Which of the following best describes your race or ethnicity? Select all that apply.' The response options were as follows: 'White or Caucasian,' 'Black or African American,' 'Hispanic or Latino/a,' 'Asian,' 'Native Hawaiian or other Pacific Islander,' 'American Indian or Alaskan Native,' and 'Other.' Respondents who chose 'White or Caucasian' were coded as *White*; respondents who chose 'Black or African American' were coded as *Black*; respondents who chose 'Hispanic or Latino/a' alone or in combination with any other race were coded as *Hispanic*; and respondents who chose 'Asian' or 'Native Hawaiian or other Pacific Islander' were coded as *Asian*; respondents who chose 'American Indian or Alaska Native,' 'Other,' or two or more ethnicities (except when in combination with Hispanic or Latino/a) were coded as *Other*. The 'Other' category was included in the regressions for reasons of completeness but otherwise excluded from the analysis.

The distribution of respondents across racial and ethnic groups for both datasets is shown in Table 12.1. Both included around 63 percent Whites, 12 percent Blacks, 16 percent Hispanics, and 6 percent Asians, as expected for nationally representative US datasets and in line with the most recent 2021 US Census estimates.[7]

TABLE 12.1 Racial and ethnic samples using the 2021 NFCS and the 2022 P-Fin Index

|  | Full Sample | White | Black | Hispanic | Asian | Other |
|---|---|---|---|---|---|---|
| 2021 NFCS (%) | 100 | 62.84 | 12.05 | 16.41 | 6.02 | 2.69 |
| # of observations | 27,118 | 20,062 | 2,716 | 2,274 | 1,193 | 873 |
| 2022 P-Fin Index (%) | 100 | 62.61 | 12.00 | 16.90 | 6.29 | 2.20 |
| # of observations | 3582 | 1830 | 548 | 586 | 512 | 106 |

*Note:* All statistics are weighted. Respondents who chose 'White or Caucasian' were coded as *White*; respondents who chose 'Black or African American' were coded as *Black*; respondents who chose 'Hispanic or Latino/a' alone or in combination with any other race were coded as *Hispanic*; respondents who chose 'Asian' or 'Native Hawaiian or other Pacific Islander' were coded as *Asian*; respondents who chose 'American Indian or Alaska Native,' 'Other,' or two or more ethnicities (except when in combination with Hispanic or Latino/a) were coded as *Other*.
*Source:* Authors' calculations using the 2021 National Financial Capability Study (NFCS) and 2022 TIAA Institute-GFLEC P-Fin Index (P-Fin Index).

The demographic characteristics of the overall population as well as the four racial/ethnic subsamples of most interest appear in Table 12.2 for the NFCS and Table 12.3 for the P-Fin Index. Four main lessons emerge from these results:

• Blacks and Hispanics in the US are significantly younger than Whites and Asians. Around one in three Blacks and Hispanics is 18–29 years old, versus about one in five among Whites and Asians.

TABLE 12.2  Sociodemographic characteristics across Whites, Blacks, Hispanics, and Asians using the 2021 NFCS

| | Full Sample (%) | White (%) | Black (%) | Hispanic (%) | Asian (%) |
|---|---|---|---|---|---|
| *Age* | | | | | |
| 18–29 | 20 | 14[b, h, a] | 34[w, h, a] | 30[w, b, a] | 19[w, b, h] |
| 30–44 | 26 | 25[b, h, a] | 23[w, h, a] | 31[w, b] | 28[w, b] |
| 45–59 | 25 | 26[b, h] | 23[w] | 24[w] | 23 |
| 60+ | 29 | 35[b, h,a] | 20[w, h,a] | 15[w, b, a] | 29[w, b, h] |
| *Gender* | | | | | |
| Male | 49 | 48[h] | 49 | 51[w] | 48 |
| Female | 51 | 52[h] | 51 | 49[w] | 52 |
| *Highest degree obtained* | | | | | |
| High school or less | 31 | 30[b, h,a] | 39[w, h,a] | 34[w, b, a] | 16[w, b, h] |
| Some college | 39 | 39[a] | 40[a] | 40[a] | 28[w, b, h] |
| Bachelor's degree or higher | 31 | 31[b, h,a] | 21[w, h,a] | 27[w, b, a] | 55[w, b, h] |
| *Marital status* | | | | | |
| Married | 47 | 52[b, h] | 26[w, h,a] | 41[w, b, a] | 52[b, h] |
| Single | 36 | 28[b, h,a] | 59[w, h,a] | 46[w, b, a] | 37[w, b, h] |
| Divorced/ Separated/ Widowed | 17 | 20[b, h,a] | 15[w, h,a] | 13[w, b] | 11[w, b] |
| *Financially dependent children* | | | | | |
| No children | 66 | 68[b, h] | 63[w, h] | 60[w, b, a] | 66[h] |
| 1 or 2 children | 27 | 25[b, h,a] | 28[w] | 30[w] | 30[w] |
| 3 or more children | 8 | 7[b, h,a] | 9[w, a] | 10[w, a] | 5[w, b, h] |
| *Household income* | | | | | |
| Less than $25K | 25 | 22[b, h,a] | 37[w, h,a] | 28[w, b,a] | 15[w, b, h] |
| $25–49K | 25 | 25[b,a] | 27[w, a] | 26[a] | 19[w, b, h] |
| $50–74K | 18 | 19[b] | 16[w, h] | 20[b] | 18 |
| $75–99K | 13 | 14[b, h,a] | 8[w, h,a] | 11[w, b,a] | 16[w, b, h] |
| $100K+ | 19 | 20[b, h,a] | 12[w, h,a] | 15[w, b,a] | 32[w, b, h] |
| *Work status* | | | | | |
| Employed | 54 | 51[b, h,a] | 56[w, h,a] | 61[w, b] | 60[w, b] |
| Unemployed | 9 | 7[b, h] | 14[w, h,a] | 11[w, b,a] | 6[b, h] |

|                      | Full Sample (%) | White (%)         | Black (%)         | Hispanic (%)       | Asian (%)          |
| -------------------- | --------------- | ----------------- | ----------------- | ------------------ | ------------------ |
| Not in labor force   | 16              | 15                | 15                | 17                 | 16                 |
| Retired              | 21              | 26[b, h,a]        | 15[w, h,a]        | 11[w, b,a]         | 18[w, b, h]        |
| Total Observations   | 27,118          | 20,062            | 2,716             | 2,274              | 1,193              |

*Note:* All statistics are weighted. The variable *household income* includes the total amount of a household's annual income, including wages, tips, investment income, public assistance, and income from retirement plans. The education variable *highest degree obtained* includes the categories *high school or less,* indicating that the highest degree received is a high school diploma; *some college,* indicating that respondents have attended a post-secondary institution and earned, at most, a two-year degree (i.e., an associate degree); and *bachelor's degree or higher,* indicating that respondents have earned a four-year degree or post-graduate degree. The variable *financially dependent children* is based on the question: 'How many children do you have who are financially dependent on you or your spouse/partner? Please include children not living at home, and step-children as well.' An individual's *work status* is defined by four categories: *Employed* for those who either have a full- or a part-time occupation or are self-employed; *unemployed* for those with no occupation at the time of the survey; *not in labor force* for those who are full-time students, full-time homemakers, or permanently sick, disabled, or unable to work; and *retired* for those who classify themselves as being retired. For the definitions of the race/ethnicity terms see the note in Table 12.1. Superscripts w, b, h, and a indicate the means are statistically different at the 5 percent level from Whites, Blacks, Hispanics, and Asians, respectively.
*Source:* Authors' calculations using the 2021 National Financial Capability Study (NFCS).

- Asians in our sample are well-educated, with over 50 percent having a bachelor's degree or more. By contrast, Blacks and Hispanics are more likely to report having a high school degree or less (39 percent and 34 percent, respectively).
- Among Blacks and Hispanics, a much larger percentage reports being single and having financially dependent children, versus Whites and Asians. This is especially pronounced among Blacks, among whom 51 percent of parents with at least one financially dependent child report being single, significantly more than 17 percent for Whites, 28 percent for Hispanics, and 16 percent for Asians. Moreover, among single parents, almost half (42 percent) of Blacks say they are the only adult in the household as opposed to living with a partner (27 percent), with their parents (15 percent), or relatives and friends (17 percent). This differs from the living arrangements of White and Hispanic single parents, of whom around 27 percent state that they are the only adult and around 40 percent say they live with a partner or significant other.
- In line with their higher educational attainment, a large number of Asians in the US are found in the highest income cohorts. At the other end of the income spectrum, many Blacks have less than $25,000 per year in

TABLE 12.3 Sociodemographic characteristics across Whites, Blacks, Hispanics, and Asians using the 2022 P-Fin Index

|  | Full Sample (%) | White (%) | Black (%) | Hispanic (%) | Asian (%) |
|---|---|---|---|---|---|
| Total Sample |  |  |  |  |  |
| *Age* |  |  |  |  |  |
| 18–29 | 20 | 18[b, h] | 23[w] | 28[w, a] | 19[h] |
| 30–44 | 26 | 23[b, h,a] | 27[w] | 31[w] | 31[w] |
| 45–59 | 24 | 24 | 24 | 24 | 25 |
| 60+ | 30 | 36[b, h,a] | 25[w, h] | 17[w, b,a] | 24[w, h] |
| *Gender* |  |  |  |  |  |
| Male | 48 | 49 | 46 | 50 | 46 |
| Female | 52 | 51 | 54 | 50 | 54 |
| *Highest Degree Obtained* |  |  |  |  |  |
| High school or less | 38 | 33[b, h,a] | 44[w, h,a] | 57[w, a] | 24[w, b, h] |
| Some college | 27 | 28[a] | 30[h,a] | 25[a] | 18[w, b, h] |
| Bachelor's degree or higher | 35 | 39[b, h,a] | 26[w, h,a] | 18[w, a] | 58[w, b, h] |
| *Marital Status* |  |  |  |  |  |
| Married | 56 | 62[b, h] | 36[w, h,a] | 52[w, b] | 57[b] |
| Single | 30 | 25[b, h,a] | 48[w, h,a] | 36[w, b] | 33[w, b] |
| Divorced/ separated/ widowed | 14 | 14[a] | 16[h,a] | 12[b] | 10[w, b] |
| *Children Under the Age of 18* |  |  |  |  |  |
| No | 71 | 74[b, h] | 68[w, h,a] | 61[h, b] | 70[h] |
| Yes | 29 | 26[b, h] | 32[w, h,a] | 39[h, b] | 30[h] |
| *Household Income* |  |  |  |  |  |
| Less than $25K | 13 | 11[b, h] | 22[w, h,a] | 14[w, b,a] | 9[b, h] |
| $25–49K | 17 | 15[b, h,a] | 21[w, a] | 22[w, a] | 11[w, b, h] |
| $50–74K | 16 | 16[h] | 18[a] | 19[w, a] | 13[b, h] |
| $75–99K | 13 | 13 | 11 | 14 | 12 |
| $100K+ | 41 | 45[b, h,a] | 28[w, a] | 31[w, a] | 55[w, b, h] |
| *Work Status* |  |  |  |  |  |
| Employed | 57 | 56 | 55[a] | 60 | 61[b] |
| Retired | 26 | 30[b, h,a] | 24[w, h] | 15[w, b,a] | 23[w, h] |
| Unemployed | 16 | 14[b, h] | 20[w, a] | 25[w, a] | 15[b, h] |
| Total Observations | 3,582 | 1,830 | 548 | 586 | 512 |

*Note:* All statistics are weighted. For the definitions of the race/ethnicity terms see the note in Table 12.1. For definitions of all other terms see the note in Table 12.2.
*Source:* Authors' calculations using the 2022 TIAA Institute-GFLEC P-Fin Index (P-Fin Index).

household income,[8] in part due to this group being much younger and less educated compared to the White and Asian subgroups.

These demographic characteristics and differences across racial and ethnic groups need to be taken into consideration when discussing the financial vulnerability results in the next section.

## Financial vulnerability indicators

To measure financial vulnerability, we focus on six indicators across three key realms of personal finance: retirement planning, indebtedness, and financial resilience. Two indicators are assigned to each realm: one reflects the respondent's self-reported financial behavior and the other reflects the respondent's perception of that realm. The indicators draw from answers to survey questions comparable across the NFCS and P-Fin Index datasets. Table 12.4 summarizes these indicators alongside the survey question on which they are based.

For retirement planning, the two indicators we use are whether the respondents tried to figure out how much they need to save for retirement and whether they are worried about running out of money. For the topic of indebtedness, we analyze a measure of whether the respondents have difficulty paying bills in a typical month or feel they have too much debt. Lastly, as a proxy for financial resilience, we use whether respondents have money left over at the end of the month and whether they could come up with $2,000 in 30 days to cover an emergency expense. These six vulnerability indicators provide a holistic perspective on personal finances by covering not only assets in the form of short- and long-term planning and savings, but also the liabilities side of respondents' balance sheets.

## Results

We next analyze each of the financial vulnerability indicators individually and report on racial and ethnic differences.

## Racial and ethnic differences by financial vulnerability indicator

Table 12.5 provides an overview of the six financial vulnerability indicators across Asian, Black, Hispanic, and White respondents using both the 2021 NFCS (Panel A) and the 2022 P-Fin Index (Panel B). Our two key takeaways are that (1) Black and Hispanic respondents show similar results across all vulnerability indicators, and (2) their results are significantly worse than those of Whites and Asians. For example, looking at the financial resilience indicators, more than one-third of Blacks and Hispanics report not being confident about their ability to cover an emergency expense of $2,000 within 30 days, significantly more than the fifth of Asians and a quarter of Whites. Over one-third of Blacks and Hispanics experience difficulty making ends meet, while the percentage of Asians and Whites

TABLE 12.4  Financial vulnerability indicators

|  |  | Retirement Planning | Indebtedness | Financial Resilience |
|---|---|---|---|---|
| **NFCS** | **Behavior** | Not planning for retirement *Those who have never tried to figure out how much they need to save for retirement.* | Difficulty paying bills *Those who have difficulty covering their expenses and paying all their bills in a typical month.* | No money left at the end of month *Those who answered that their spending was more than their income.* |
|  | **Perception** | Worried money won't last *Those who are concerned that the money they have or will save won't last.* | Feeling of having too much debt *Those who strongly agree they have too much debt.* | Not confident about ability to cover emergency expense *Those who say they are not confident they could come up with $2,000 if an unexpected need arose within the next month.* |
| **P-Fin Index** | **Behavior** | Not planning for retirement *Those who have never tried to figure out how much they need to save for retirement.* | Cannot pay all bills in full and on time *Those who cannot pay all their bills in full and on time in a typical month.* | Difficulty making ends meet *Those who answered that it is very difficult for them to make ends meet in a typical month.* |
|  | **Perception** | Worried about running out of money in retirement *Those who said they are not confident they will have enough money to live comfortably throughout their retirement years.* | Feeling debt constrained *Those stating that their debt and debt payments prevent them from adequately addressing other financial priorities.* | Not confident about ability to cover emergency expense *Those who say they are not confident they could come up with $2,000 if an unexpected need arose within the next month.* |

*Source:* Authors' classification of selected survey questions from the 2021 National Financial Capability Study (NFCS) and the 2022 TIAA Institute-GFLEC P-Fin Index (P-Fin Index) questionnaires.

is lower, at about a fifth. This struggle to cover daily expenses and short-term financial shocks underscores the precariousness of people's financial situations.

TABLE 12.5 Individual financial vulnerability indicators across Whites, Blacks, Hispanics, and Asians

| | Full Sample (%) | White (%) | Black (%) | Hispanic (%) | Asian (%) |
|---|---|---|---|---|---|
| **Panel A** | | | | | |
| *2021* NFCS | | | | | |
| Not planning for retirement | 52 | 51[b, h, a] | 55[w, a] | 57[w, a] | 45[w, b, h] |
| Worried money won't last | 41 | 41[h, a] | 42[h, a] | 46[w, b, a] | 32[w, b, h] |
| Difficulty paying bills | 10 | 10[b, a] | 14[w, a] | 12[a] | 4[w, b, h] |
| Feeling of having too much debt | 34 | 33[b, a] | 39[w, a] | 35[a] | 20[w, b, h] |
| No money left at the end of month | 19 | 17[b, h] | 27[w, h, a] | 21[w, b, a] | 15[b, h] |
| Not confident about their ability to cover emergency expenses | 30 | 29[b, h, a] | 38[w, h, a] | 34[w, b, a] | 17[w, b, h] |
| Total Observations | 27,118 | 20,062 | 2,716 | 2,274 | 1,193 |
| **Panel B** | | | | | |
| *2022* P-Fin Index | | | | | |
| Not planning for retirement | 61 | 57[b, h] | 69[w, a] | 73[w, a] | 58[b, h] |
| Worried about running out of money in retirement | 35 | 31[b, h] | 42[w, a] | 47[w, a] | 31[b, h] |
| Cannot pay all bills in full and on time | 17 | 12[b, h] | 35[w, h, a] | 22[w, b,a] | 11[b, h] |
| Feeling debt constrained | 20 | 15[b, h] | 27[w, h,a] | 36[w, b,a] | 13[b, h] |
| Difficulty making ends meet | 24 | 20[b, h] | 34[w, a] | 36[w, a] | 18[b, h] |
| Not confident about their ability to cover emergency expenses | 26 | 23[b, h] | 37[w, a] | 33[w, a] | 17[b, h] |
| Total Observations | 3,582 | 1,830 | 548 | 586 | 512 |

*Note:* All statistics are weighted. For the definitions of the race/ethnicity terms see the note in Table 12.1. Superscripts w, b, h, and a indicate the means are statistically different at the 5 percent level from Whites, Blacks, Hispanics, and Asians, respectively.
*Source:* Authors' calculations using the 2021 National Financial Capability Study (NFCS) and the 2022 TIAA Institute-GFLEC P-Fin Index (P-Fin Index).

In terms of retirement planning, even though Blacks and Hispanics are younger and have more working years ahead, 42 percent of Blacks and 47 percent of Hispanics in the US are still worried about running out of money in retirement (P-Fin Index) or worried that the money they have or will save will not last (NFCS). These results are likely linked to the large percentages of Blacks and Hispanics who say they do not plan for retirement. Indeed, many respondents reveal they have never tried to figure out how much they need to save for retirement: 52 percent in the NFCS and 61 percent in the P-Fin Index for the full population, while the percentages for Blacks and Hispanics are even higher.

This difference in retirement planning patterns could result from the fact that family networks are seen as financial support systems in old age, particularly the strong family bonds characteristic of Hispanic cultures, which integrate intergenerational financial support systems that likely impact the way family members think about and manage their finances. As indicated in our discussion with UnidosUS experts, knowing that one's children will support older family members financially in retirement likely helps shape people's perceptions of the need for retirement savings. Informal family-based financial safety nets can have an impact on the personal finances and financial decision-making of all members involved, though it can place an additional burden on children's finances when part of their paychecks must support their parents.[9] It is also worth noting that the lack of retirement savings could be due to a lack of access to employer-sponsored retirement plans.[10]

The last set of vulnerability indicators measuring indebtedness reveals that significantly more Blacks and Hispanics in the US report feeling debt-constrained or having too much debt, compared to their Asian and White peers. National CAPACD representatives mentioned during the roundtable discussions that, due to cultural norms, many Asians are reluctant to take on debt and have unpaid bills, a result reflected in our surveys. Among Asians, only 13 percent feel constrained by their debt (versus 27% of Blacks and 36% of Hispanics), and 11 percent say they cannot pay all bills in full and on time (versus 35% among Blacks and 22% among Hispanics).

Overall, we find that results for Asians are comparable to those of Whites in the P-Fin Index, and they are significantly better in the NFCS dataset. When interpreting these results, the fact that averages can conceal much heterogeneity needs to be taken into consideration. A topic discussed during the roundtable with National CAPACD experts was that many aggregated statistics on the Asian, Native Hawaiian, and other Pacific Islander populations actually conceal much variation within these subpopulations. Additionally, it was noted that Asian communities often have a strong network of family and friends who help out during financial struggles, where those in financial distress borrow from their families to meet

loan and bill payments. For our analysis, this means they are current on their payments and do not appear to be financially vulnerable, when in fact they have private loans. Moreover, an additional factor influencing the Asian results could be that the surveys were only available in English for the NFCS, and English and Spanish for the P-Fin Index, meaning that monolingual Asians were excluded from the surveys due to their limited English language proficiency, confirming the existence of language barriers. Hence, due to English/Spanish language requirements, the Asian subsample may be skewed toward better-educated and, therefore, higher-income individuals who are better off financially.

## The composite vulnerability score

We also created a composite vulnerability score, which is an equally weighted average of the six indicators just described. The score runs from zero to six, so a score of zero means the respondent has none of the vulnerability markers.[11] Conversely, a respondent with a score of six is deemed to be highly financially vulnerable by this measure, with exposure to all six vulnerability indicators. As we shall show, the score provides valuable insights into the severity of people's financial vulnerability.

The distribution of the composite score for the entire sample as well as each subgroup of interest appears in Figure 12.1 for the NFCS, and Figure 12.2 for the P-Fin Index. It is clear from the figures that more Blacks and Hispanics are exposed to at least one vulnerability indicator, compared to Whites and Asians in the US. Specifically, only 14 percent of Blacks and 17 percent of Hispanics are not exposed to any of the vulnerabilities measured (scoring 0), versus 32 percent of Asians and 25 percent of Whites. Further, the average scores for the four NFCS subpopulations are 1.34 for Asians, 1.84 for Whites, 2.24 for Blacks, and 2.11 for Hispanics. This result is not surprising, as the financial vulnerability indicators are correlated. Therefore, if someone struggles with one aspect of personal finance, this can likely affect other areas as well. Similar results are evident in the P-Fin Index data.[12]

## Factors contributing to financial vulnerability

Next we discuss three sets of factors—(1) demographic, (2) financial and money management, and (3) financial literacy—that can contribute to financial vulnerability. We then compare these factors across the four population subgroups and analyze the differences.

**Demographic characteristics.**  To determine which demographic characteristics can account for the observed differences in financial vulnerability by
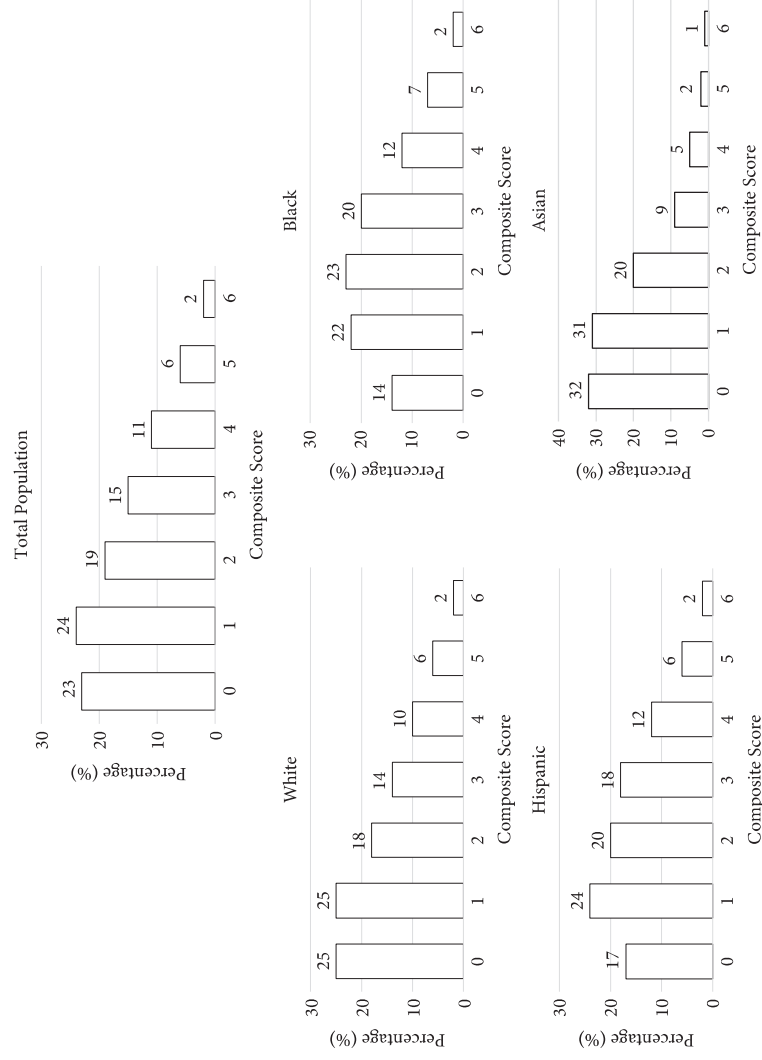
**Figure 12.1** Distribution of composite vulnerability scores (0 to 6) using the 2021 NFCS

*Note:* All statistics are weighted. The composite vulnerability score is an equally weighted average of the six vulnerability indicators. For the definition of the score the 'don't know' and 'refuse to answer' responses to the six vulnerability indicators were excluded. The number of observations for the different groups are as follows: 23,711 observations for the full sample; 17,799 observations for the White; 2,214 observations for the Black; 1,944 observations for the Hispanic; and 1,005 observations for the Asian American subsample. Respondents who chose 'White or Caucasian' were coded as *White*; respondents who chose 'Black or African American' were coded as *Black*; respondents who chose 'Hispanic or Latino/a' alone or in combination with any other race were coded as *Hispanic*; and respondents who chose 'Asian' or 'Native Hawaiian or other Pacific Islander' were coded as *Asian*.

*Source:* Authors' calculations using the 2021 National Financial Capability Study (NFCS).
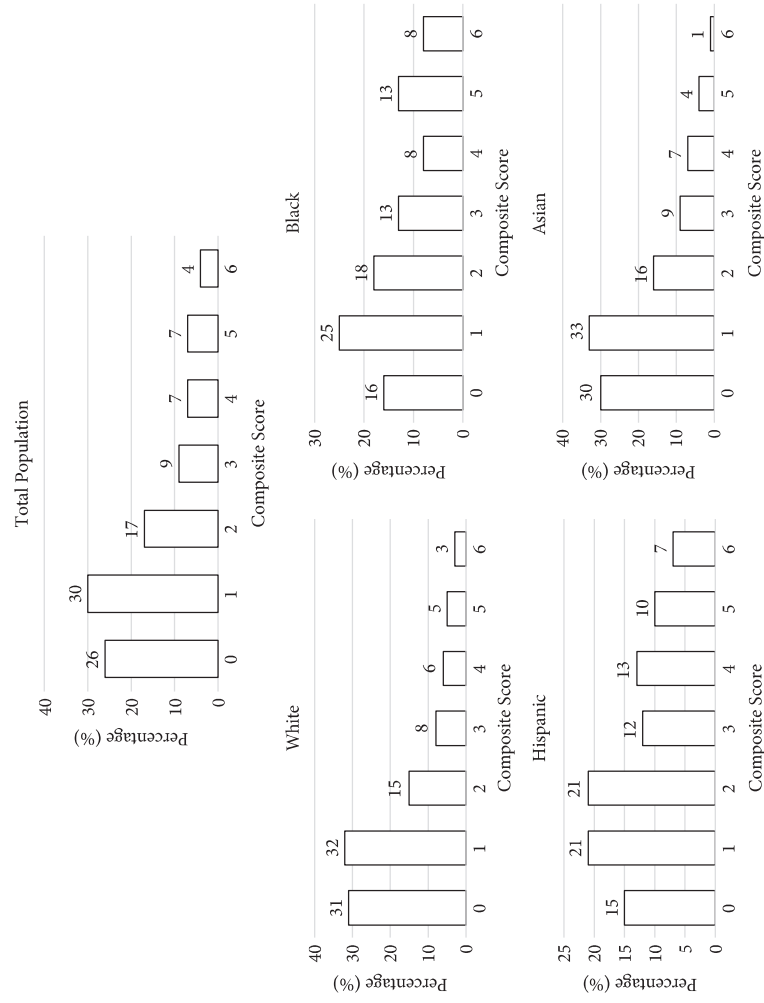
**Figure 12.2** Distribution of composite vulnerability scores (0 to 6) using the 2022 P-Fin Index

*Note:* All statistics are weighted. The composite vulnerability score is an equally weighted average of the six vulnerability indicators. For the definition of the score the 'don't know' and 'refuse to answer' responses to the six vulnerability indicators were excluded. The number of observations for the different groups are as follows: 3,385 observations for the full sample; 1,748 observations for the White subsample; 500 observations for the Black subsample; 534 observations for the Hispanic subsample; and 499 observations for the Asian American subsample. The terms 'White', 'Black', 'Hispanic', and 'Asian' are defined in Figure 12.1

*Source:* Authors' calculations using the 2022 TIAA Institute-GFLEC P-Fin Index (P-Fin Index).

race and ethnicity just identified, we examine seven regression specifications that consecutively add additional demographic variables to the model. We then analyze whether the estimated coefficients for the race and ethnicity indicators are sensitive to different model specifications. As our primary dependent variable, we use the composite vulnerability score in the 2021 NFCS dataset.[13] Table 12.6 shows the regression results, which lead us to four main conclusions.

First, single parenthood explains some of the excess financial vulnerability characteristics of Blacks. Once marital status (Model 3) and having financially dependent children (Model 4) are included as control factors, the magnitude by which Blacks score higher on the composite vulnerability score compared to Whites drops sharply and becomes statistically insignificant. In other words, having controlled for those demographic characteristics, Blacks and Whites score the same in terms of financial vulnerability. This accords with the summary statistics in Table 12.2, which showed that a significantly larger percentage of the Black subpopulation reports being single and having financially dependent children.

Moreover, once we control for wealth, proxied by indicators of respondent home ownership and having a checking or savings account (Model 6), the estimated coefficient on the Black variable becomes significantly negative. This implies that, holding wealth constant, Blacks score significantly lower on the composite vulnerability score compared to their White peers. This suggests that Blacks may be more financially savvy than their White counterparts when they have the same education, income, and wealth. This may be because they may have faced larger obstacles and fewer opportunities due to racial discrimination and systemic inequalities, in order to have attained the same level of education, income, and wealth. For example, to achieve the same education, Blacks may have needed to take on student loans, which in turn could help teach them about financial decision-making. This hypothesis is confirmed to some extent in Model 7 of Table 12.6, since including the financial literacy coefficient indicates that Blacks score significantly lower (14 percentage points) than Whites.

Second, the fact that the Hispanic subgroup is younger than average, as noted above, contributes to their significantly higher financial vulnerability compared to Whites. Once we control for age (Model 2), Hispanics and Whites score the same on the composite vulnerability score. This finding matches the summary statistics discussed in Table 12.2. Further, once we include an indicator of having an unexpected income drop in the last year (Model 5), Hispanics score significantly lower than Whites on the vulnerability score. One reason this variable is particularly important for explaining the difference in financial vulnerability between Hispanics and Whites is

TABLE 12.6 Composite vulnerability score regression results using the 2021 NFCS

| Composite Score | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| Race/Ethnicity | | | | | | | |
| Black | 0.394*** | 0.218*** | 0.075** | 0.050 | -0.028 | -0.075** | -0.140*** |
| | (0.038) | (0.039) | (0.038) | (0.038) | (0.036) | (0.035) | (0.035) |
| Hispanic | 0.269*** | 0.044 | 0.015 | 0.002 | -0.070* | -0.101*** | -0.124*** |
| | (0.043) | (0.044) | (0.042) | (0.042) | (0.039) | (0.039) | (0.039) |
| Asian | -0.508*** | -0.578*** | -0.397*** | -0.394*** | -0.312*** | -0.340*** | -0.309*** |
| | (0.048) | (0.045) | (0.044) | (0.044) | (0.042) | (0.041) | (0.041) |
| Other | 0.242*** | 0.102 | 0.038 | 0.032 | -0.043 | -0.081 | -0.081 |
| | (0.068) | (0.065) | (0.062) | (0.062) | (0.055) | (0.055) | (0.054) |
| Age | | X | X | X | X | X | X |
| Gender | | | X | X | X | X | X |
| Highest Degree Obtained | | | X | X | X | X | X |
| Marital Status | | | X | X | X | X | X |
| Financially Dependent Children | | | | X | X | X | X |
| Household income | | | | | X | X | X |
| Work Status | | | | | X | X | X |
| Income drop in past 12 months | | | | | X | X | X |

*Continued*

TABLE 12.6 *Continued*

| Composite Score | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| Owns a home | | | | | | X | X |
| Has a checking or savings account | | | | | | X | X |
| Financial Literacy | | | | | | | X |
| Constant | 1.843*** | 2.343*** | 2.090*** | 1.961*** | 2.227*** | 2.666*** | 2.802*** |
| | (0.014) | (0.030) | (0.042) | (0.045) | (0.052) | (0.068) | (0.071) |
| Total Observations | 23,711 | 23,711 | 23,711 | 23,711 | 23,711 | 23,711 | 23,711 |
| R squared | .0162 | .0945 | .183 | .186 | .328 | .343 | .354 |

*Note*: The symbol 'X' indicates that a variable is being used as a control in a model. The composite score is an equally weighted average of the six vulnerability indicators. For the definition of the score the 'don't know' and 'refuse to answer' responses to the six vulnerability indicators were excluded. For definitions of race/ethnicity terms see the note in Table 12.1. The categorical variable *race/ethnicity* used *white* as a reference category; the categorical variable *age* used ages *18–29* as a reference category; the categorical variable *gender* used *male* as a reference category; the categorical variable *highest degree obtained* used *high school or less* as a reference category; the categorical variable *marital status* used *married* as a reference category; the categorical variable *financially dependent children* used *no children* as a reference category; the categorical variable *household income* used *less than $25K* as a reference category; the categorical variable *work status* used *employed* as a reference category; the categorical variable *financial literacy* used *zero out of Big 3 correct* as a reference category. For the definitions of *household income, highest degree obtained, financially dependent children,* and *work status* see the note on Table 12.2. The variable *financial literacy* represents respondents who correctly answered between one and three basic financial literacy questions (Big 3) on interest rate, inflation, and risk diversification. Weighted OLS regressions were used. Robust standard errors in parentheses.
*p < 0.10, **p < 0.05, ***p < 0.01.
*Source*: Authors' calculations using the 2021 National Financial Capability Study (NFCS).

that, during the pandemic, many Hispanics had jobs that did not allow remote work opportunities.[14]

Third, we find that Asians score significantly lower on the composite vulnerability score versus Whites, a result that is strongly persistent across all the models. This finding could be driven by cultural money management practices that contribute to lower financial vulnerability, as suggested in our discussions with the CAPACD. Strong savings behavior and sound money management practices might lead to better financial outcomes and a lower financial vulnerability score.

**Financial situation and money management.** Next, we turn to an analysis of whether differences in people's financial situations and money management practices could account for some of the subgroups' differences in financial vulnerability. Table 12.7 reports the percentage of people holding various assets and liabilities, and Table 12.8 reports on their money management practices.

A first finding is that the Asian subgroup exhibits the strongest savings and money management practices of all the groups examined here. Savings in retirement accounts, emergency funds, and other investments aside from retirement are highly prevalent among Asian respondents: 68 percent have a retirement account, 70 percent hold an emergency fund, and 50 percent have investments aside from retirement plans. Results are significantly higher than for Whites, where only 60 percent have a retirement account, 54 percent have an emergency fund, and 37 percent hold investments aside from retirement plans. When interpreting these results, it is important to recall that the Asian respondents, on average, have higher incomes and more education: more income can provide more opportunities to save and invest, and the better educated may be more likely to have jobs that provide employer-sponsored retirement plans. Also, as noted above, relatively fewer Asians in the US hold debt, a point underscored by the CAPACD experts. Of our respondents, only 21 percent have a credit card balance and/or auto loan, and only 15 percent have a student loan. Our survey also confirms that Asians are the least likely to engage in costly money management behaviors such as expensive credit card management or the use of Alternative Financial Services (AFS). Specifically, only 17 percent report having used at least one form of AFS in the five years prior to the survey, including taking out auto title loans or payday loans, using a pawn shop, or shopping at rent-to-own stores. This sound financial behavior likely positively contributes to their lower financial vulnerability. Of course, it bears noting that hesitation to borrow can also have negative repercussions: for instance, people will not be able to participate in the formal financial system if they lack a sound

TABLE 12.7  Financial situation as contributing factor to vulnerability using the 2021 NFCS

| | Full Sample (%) | White (%) | Black (%) | Hispanic (%) | Asian (%) |
|---|---|---|---|---|---|
| *Assets* | | | | | |
| Has checking or savings account | 93 | 94[b, h,a] | 87[w, h,a] | 91[w, b,a] | 96[w, b, h] |
| Has emergency funds | 53 | 54[b, h,a] | 44[w, h,a] | 48[w, b,a] | 70[w, b, h] |
| Owns a home | 57 | 64[b, h,a] | 39[w, h,a] | 47[w, b,a] | 61[w, b, h] |
| Has a retirement account | 57 | 60[b, h,a] | 47[w, h,a] | 50[w, b,a] | 68[w, b, h] |
| Has other investments aside from a retirement account* | 36 | 37[b, h,a] | 31[w, a] | 31[w, a] | 50[w, b, h] |
| Has at least one credit card | 78 | 79[b, h,a] | 71[w, h,a] | 76[w, b,a] | 90[w, b, h] |
| *Liabilities* | | | | | |
| Has carried over a credit card balance and paid interest** | 43 | 42[b, h,a] | 51[w, a] | 49[w, a] | 21[w, b, h] |
| Has an auto loan | 29 | 30[b,a] | 25[w, h,a] | 31[b,a] | 21[w, b, h] |
| Has a student loan | 23 | 20[b, h,a] | 35[w, h,a] | 29[w, b,a] | 15[w, b, h] |
| Has a mortgage** | 51 | 49[b, h] | 55[w] | 59[w, a] | 51[h] |
| Has a home equity loan** | 12 | 11[b] | 20[w, h,a] | 13[b] | 12[b] |
| Total Observations | 27,118 | 20,062 | 2,716 | 2,274 | 1,193 |

*Note:* All statistics are weighted. For the definitions of the race/ethnicity terms see the note in Table 12.1. *Proportion conditional on having a checking or savings account. **Proportion conditional on having the related asset. Superscripts w, b, h, and a indicate the means are statistically different at the 5 percent level from Whites, Blacks, Hispanics, and Asians, respectively.
*Source:* Authors' calculations using the 2021 National Financial Capability Study (NFCS).

credit history. To overcome this, many Asian communities have developed their own lending circles as a substitute.[15]

A second lesson from Tables 12.7 and 12.8 is that very high rates of costly money management practices are prevalent among Blacks and Hispanics. Over half of these subpopulations engage in expensive credit card management, and a much larger percentage reports having used some form of AFS in the past five years, compared to Whites or Asians. Specifically, 64 percent of Blacks and 53 percent of Hispanics engaged in at least one expensive credit card behavior in the past year, including being charged interest for making only the minimum payment, or being charged a fee for making a late payment, going over the credit limit, or receiving cash advances. This is significantly more than the 39 percent of Whites and 27 percent of Asians in the US reporting they engage in expensive credit card behavior. Similarly striking are the different patterns of AFS use. Among Blacks, 49 percent report having used at least one form of AFS; the rate is lower, but still 37

TABLE 12.8 Money management as contributing factor to financial vulnerability using the 2021 NFCS

| | Full Sample (%) | White (%) | Black (%) | Hispanic (%) | Asian (%) |
|---|---|---|---|---|---|
| **Short-Term Behavior** | | | | | |
| *Checking Account Management (in the past year)* | | | | | |
| Occasionally overdraw checking account* | 21 | 19[b,h,a] | 29[w,h,a] | 24[w,b,a] | 15[w,b,h] |
| *Credit Card Management (in the past year)* | | | | | |
| Made only the minimum payment* | 35 | 32[b,h,a] | 49[w,h,a] | 44[w,b,a] | 21[w,b,h] |
| Was charged a fee for late payment* | 17 | 15[b,h,a] | 28[w,h,a] | 22[w,b,a] | 12[w,b,h] |
| Was charged an over-the-limit fee* | 11 | 9[b,h,a] | 20[w,h,a] | 13[w,b,a] | 8[w,b,h] |
| Was charged a fee for a cash advance* | 15 | 12[b,h,a] | 28[w,h,a] | 18[w,b,a] | 10[w,b,h] |
| Demonstrated at least one expensive behavior* | 43 | 39[b,h,a] | 64[w,h,a] | 53[w,b,a] | 27[w,b,h] |
| *Use of AFS (in the past 5 years)* | | | | | |
| Took out an auto title loan | 12 | 11[b,h,a] | 20[w,h,a] | 15[w,b,a] | 9[w,b,h] |
| Took out a payday loan | 15 | 13[b,h,a] | 26[w,h,a] | 19[w,b,a] | 10[w,b,h] |
| Used a pawn shop | 21 | 18[b,h,a] | 34[w,h,a] | 26[w,b,a] | 10[w,b,h] |
| Used a rent-to-own store | 14 | 12[b,h,a] | 23[w,h,a] | 17[w,b,a] | 8[w,b,h] |
| Used at least one form of AFS | 31 | 27[b,h,a] | 49[w,h,a] | 37[w,b,a] | 17[w,b,h] |
| **Long-Term Behavior** | | | | | |
| *Retirement Account (in the past year)* | | | | | |
| Regularly saving for retirement | 63 | 60[b,h,a] | 66[w] | 70[w] | 70[w] |
| Took a loan from retirement account* | 11 | 10[b,h,a] | 20[w,h,a] | 16[w,b,a] | 6[w,b,h] |

*Continued*

TABLE 12.8  *Continued*

|  | Full Sample (%) | White (%) | Black (%) | Hispanic (%) | Asian (%) |
|---|---|---|---|---|---|
| Made hardship withdrawal from their retirement account* | 11 | $9^{b,h,a}$ | $24^{w,h,a}$ | $15^{w,b,a}$ | $7^{w,b,h}$ |
| Made some form of withdrawal* | 16 | $13^{b,h,a}$ | $32^{w,h,a}$ | $21^{w,b,a}$ | $9^{w,b,h}$ |
| *Loan Payments* |  |  |  |  |  |
| Late on mortgage payments | 17 | $14^{b,h}$ | $32^{w,h,a}$ | $21^{w,b,a}$ | $12^{b,h}$ |
| Late on student loan payments | 31 | $30^{b}$ | $34^{w,a}$ | 33 | $27^{b}$ |
| Total Observations | 27,118 | 20,062 | 2,716 | 2,274 | 1,193 |

*Note:* All statistics are weighted. The proportion *Demonstrated at least one expensive behavior* represents those respondents who displayed at least one of the following behaviors in the 12 months prior to the survey: (a) only made the minimum payment due on their credit card bill; (b) made a late payment on their credit card bill; (c) went over the credit limit set for their credit card; or (d) required a cash advance on their credit card. The proportion *Used at least one form of AFS* represents the percentage of respondents who used one of the following alternative financial services at least once in the five years prior to the survey: (a) took out an auto title loan; (b) took out a payday loan; (c) used a pawn shop; or (d) used a rent-to-own store. The proportion *Made some form of withdrawal* represents the percentage of respondents with a retirement account who either took out a loan or made a hardship withdrawal from it in the 12 months prior to the survey. For the definitions of the race/ethnicity terms see the note in Table 12.1. *Proportion conditional on having the related asset. Superscripts w, b, h, and a indicate the means are statistically different at the 5 percent level from Whites, Blacks, Hispanics, and Asians, respectively.

*Source:* Authors' calculations using the 2021 National Financial Capability Study (NFCS).

percent, for Hispanics. Both rates are significantly higher than for Whites (27 percent) and Asians (17 percent).

These results hint at the dire financial situations that many people confront on a daily basis, where a payday loan might be their only option to get cash quickly to make ends meet. Nevertheless, the use of costly forms of credit could also be attributed to the lack of less expensive alternatives. Our discussions with UnidosUS highlighted the struggles that undocumented Hispanics and Hispanics with no credit history face when seeking to enter formal financial markets and apply for mainstream financial products and services. Moreover, access to basic financial services in the US still differs across racial and ethnic groups. The overall percentage of adults without a checking or savings account (defined as the unbanked) is around 7 percent in the 2021 NFCS, while Black and Hispanic households show the highest unbanked rates (13 percent of Blacks, 9 percent of Hispanics). As a consequence, 50 percent of the unbanked population used costly AFS in the five years prior to the survey. One explanation for this phenomenon could be that minority groups tend to live in underserved urban and rural communities known as banking and credit 'deserts.'[16] Additionally, initial deposit and minimum-balance requirements as well as high fees can present further obstacles to bank account ownership.[17] Lastly, respondents may use AFS because they lack awareness of and knowledge about the risks and detrimental long-term consequences of using those financial products; we say more about this in the next section.

A third lesson from our multivariate results is that a much higher percentage of Blacks and Hispanics report they lack savings, yet they have accumulated various forms of debt, including credit card balances and student loans. In fact, only 47 percent of Blacks and 50 percent of Hispanics have retirement accounts, 44 percent of Blacks and 48 percent of Hispanics have emergency funds, and only 31 percent of both subpopulations own investments outside retirement accounts. Moreover, home ownership rates are by far the lowest among Blacks and Hispanics: 39 percent of Blacks and 47 percent of Hispanics report owning homes, but over 60 percent of Whites and Asians do so.

Above, we noted that owning a home and having a checking/savings account are indicators of wealth, and these variables are negatively correlated with scoring high on the composite vulnerability score. Next, we extended the regression analyses by splitting the sample by race and ethnicity to evaluate this issue further. Table 12.9 presents the regression results for the most comprehensive variable specification. In the first column, we again show results for the full population; the following columns show results by race and ethnicity separately. Once again, owning a home and

TABLE 12.9  Composite score regression results split by race/ethnicity using the 2021 NFCS

| Composite Index | Full Sample | White | Black | Hispanic | Asian |
|---|---|---|---|---|---|
| *Race/Ethnicity* | | | | | |
| Black | −0.140*** | | | | |
| | (0.035) | | | | |
| Hispanic | −0.124*** | | | | |
| | (0.039) | | | | |
| Asian | −0.309*** | | | | |
| | (0.041) | | | | |
| Other | −0.081 | | | | |
| | (0.054) | | | | |
| *Age* | | | | | |
| 30–44 | 0.276*** | 0.267*** | 0.342*** | 0.180* | 0.180 |
| | (0.035) | (0.042) | (0.082) | (0.096) | (0.140) |
| 45–59 | 0.176*** | 0.114*** | 0.354*** | 0.179* | 0.193 |
| | (0.037) | (0.043) | (0.095) | (0.108) | (0.159) |
| 60+ | −0.102** | −0.170*** | 0.076 | −0.034 | −0.026 |
| | (0.044) | (0.050) | (0.144) | (0.168) | (0.180) |
| *Gender* | | | | | |
| Female | 0.097*** | 0.093*** | 0.057 | 0.163** | 0.032 |
| | (0.022) | (0.023) | (0.066) | (0.077) | (0.080) |
| *Highest Degree Obtained* | | | | | |
| Some college | 0.019 | 0.005 | 0.094 | 0.004 | 0.065 |
| | (0.028) | (0.030) | (0.077) | (0.094) | (0.143) |
| BA+ | −0.104*** | −0.112*** | 0.048 | −0.135 | −0.187 |
| | (0.030) | (0.032) | (0.096) | (0.107) | (0.134) |
| *Marital Status* | | | | | |
| Single | 0.064** | 0.061* | 0.112 | −0.007 | 0.134 |
| | (0.030) | (0.034) | (0.088) | (0.097) | (0.105) |
| Div/Sep/Wid | 0.183*** | 0.151*** | 0.157 | 0.122 | 0.150 |
| | (0.032) | (0.033) | (0.119) | (0.137) | (0.133) |
| *Financially Dependent Children* | | | | | |
| 1 or 2 children | 0.144*** | 0.167*** | −0.060 | 0.133 | 0.280*** |
| | (0.027) | (0.030) | (0.073) | (0.090) | (0.098) |
| 3 or more children | 0.197*** | 0.231*** | −0.039 | 0.226* | 0.350 |
| | (0.045) | (0.049) | (0.115) | (0.132) | (0.222) |
| *Household Income* | | | | | |
| $25–49K | −0.312*** | −0.365*** | −0.102 | −0.399*** | −0.207 |
| | (0.035) | (0.039) | (0.086) | (0.109) | (0.171) |
| $50–74K | −0.628*** | −0.737*** | −0.535*** | −0.422*** | −0.526*** |
| | (0.038) | (0.043) | (0.105) | (0.128) | (0.162) |
| $75–99K | −0.823*** | −0.956*** | −0.398*** | −0.656*** | −0.807*** |
| | (0.042) | (0.047) | (0.134) | (0.135) | (0.164) |
| $100K+ | −1.019*** | −1.167*** | −0.567*** | −0.980*** | −0.812*** |
| | (0.040) | (0.045) | (0.122) | (0.134) | (0.161) |

| Composite Index | Full Sample | White | Black | Hispanic | Asian |
|---|---|---|---|---|---|
| *Work Status* | | | | | |
| Unemployed | 0.371*** | 0.331*** | 0.468*** | 0.520*** | −0.023 |
| | (0.043) | (0.053) | (0.099) | (0.122) | (0.193) |
| Not in labor force | 0.303*** | 0.308*** | 0.454*** | 0.263** | 0.032 |
| | (0.035) | (0.039) | (0.104) | (0.110) | (0.138) |
| Retired | −0.253*** | −0.276*** | −0.114 | −0.152 | −0.130 |
| | (0.034) | (0.035) | (0.132) | (0.157) | (0.119) |
| Recent income drop | 0.812*** | 0.888*** | 0.796*** | 0.684*** | 0.578*** |
| | (0.027) | (0.031) | (0.070) | (0.082) | (0.116) |
| Owns a home | −0.422*** | −0.442*** | −0.406*** | −0.313*** | −0.468*** |
| | (0.026) | (0.030) | (0.073) | (0.083) | (0.099) |
| Has bank account | −0.261*** | −0.181*** | −0.282** | −0.404*** | −0.779** |
| | (0.050) | (0.062) | (0.111) | (0.132) | (0.327) |
| *Financial Literacy* | | | | | |
| One out of Big 3 correct | −0.119*** | −0.205*** | −0.114 | 0.029 | 0.204 |
| | (0.034) | (0.040) | (0.079) | (0.103) | (0.159) |
| Two out of Big 3 correct | −0.273*** | −0.334*** | −0.215** | −0.178 | −0.172 |
| | (0.035) | (0.039) | (0.090) | (0.109) | (0.155) |
| Three out of Big 3 correct | −0.527*** | −0.583*** | −0.406*** | −0.407*** | −0.321** |
| | (0.035) | (0.039) | (0.106) | (0.125) | (0.141) |
| Constant | 2.802*** | 2.921*** | 2.341*** | 2.682*** | 2.817*** |
| | (0.071) | (0.086) | (0.170) | (0.202) | (0.351) |
| Total Observations | 23,711 | 17,799 | 2,214 | 1,944 | 1,005 |
| R squared | .354 | .392 | .232 | .263 | .352 |

*Note:* The composite score is an equally weighted average of the six vulnerability indicators. For the definition of the score the 'don't know' and 'refuse to answer' responses to the six vulnerability indicators were excluded. For the definitions of the race/ethnicity terms see the note in Table 12.1. The categorical variable *race/ethnicity* used *white* as a reference category; the categorical variable *age* used ages *18–29* as a reference category; the categorical variable *gender* used *male* as a reference category; the categorical variable *highest degree obtained* used *high school or less* as a reference category; the categorical variable *marital status* used *married* as a reference category; the categorical variable *financially dependent children* used *no children* as a reference category; the categorical variable *household income* used *less than $25K* as a reference category; the categorical variable *work status* used *employed* as a reference category; the categorical variable *financial literacy* used *zero out of Big 3 correct* as a reference category For the definitions of *household income, highest degree obtained, financially dependent children,* and *work status* see the note in Table 12.2. The variable *financial literacy* represents respondents who correctly answered between one and three basic financial literacy questions (Big 3) on interest rate, inflation, and risk diversification. Weighted OLS regressions were used. Ref. indicates the reference value of categorical variables. Robust standard errors in parentheses.
*p < 0.10, **p < 0.05, ***p < 0.01.
*Source:* Authors' calculations using the 2021 National Financial Capability Study (NFCS).

having a checking/savings account are strongly inversely related to respondents' composite vulnerability scores, and the negative relationship holds for all subsample regressions. Many of the discussions with our experts noted that home ownership can be an economic gateway to building wealth and upward mobility.[18]

**Financial literacy.** We turn now to an investigation of how financial literacy is linked to financial vulnerability. As shown in Tables 12.6 and 12.9, respondents who are more financially literate are also substantially less likely to be financially vulnerable. Here we measure financial literacy using three indicator variables assessing whether respondents correctly answered one, two, or all three basic financial literacy questions (Big 3) on interest rate, inflation, and risk diversification. Results show that Blacks and Hispanics score significantly lower on the vulnerability score compared to their White peers with the same demographic characteristics, income, wealth, and financial literacy levels (Model 10, Table 12.6). When we control for financial literacy, the magnitude of the estimated Black and Hispanic coefficients increases compared to Model 9, meaning that financial literacy is important for closing the racial and ethnic gaps in financial vulnerability. Additionally, Table 12.9 shows that, across all racial and ethnic groups, financial literacy and especially having a broad understanding of financial topics (measured by correctly answering all three financial literacy questions) is strongly inversely correlated with scoring high on the composite vulnerability score. In other words, respondents who correctly answer all three basic financial literacy questions are significantly less financially vulnerable, compared to their peers who cannot answer any of the Big 3 correctly. This result holds across all racial and ethnic groups examined here.

Having established a strong inverse relationship between financial literacy levels and financial vulnerability, we now turn to a comparison of financial literacy levels across the subgroups of interest. Table 12.10 shows that financial literacy levels are particularly low among Blacks and Hispanics: only 12 percent of Blacks and 20 percent of Hispanics can correctly answer the Big 3 financial literacy questions. Such low levels are worrisome, and they are significantly lower than for Whites and Asians. Even though all four racial/ethnic subgroups have room for improvement, the Black and Hispanic respondents have the most difficulty answering these questions correctly; the latter also are more likely to say 'do not know' (DNK), with around half giving that response to the risk diversification question. The fact that these respondents are aware of their lack of knowledge may offer an opportunity for well-targeted financial education programs.

TABLE 12.10 Financial literacy as contributing factor to financial vulnerability using the 2021 NFCS

| | Full Sample (%) | White (%) | Black (%) | Hispanic (%) | Asian (%) |
|---|---|---|---|---|---|
| Big 3 Questions Correct (interest, inflation, risk) | 29 | 32[b,h,a] | 12[w,h,a] | 20[w,b,a] | 44[w,b,h] |
| Interest Rate Question Correct | 69 | 73[b,h,a] | 54[w,h,a] | 63[w,b,a] | 80[w,b,h] |
| Do not know | 15 | 14[b,h,a] | 22[w,h,a] | 19[w,b,a] | 10[w,b,h] |
| Inflation Question Correct | 53 | 58[b,h,a] | 33[w,h,a] | 44[w,b,a] | 64[w,b,h] |
| Do not know | 23 | 21[b,h,a] | 30[w,h,a] | 28[w,b,a] | 16[w,b,h] |
| Risk Diversification Question Correct | 42 | 44[b,h,a] | 28[w,h,a] | 37[w,b,a] | 55[w,b,h] |
| Do not know | 45 | 45[b,h,a] | 47[w,a] | 47[w,a] | 34[w,b,h] |
| Do Not Know (DNK) responses | | | | | |
| One DNK | 31 | 31[b,a] | 28[w,h] | 31[b,a] | 26[w,b,h] |
| Two DNKs | 12 | 11[b,h,a] | 16[w,h,a] | 14[w,a] | 8[w,b,h] |
| Three DNKs | 10 | 9[b,h,a] | 14[w,a] | 12[w,a] | 6[w,b,h] |
| *Financial Education* | | | | | |
| Offered financial education | 30 | 28[b,h] | 38[w,h,a] | 32[w,b,a] | 28[b,h] |
| Participated in financial education | 23 | 22[b,a] | 28[w,h,a] | 23[b,a] | 19[w,b,h] |
| Total Observations | 27,118 | 20,062 | 2,716 | 2,274 | 1,193 |

*Note.* All statistics are weighted. All refuse to answer options were added to the do not know responses. The two financial education variables are based on the following question: Was financial education offered by a school or college you attended, or a workplace where you were employed? Possible answer options are (1) Yes, but I did not participate in the financial education offered; (2) Yes, and I did participate in the financial education; (3) No; (4) Don't know; (5) Refuse to answer. For the definitions of the race/ethnicity terms see the note in Table 12.1. Superscripts w, b, h, and a indicate the means are statistically different at the 5 percent level from Whites, Blacks, Hispanics, and Asians, respectively.
*Source:* Authors' calculations using the 2021 National Financial Capability Study (NFCS).

When we use the more complex 28-item P-Fin Index metric (Table 12.11), similar results hold: only around one-third of questions are answered correctly by Black and Hispanic respondents, significantly below the 55 percent that Whites and Asians score. Moreover, over 70 percent of Blacks and Hispanics get only half or fewer of the 28 questions right, while 40 percent of Whites and Asians perform this poorly.

An additional important finding within both datasets is that financial literacy among Asians is higher than/comparable to that of Whites. On average, the Asian respondents get over half of the 28 index questions correct, and one-quarter of the Asians get 76 percent or more of the questions right. In line with the assets and savings findings of the previous section, Asians also score the highest on the saving topic. This means that they can answer two-thirds of the P-Fin Index saving questions correctly on average, which is the highest score of all functional areas and across all four racial groups.

Last, we report on the link between financial education and financial vulnerability. Overall, a similar percentage of respondents across the racial and ethnic subgroups examined here report having participated in financial education programs in school, at work, or with an organization where they lived (compare the lower parts of Tables 12.10 and 12.11). To investigate this further, we split the sample into those earning a low composite vulnerability score (scoring zero or one) and those with a high score (scoring five or six). Across all racial and ethnic groups, Figure 12.3 shows that the more financially vulnerable are less likely to have participated in financial education programs, and this relationship is particularly pronounced among Blacks and Whites. For example, only 23 percent of the very financially vulnerable Blacks and 14 percent of the Whites participated in financial education initiatives, versus 40 percent and 34 percent of the non-vulnerable (Blacks and Whites, respectively). The same relationship holds for those who were offered financial education. It holds across almost all racial and ethnic groups except for the Asian population, where there is no statistically significant difference between those scoring low to those scoring high on the composite vulnerability score. Clearly, causality cannot be inferred from this descriptive analysis, but it remains apparent that financial education and vulnerability are inversely related.

## Conclusion

This chapter provides information on the drivers of financial vulnerability among Asians, Blacks, and Hispanics in the US, along with potential reasons for differences. Using recent data from the 2021 National Financial Capability Study and the 2022 TIAA Institute-GFLEC Personal Finance

TABLE 12.11  Financial literacy as contributing factor to financial vulnerability using the 2022 P-Fin Index

| | Full Sample (%) | White (%) | Black (%) | Hispanic (%) | Asian (%) |
|---|---|---|---|---|---|
| *Financial Literacy* | | | | | |
| % of P-Fin Index questions | 49.85 | 54.85[b,h] | 37.29[w, a] | 38.22[w, a] | 54.35[b,h] |
| | | | | | |
| LT 26% correct | 23 | 18[b,h] | 35[w, a] | 36[w, a] | 18[b,h] |
| 26%–50% correct | 26 | 22[b,h] | 38[w, a] | 35[w, a] | 24[b,h] |
| 51%–75% correct | 33 | 37[b,h] | 21[w, a] | 24[w, a] | 34[b,h] |
| 76%–100% correct | 18 | 23[b,h] | 7[w, a] | 6[w, a] | 24[b,h] |
| *Functional Areas* | | | | | |
| Borrowing | 60.36 | 66.20[b,h] | 44.56[w, a] | 47.94[w, a] | 63.99[b,h] |
| Saving | 58.09 | 63.27[b,h] | 42.50[w, h,a] | 46.59[w, b,a] | 66.36[b,h] |
| Consuming | 51.51 | 54.86[b,h] | 42.46[w, a] | 44.12[w, a] | 54.37[b,h] |
| Go-to info sources | 49.34 | 54.46[b,h] | 36.98[w, a] | 35.98[w, a] | 55.00[b,h] |
| Earning | 47.97 | 53.14[b,h,a] | 38.31[w, a] | 36.25[w, a] | 46.25[w, b,h] |
| Investing | 46.81 | 52.01[b,h] | 33.28[w, a] | 34.36[w, a] | 52.93[b,h] |
| Insuring | 45.08 | 52.23[b,h,a] | 29.86[w, a] | 27.47[w, a] | 48.64[w, b,h] |
| Comprehending risk | 36.04 | 37.83[b,h,a] | 30.00[w, a] | 31.88[w, a] | 42.42[w, b,h] |
| *Financial Education* | | | | | |
| Offered financial education | 36 | 37[h] | 37[h] | 29[w, b] | 33 |
| Participated in financial education | 28 | 29[h,a] | 30[h,a] | 23[w, b] | 23[w, b] |
| Total Observations | 3,582 | 1,830 | 548 | 586 | 512 |

*Note:* All statistics are weighted. The functional areas covered by the 28 P-Fin Index questions are *earning* (determinants of wages and take-home pay); *consuming* (budgets and managing spending); *saving* (factors that maximize accumulations); *investing* (investment types, risk and return); *borrowing/managing debt* (relationship between loan features and repayments); *insuring* (types of coverage and how insurance works); *comprehending risk* (understanding uncertain financial outcomes); and *go-to information sources* (recognizing appropriate sources and advice). The two financial education variables are based on the following question: Have you ever participated in a financial education class or program that was offered in high school or college, in the workplace, or by an organization or institution where you lived? Possible answer options are (1) Yes; (2) No, was offered one but did not participate; (3) No, was never offered one; or (4) Refuse to answer. For the definitions of the race/ethnicity terms see the note in Table 12.1. Superscripts w, b, h, and a indicate the means are statistically different at the 5 percent level from Whites, Blacks, Hispanics, and Asians, respectively.

*Source:* Authors' calculations using the 2022 TIAA Institute-GFLEC P-Fin Index (P-Fin Index).
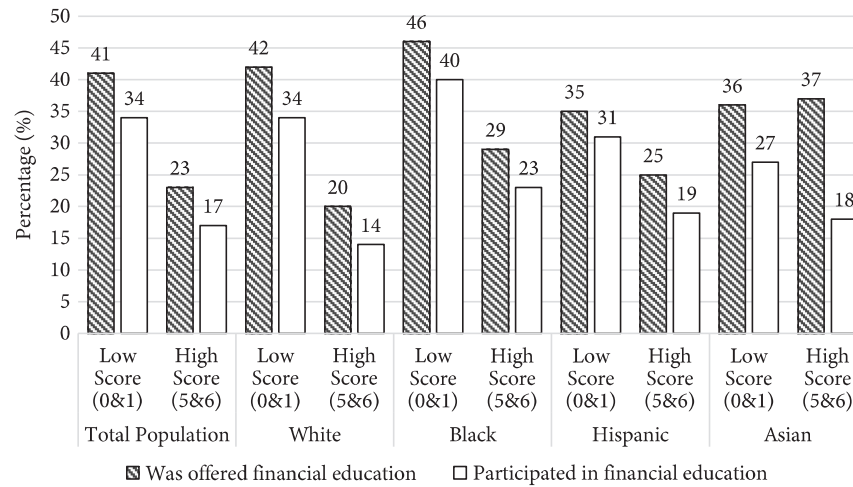
**Figure 12.3** Financial education across high and low composite vulnerability scores using the 2022 P-Fin Index

*Note:* All statistics are weighted. The two financial education variables presented in this figure are based on the following question: Have you ever participated in a financial education class or program that was offered in high school or college, in the workplace, or by an organization or institution where you lived? Possible answer options are: (1) Yes; (2) No, was offered one but did not participate; (3) No, was never offered one; or (4) Refuse to answer. The terms 'White', 'Black', 'Hispanic', and 'Asian' are defined in Figures 12.1 and 12.2.
*Source:* Authors' calculations using the 2022 TIAA Institute-GFLEC P-Fin Index (P-Fin Index).

Index, we analyze six financial vulnerability indicators as well as a composite vulnerability score that we constructed as the arithmetic average of the individual indicators. We then provide an in-depth analysis of potential factors that help explain the observed racial/ethnic differences in financial vulnerability.

We find that the key contributing factors include demographic characteristics, income shocks, financial resources, money management practices, and financial knowledge. Specifically, Blacks and Hispanics are much more financially vulnerable than Whites and Asians. In fact, the first two subgroups score around 60 percent more vulnerable compared to Asians, and around 20 percent more vulnerable than Whites. The main factors contributing to this racial and ethnic gap in financial vulnerability are single parenthood, youth, lack of savings and wealth, too much debt, income shocks, costly money management practices, and low financial literacy levels. In line with other research, Asians in our datasets perform similarly to or better than their White counterparts on the vulnerability indicators.

Roundtable discussions with experts and thought leaders from National CAPACD and UnidosUS suggested that our findings could also hide substantial heterogeneity within the subgroups of interest. For instance, the financial vulnerability indicators we use here do not capture an important cultural factor that differs across groups. Specifically, many Asians and Hispanics live in multigenerational homes, caring for older generations, and/or allocating a substantial part of their income toward remittances. Additionally, the experiences and beliefs of older generations are likely to be passed on to younger generations, influencing their financial decision-making and interaction with financial institutions and services. For many, having a financial safety net of family and friends can help cope with financial emergencies and struggles, altering the way they may react to financial shocks. At the same time, where people live and the cost of living in those areas can influence how financially vulnerable our respondents feel. For example, large cities such as San Francisco or New York, traditionally the home of many Asians and Hispanics in the US, have become very expensive due to gentrification. Yet many people (especially monolingual residents) cannot easily leave these neighborhoods because, besides being their home for generations, they provide local grocery stores and services such as doctors that speak their language. Such ties can make them vulnerable and exposed to the rising cost of living. These cultural aspects represent a topic to be investigated in future research on financial vulnerability.

Our research and discussions underscore the need for financial education programs and initiatives to help inform people when making financial decisions and navigating complex financial systems and products. The following are key components that are consistent with successful programs and initiatives:

- *Language access*: One of the main barriers to engagement in financial programs as well as services and products is many people's limited English proficiency. For instance, much of the necessary information, such as how to open a bank account, may not be available in different languages. In many communities, the language barrier can be a bigger obstacle than financial illiteracy.[19]
- *Representation*: Effective programs must be developed and operated with input from community members. Representation matters and community trust is highly valued. The organizations we talked with highlighted that having a presence in the community is essential for helping to promote certain programs or services. Faith-based organizations in some communities can play an important role in delivering financial education programs and initiatives as well.
- *Cultural relevance*: Successful financial literacy programs will need to integrate cultural values and/or practices. They will be more effective because

they are targeted to their communities' needs, build trust, and promote engagement with the programs.

- *Narrative transformation*: Successful programs must focus on uplifting and empowering language while also helping change beliefs that are inaccurate. For example, many people in the US mistrust financial institutions and insurance companies. To remedy this problem, a different narrative could be developed to help people secure financial information and sources outside their families. Previous negative experiences with hyperinflation or fraudulent financial institutions in their home countries (in Latin America, for example) tend to drive distrust in the US financial system.
- *Generational inclusivity*: Successful programs will focus on reaching multiple generations and promoting knowledge sharing while acknowledging that generational experiences differ. For example, many young Hispanics are entering the workforce and the financial system, about to establish their credit for the first time. If they are documented, they will be able to participate in the formal economy, but they still may be first-generation arrivals and hence unable to learn from their parents or grandparents, who do not reside in the US. Accordingly, financial literacy programs could better support the young, particularly when they cannot rely on their families' experiences.
- *Holistic content*: Successful financial literacy programs will cover topics about which people know the least, such as insuring and comprehending risk. Moreover, the content delivered will be designed to address the needs of community members. For instance, the UnidosUS experts noted that they see their community members as being financially savvy, as they know how to make ends meet with limited resources. Thus, they are good at budgeting, but many have difficulty understanding how the financial system and various financial products work.

These lessons and our empirical findings will be of interest to the financial service and pension industry, employers, and policymakers aiming to design programs and plans that target underserved populations to strengthen their financial well-being. Financial planning and policy efforts are often focused on promoting retirement savings, but especially in volatile economic times, a focus on short-term financial resilience is equally important for tackling financial vulnerability.

## Notes

1. The P-Fin Index is an annual survey developed by the Teachers Insurance and Annuity Association of America (TIAA) Institute and the Global Financial Literacy Excellence Center (GFLEC), in consultation with Greenwald & Associates.

2. This variable is based on the following NFCS question: In the past 12 months, have you (has your household) experienced a large drop in income which you did not expect?
3. As proxies for wealth, we use two variables that measure home ownership and ownership of a savings and/or checking account.
4. Financial literacy is measured by three indicator variables that represent whether respondents correctly answered one, two, or three basic financial literacy questions (Big 3) on interest rate, inflation, and risk diversification.
5. The Financial Industry Regulatory Authority (FINRA) is a government-authorized not-for-profit organization that oversees US broker-dealers to protect investors and ensure the market's integrity.
6. For the P-Fin Index, the number of observations for each race/ethnicity category was at least 500, based on quota sampling.
7. Source:   www.census.gov/quickfacts/fact/table/US/PST045221   (retrieved 08/26/2022).
8. Household income includes all income earned in a year including wages, tips, investment income, public assistance, and income from retirement plans.
9. For more information see National Healthy Marriage Resource Center (n.d.).
10. For more information see Johnson et al. (2016).
11. When creating the composite score, we excluded responses 'don't know' and 'refuse to answer.'
12. The average scores for the four subpopulations in the P-Fin Index are: 1.46 for Asians, 1.55 for Whites, 2.42 for Blacks, and 2.44 for Hispanics. Further, only 16 percent of Blacks and 15 percent of Hispanics report no exposure to any financial vulnerability (scoring 0), whereas this percentage is 30 percent for Asians and 31 percent for Whites.
13. Regression results using the P-Fin Index are similar and are available upon request.
14. For more information see Vargas and Sanchez (2020) or Noe-Bustamante et al. (2021).
15. For additional information on mortgage lending in the Asian American and Pacific Islander community see Agnani and Richardson (2020, August 6). It is obvious from this article that a lot of variation is hidden in aggregated statistics.
16. For more information, see Ergungor (2010), Hegerty (2016), and Rhine et al. (2006).
17. For more information, see Brown et al. (2019).
18. For more information see UnidosUS (2022).
19. This is supported by research conducted by Freddie Mac Single Family (n.d.) about the primary obstacles for Hispanic homebuyers. Limited English proficiency was one of the main obstacles to Hispanic homeownership.

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