The Demographics of Wealth

How Age, Education and Race Separate
Thrivers from Strugglers in Today's Economy

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An Introduction to the Series

The Demographics of Wealth

How Age, Education and Race Separate Thrivers from Strugglers in Today's Economy

By Ray Boshara, William R. Emmons and Bryan J. Noeth

A new economic reality line is emerging in the U.S. It's between the thrivers, the one-quarter of the population who are accumulating wealth, and the strugglers, the other three-quarters who are not. As we show, race, education and age increasingly determine whether someone is a thriver or a struggler.

This is the first in a series of essays that the Center for Household Financial Stability will publish on how a family's race or ethnicity, educational attainment, and age are related to its financial choices and the financial outcomes it experiences. Our primary data source is the Federal Reserve's triennial Survey of Consumer Finances, which provides the most comprehensive picture of American families' balance sheets and financial behavior over time. We use information from over 40,000 families, each of which was surveyed in one of nine waves between 1989 and 2013.

By partitioning the sample in each wave into 48 nonoverlapping groups based on four racial or ethnic groups, four levels of educational attainment, and three age ranges, we document profound and persistent differences in financial decision-making, balance-sheet choices and wealth outcomes across groups. We show that each demographic dimension is important in its own right.

After considering each of the 48 groups, we describe eight of them as thriving financially. These groups include families headed by someone who is typically middle-aged or older, white or Asian, and with a college degree alone or with a graduate or professional degree. These families generally earn above-average incomes, make conservative financial choices and have accumulated substantial wealth. These families constituted 24 percent of all U.S. families in 2013; they owned 67 of the economy's wealth.

The groups we describe as struggling financially—the remaining 76 percent of all families—are typically younger, less educated and black or Hispanic. They earn average or below-average incomes, make less-conservative financial choices, and have accumulated little or no wealth; they own 33 percent of the nation's total wealth. Many, although not all, of these families are financially unstable.

The demographics of wealth are powerful, if not definitive. By documenting the relationships that exist among race and ethnicity, educational attainment, and age on the one hand, and a host of financial behaviors and financial outcomes on the other, we hope to set the table for action by individuals and by policymakers to improve the financial health of all American families and of the nation as a whole.

Executive Summary of Essay No. 1

This first essay in the "Demographics of Wealth" series examines the connection between race or ethnicity and wealth accumulation over the past quarter-century. As with subsequent essays, this one is the result of an analysis of data collected between 1989 and 2013 through the Federal Reserve's Survey of Consumer Finances. More than 40,000 heads of households were interviewed over those years. Our key findings in this essay:

- When looking at median family wealth (assets minus liabilities), the ranking of the four racial or ethnic groups did not change order between 1989 and 2013. White families ranked first, followed by Asian families, Hispanic families and black families.

- In inflation-adjusted dollars, the median wealth of a white family in 1989 was $130,102. In 2013, it was $134,008. For an Asian family, the two medians were $64,165 and $91,440. For a Hispanic family, they were $9,229 and $13,900. For a black family, they were $7,736 and $11,184.

- Although the financial patterns over this period have changed little for whites, for Hispanics and for blacks, they have changed dramatically for families headed by Asians. Asian families' median income already has surpassed that of whites, while Asians' median wealth soon will surpass the white median level, most likely because of the remark-able increase in educational attainment by younger Asians in recent decades.

- Median Hispanic and black wealth levels are about 90 percent lower than the median white wealth level, yet median income levels of Hispanics and blacks are only 40 percent lower. The larger wealth gap could be due to Hispanics' and blacks' in-vesting in low-return assets like housing, as well as to borrowing at high interest rates. Hispanics and blacks could also feel less of a need to save for the future because society's progressive old-age safety-net programs will replace a relatively larger share of the normal incomes they earned during their working years.

- Whites and Asians have stronger balance sheets —a key factor in wealth accumulation—than do Hispanics and blacks. The balance sheets of the former show more liquidity and asset diversifica-tion and less leverage (debt as a share of assets).

- On our financial health scorecard—designed to measure whether a family is making sound, everyday-financial decisions—whites and Asians fared much better than Hispanics and blacks. The gap was even wider when restricting the compari-son to just middle-aged, well-educated families in each of the four groups.

- Age and education would seem to be logical explanations for the persistent differences in wealth accumulation across the racial and ethnic groups. However, an analysis of the data indicates that these two factors play only small roles in explaining the gaps. In particular, holding constant the age and educational attainment of a family head, racial and ethnic differences in average financial-health scores correspond closely to differences in the groups' median wealth levels.

Race, Ethnicity and Wealth

By William R. Emmons and Bryan J. Noeth

If you know the race and ethnicity of an American family, you can make an informed guess about the family's wealth level and how its financial affairs are managed. That's because race and ethnicity are strongly associated with financial behavior and outcomes. Moreover, these patterns have not changed much during the past quarter-century.

This essay documents large, persistent differences in financial choices and financial outcomes across four major racial and ethnic groups in the United States today: non-Hispanic whites (representing 70 percent of all families in the 2013 Survey of Consumer Finances), families of primarily African origin that are not Hispanic (15 percent), Hispanics of any race (11 percent), and families of Asian or other origin (5 percent).[1] Along with educational attainment and age, race and ethnicity play an important role in determining which families are thriving and which are struggling financially. (See Sidebar 1.)

Sidebar 1: Classifying Individuals and Families by Race and Ethnicity

The Survey of Consumer Finances (SCF) generally follows conventions used by the Census Bureau. Classification of a family into a racial or ethnic group in the SCF is based on the responses of the person being interviewed if the household contains more than one person. The survey taker asks the survey respondent the following question:

Which of these categories do you feel best describes you: white, black or African-American, Hispanic or Latino, Asian, American Indian or Alaska Native, Hawaiian Native or other Pacific Islander, or another race?

Race and ethnicity, therefore, are self-identified. The respondent may have more than one response. Originally, the survey did not allow for multiple responses, but this changed in 1998. In this essay, we use the respondent's first response, which we assume is most likely to be the group with which the respondent identifies most strongly. In the 2013 SCF, 6.1 percent of respondents reported more than one racial identification. This was up from 5.4 percent in 2007 and 2.3 percent in 2004.[2]

In this essay, we use the term **white** to mean non-Hispanic white. We use the terms **black** and African-American interchangeably. **Hispanics** may be of any race. The category "Asian or other origin" includes not only people with origins in Asia but also those who identify as American Indian, Alaska native, native Hawaiian and Pacific Islander. Because Asians represent about 80 percent of this group in population estimates published by the Census Bureau, we refer to the group as **Asian** in what follows.

About 2.4 percent of the overall population in 2013 was of two or more races, according to census estimates. These families are not reported separately in this essay but are, instead, included in one of the four racial and ethnic groups noted in the text according to their primary identification. For detailed Census Bureau estimates of the population by race and ethnicity, see http://quickfacts. census.gov/qfd/states/00000.html.

Table 1. Median Family Wealth by Race and Ethnicity

	Median wealth in 1989	Percent of families in upper half of nation's wealth distribution	Median wealth in 2013	Percent of families in upper half of nation's wealth distribution
All families	$85,575	50%	$81,456	50%
White	$130,102	58%	$134,008	59%
Asian	$64,165	41%	$91,440	51%
Hispanic	$9,229	17%	$13,900	25%
Black	$7,736	20%	$11,184	23%

All dollar amounts are expressed in 2013 dollars, deflated by the CPI-U-RS (Consumer Price Index for Urban Consumers, Research Series).

The median is the value exactly in the middle of a ranking from low to high.

The source for all tables and figures is the Federal Reserve's Survey of Consumer Finances.

Racial and ethnic categories are not clear-cut in biological or sociological terms, but, viewed as one aspect of a person's subjective identity, they turn out to be relatively stable across time in predicting several dimensions of financial behavior and financial outcomes. This suggests they are useful analytical constructs even if they are less than perfect descriptions.

The essay begins with brief qualitative snapshots of the current wealth and key financial behaviors of each of the four racial and ethnic groups. The second section provides detailed characterizations of family balance sheets and financial behaviors today and during the past quarter-century, based on the SCF. The third section briefly explores why financial differences are so profound and persistent across racial and ethnic groups.

I. Financial Snapshots of Four Racial and Ethnic Groups

A randomly chosen non-Hispanic white family (from now on, "white") in 2013 had a 59 percent chance of ranking in the upper half of the nation's wealth distribution. (See Table 1, two last columns, and Sidebar 2.) The odds were about 51 percent that a randomly chosen Asian family would rank in the upper half. But the odds were only 25 percent for a

Hispanic family and only 23 percent for a family that's African-American (from now on, "black.") These odds haven't changed much since 1989, as Table 1 shows. White and Asian families continue to be more than twice as likely as Hispanic and black families to have above-median wealth.

Another way to illustrate the very different wealth experiences of families according to their racial or ethnic identities is to examine the extremes of rich and poor. Among all white families in 2013, the odds of picking one family at random with at least $1 million of accumulated wealth were 1 in 8. Among all Asian families in 2013, 1 in 9 families had at least $1 million in wealth. Among Hispanic and black families, however, only about 1 in 100 had at least $1 million. At the other extreme, the chance that a white family had less than $1,000 of accumulated wealth was about 1 in 9. For an Asian family, the odds were 1 in 8. But the odds were 1 in 4 if the family was Hispanic and 1 in 3 if the family was black.

A snapshot of whites. The head of a randomly chosen white family is likely to be older than the national average, to have more education than the average nonwhite American of the same age and to be a homeowner. This family is virtually certain to own financial assets and may own a business; it probably has borrowed money to buy a car or a

house, to finance education or for other outlays. Nonetheless, the family's total debt is likely to be relatively small compared with its assets. Despite many changes in the financial landscape and the American people during the past quarter-century, a randomly chosen white family in 1989 could be described in virtually identical terms.

A snapshot of blacks. A black family head in 2013, like his or her Hispanic counterpart, was likely to be younger and less educated than the average white family head; the black head of family was also likely to have an illiquid and undiversified balance sheet with few financial assets. Census data show that the black homeownership rate continued to fall through the end of 2014.[4] If it had any debt, this family was likely to be burdened by it, spending a relatively large fraction of its income on debt service. The net worth of a randomly chosen black family in 2013 was likely to be one-tenth or less than that of a randomly chosen white family; in addition, the black family's net worth had higher volatility over time due to an undiversified portfolio of low-return tangible assets and due to relatively high debt.

A snapshot of Hispanics. Any given Hispanic family was likely to be much younger and much less educated than the average white American family, have a relatively illiquid and undiversified balance sheet (with few or no financial assets), perhaps a house and/or an automobile, and an uncomfortably high level of debt compared with the family's income or assets. The wealth of the median Hispanic family was only about one-tenth the median wealth of a white non-Hispanic family in 2013, while the volatility of the Hispanic family's wealth was high.

A snapshot of Asians. A randomly chosen Asian family in 2013 America would be similar financially to a white family in many ways, with one important difference: more education. The head of an Asian family in 2013 was much more likely to have a post-secondary educational credential than the head of an Asian family in 1989. More important, the 2013 version was more likely to have pursued

education beyond high school than any other group in 2013. Among adults between the ages of 35 and 39 in 2013, 73 percent of Asians had completed a degree or certificate beyond high school. Among whites, the share was 54 percent; among blacks and Hispanics, the shares were 36 and 23 percent, respectively.[5] Even more important for future income generation and wealth accumulation, the shares of 35-39-year-olds in each racial and ethnic group with at least a four-year college degree were 65 (Asian), 42 (white), 26 (black) and 16 percent (Hispanic). Attainment rates for a graduate or
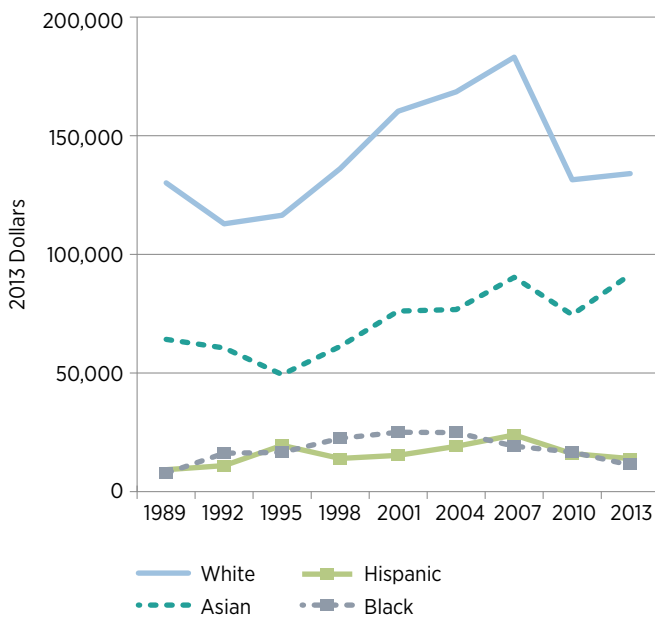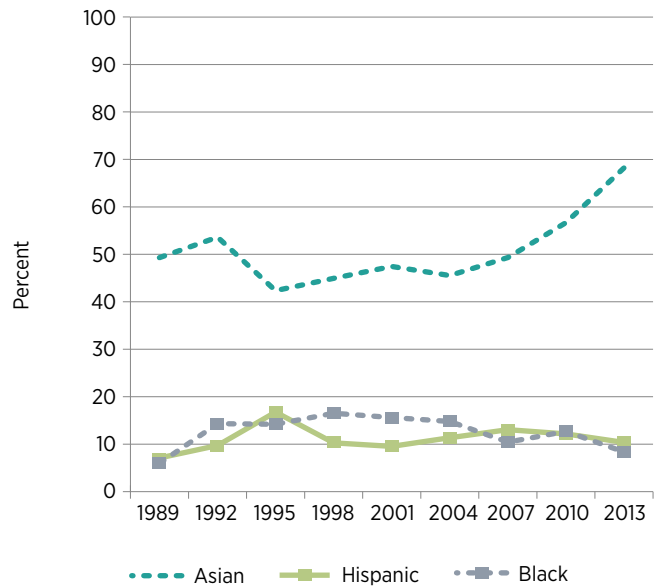
Figure 1. Median Family Net Worth

Figure 2. Median Family Net Worth Relative to Median White Family Net Worth

All dollar amounts are expressed in 2013 dollars, deflated by the CPI-U-RS (Consumer Price Index for Urban Consumers, Research Series).

Due to apparent sampling error, data for Asian families in 2004 and 2007 were adjusted by the authors to match the growth rates of median wealth in the overall population.

Median family net worth is the value of total assets minus total debts for the family that ranks exactly in the middle of a ranking by net worth. See Sidebar 2 for more information.

The source for all tables and figures is the Federal Reserve's Survey of Consumer Finances.

professional degree in 2013 for ages 35-39 were 32, 15, 9 and 5 percent (in the same order).

The implications of these vast and growing educational disparities across racial and ethnic groups are far-reaching, as we discuss in the second essay of this series. Greater educational attainment is associated with higher income, a stronger incentive to accumulate wealth for retirement, more-conservative financial decision-making and, ultimately, greater wealth accumulation.
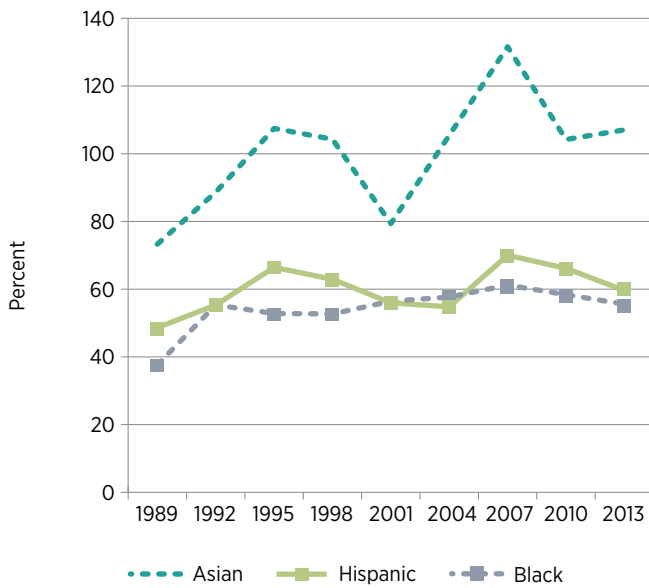
II. Wealth, Income, Balance Sheets and Financial Behaviors

Across racial and ethnic groups are striking and persistent differences in wealth, income, the structure of these groups' balance sheets and a mea-

sure of financial decision-making we call financial health. With few exceptions, the financial patterns evident in 2013 echo those apparent throughout the period since 1989—at least among whites, Hispanics and blacks. Asian families have changed the most during the past 25 years, moving away from Hispanic and black families' wealth levels toward those of whites. Given the remarkable increase in educational attainment by younger Asians in recent decades, Asian families' median income, mean income and wealth levels already have or soon will surpass those of whites.

Net worth. A simple measure of a household's financial strength is its net worth, or wealth. Figure 1 shows the median inflation-adjusted net worth of each of four racial and ethnic groups at a triennial

Figure 3. Median Family Income Relative to Median White Family Income

Median family income is the value of cash income, before taxes, for the full calendar year preceding the survey for the family that ranks exactly in the middle of a ranking by income. See Sidebar 2 for more information.

frequency between 1989 and 2013. The median wealth of white families in 1989 was just over $130,000, while the medians for Asians, Hispanics and blacks were about $64,000, $9,000 and $8,000, respectively (all expressed in terms of 2013 purchasing power). The median wealth of all groups generally increased until the mid-2000s, after which the median for all groups declined sharply. In 2013, the median wealth estimates of the four groups were $134,000, $91,000, $14,000 and $11,000, respectively.[6]

Figure 2 shows that the median wealth of Asian families increased more than the median wealth of white families by a significant amount in recent years, rising from 49 percent of the white median in 1989 to 68 percent in 2013. Meanwhile, the median wealth of Hispanic and black families changed little
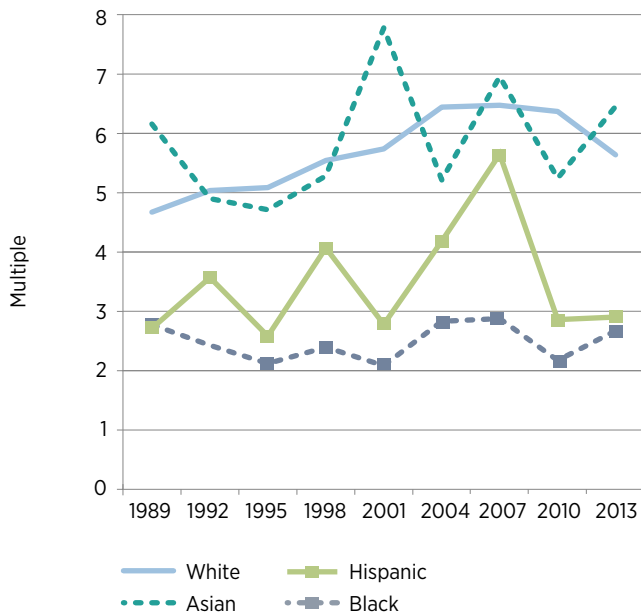
on balance during the quarter-century relative to white families' median wealth. Median Hispanic wealth increased from 7 to 10 percent of median white wealth between 1989 and 2013, while median black wealth increased from 6 to 8 percent of median white wealth. Viewing the period 1989-2013 as a whole, it would be difficult to assert that there had been any meaningful change in the relationship among the wealth of typical white, Hispanic and black families.[7]

Income. All else equal, higher income may be associated with greater wealth for both direct and indirect reasons. The direct effect is that a higher income may allow a family to save more money because some expenses rise less than proportionately with income, such as food consumed at home, utilities or commuting costs. Thus, there may be more "slack" in the budget of a family with higher income. The indirect effect is that the same underlying reasons for why someone earns a high income—such as quantitative skills or patience—also may contribute to the quality of financial decision-making, affecting financial health and wealth accumulation. In other words, the correlation we observe between income and wealth may imply not only direct causation but also indirect channels, as well.

Figure 3 shows that the median family incomes among Hispanic and black families have remained about 40 percent lower than the median white family income since the early 1990s. This fact alone might lead us to expect lower wealth accumulation among Hispanic and black families. It is possible that white families have a greater ability to save simply because they have higher and, therefore, more discretionary income, on average.

The median family income among Asians, on the other hand, generally grew faster than the median white income since 1989. The Asian median family income has exceeded the white median income for most of the past two decades. The former will probably continue to grow faster than the latter, given the growing educational achievements of Asians.

Figure 4. Ratio of Mean Net Worth to Mean Income among Families Headed by Someone Aged 40-61

Mean net worth is the value of total assets of all families headed by someone aged 40-61 minus total debts of all families aged 40-61. Mean income is the value of cash income, before taxes, for the full calendar year preceding the survey among all families headed by someone aged 40-61. See Sidebar 2 for more information.

The figure shows average wealth as a multiple of average annual income for each group of families. In 2013, for example, the ratio for all middle-aged Asian families was 6.45, meaning that for every dollar of income there was $6.45 of wealth, on average. The ratio for white families was 5.64, the ratio for Hispanic families was 2.90 and the ratio for black families was 2.67.

Comparing Figures 2 and 3, two important questions arise—first, why are median Hispanic and black wealth levels about 90 percent lower than the median white wealth level, while median incomes are only 40 percent lower? Second, why is the median Asian wealth level significantly below the wealth of the median white family, despite earning more income for most of the past 20 years?
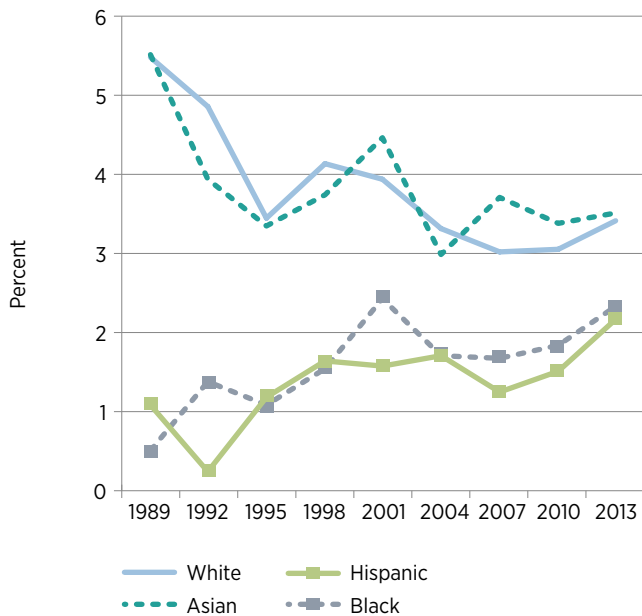
The answer to the first question may be related to financial behaviors and incentives—the indirect links between income and wealth. The ratio of mean wealth to mean income is a measure of how much wealth is associated with a dollar of income on average for a group. Figure 4 reveals a substantially higher average wealth-to-income ratio among middle-aged white and Asian families compared with middle-aged Hispanic and black families throughout the past quarter-century.[8] In 2013, for example, the average middle-aged Asian family had $6.45 of wealth for each dollar of income, while the average white family had $5.64, the average Hispanic family had $2.90 and the average black family had $2.67. These ratios suggest that vastly lower wealth accumulation by Hispanic and black families could be due, in part, to lower efficiency of translating a dollar of income or saving into wealth. Investing in low-return assets like housing and borrowing at high interest rates are examples of financial practices that would result in lower wealth, holding constant other factors, such as income.

Another potentially important hypothesis explaining relatively low wealth-to-income ratios could be that, with relatively low and flat lifetime income trajectories and a progressive system of old-age safety-net programs (which are more generous to lower earners), many Hispanic and black families rationally perceive little benefit from shifting income from their working years into retirement years as a way to smooth their expected spending paths.[9] Hence, there may be less need to accumulate preretirement wealth, resulting in a lower wealth-to-income ratio during middle and older age.

Given the similar ratios of wealth to income among whites and Asians, the second question— why median Asian wealth remains 30 percent below the median white wealth level despite higher median incomes for most of the past 20 years— may cease to be an anomaly in the near future. Education, income and wealth levels are rising rapidly among younger Asian families. If current trends continue, the median wealth level among Asian families could surpass that of white families in the near future.

Figure 5. Median Share of Safe and Liquid Assets to Total Assets

Safe and liquid assets are defined as checking and saving accounts, certificates of deposits, bonds and savings bonds. These are assets that can be drawn upon quickly at low or no cost in terms of fees or potential loss of value when selling on short notice.

The figure shows the median among all families in each group of the percent of total assets held in the form of safe and liquid assets. For example, half of all black families in 2013 had less than 2.3 percent of their total assets in the form of safe and liquid assets while half had more than 2.3 percent of their assets in safe and liquid assets.

Overall balance-sheet health. A household's balance sheet lists assets and liabilities. Although there is no such thing as a perfect balance-sheet configuration or a one-size-fits-all set of prescriptions on how best to make financial decisions, several principles of wealth accumulation and retention are reasonably clear. All else equal, each of the following balance-sheet choices is likely to support greater wealth accumulation:

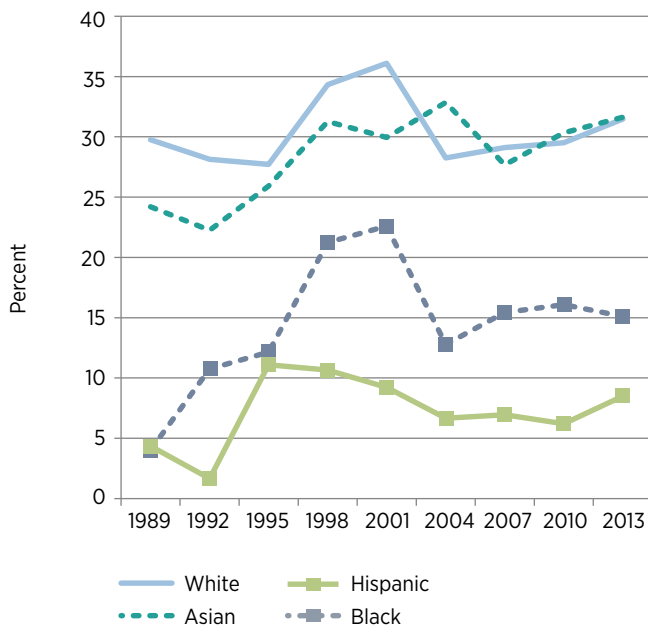- Greater balance-sheet liquidity can support greater wealth accumulation over time by buffering a family against financial shocks that can lead to high-cost borrowing, distressed asset sales, or costly default on debts and other obligations;
- Greater asset diversification—including high-return assets like stocks or a small business—can lead to greater wealth on average over time due to lower volatility for any given level of expected return on assets (or equivalently, a higher expected return for a given level of volatility), reducing the likelihood of encountering costly financial distress; and
- Lower leverage (debt-to-assets ratio) can lead to greater wealth on average over time both because borrowing itself is expensive and because balance-sheet leverage amplifies any shock to a family's asset values, raising the risk of insolvency and of costly default on debt or other obligations.

These balance-sheet practices can be described as elements of conservative financial decision-making. Figure 5 shows that white and Asian families typically have much more liquid balance sheets than Hispanics or blacks. This likely contributes to greater wealth accumulation over time. Figure 6 shows that white and Asian families typically have a greater share of their assets invested in financial and business assets, which provide both asset diversification and higher average returns in the long run than a portfolio consisting mostly of tangible assets like a house, vehicles or other durable goods.[10] Figure 7 demonstrates that, as a share of total assets, white and Asian families on average have about half as much debt as Hispanic and black families.[11] Lower leverage improves cash flow, making saving easier; it also reduces the risk of default, which is costly. Higher debt burdens also force families to pay higher interest rates on their debt, compounding the wealth-depleting effects of borrowing.
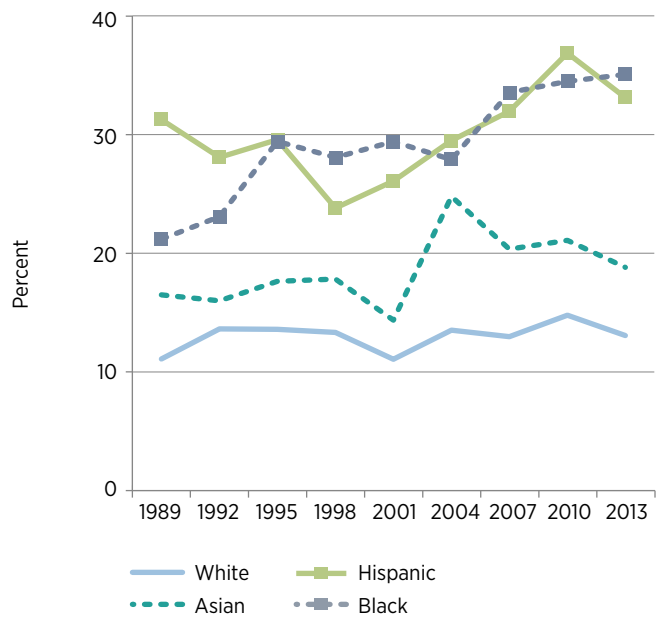
Thus, two important reasons why white and Asian families accumulate much more wealth than Hispanic and black families appear to be their higher incomes and stronger balance sheets. A third factor relates to routine financial choices that con-

Figure 6. Median Share of Total Assets Invested in Financial and Business Assets

Financial assets include all securities and accounts that can be turned into cash. Business assets include the value of all privately owned businesses minus its debts, shares in private businesses minus the debts of the business for which the person is responsible, and investment real estate minus associated debt. Financial and business assets include all of a family's assets except tangible assets, which include real estate, vehicles and other real property. Financial and tangible assets are counted independently of any debts owed by the person; business assets are expressed net of the associated debt.

Figure 7. Ratio of Mean Total Debt to Mean Total Assets

The chart shows the average total debt among all families in a group divided by the average total assets of all families in the group.

White and Asian families on average have about half as much debt as Hispanic and black families. Total debt includes personal debts secured by residential real estate, vehicles or other assets, as well as all unsecured debts. Debts secured by ownership of a private business, shares in a private business or investment real estate are netted against the value of those assets and not listed separately as personal debt.

The source for all tables and figures is the Federal Reserve's Survey of Consumer Finances.

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tribute to wealth accumulation, which we represent with a financial-health scorecard. (See Sidebar 3.)

Financial behaviors and financial health. The logic behind our financial-health scorecard is that a family's ability to make good everyday-financial decisions—its financial health—and its ability to accumulate wealth over time are likely to be correlated. Each financial choice we examined includes two feasible alternatives, one of which is more likely to lead to financial success. For example, saving is clearly preferred to not saving, even if only a small amount is saved. Paying one's bills on time is

clearly preferred to missing a payment, and so on. For the question about credit cards, we applied a series of screens if a family did not have any credit cards. Having been denied a card or choosing not to apply because the family member expected to be rejected were scored as negative signals, earning a score of zero. Owning no credit cards by choice was a positive sign, earning a score of one.

Table 3 shows that white and Asian families displayed above-average levels of financial health throughout 1992-2013, while Hispanic and black families scored below the overall averages. Because

Sidebar 3: A Financial-Health Scorecard That Predicts Wealth Accumulation

To characterize the quality of basic financial deci-sion-making by a typical family in a racial and ethnic group, we calculated a financial-health scorecard for each family in each wave of the SCF.[12] The scorecard consists of five questions that were asked of each of the 38,385 families that participated in the survey between 1992 and 2013:[13]

• Did you save any money last year?
• Did you miss any payments on any obligations in the past year?
• Did you have a balance on your credit card after the last payment was due?
• Including all of your assets, was more than 10 percent of the value in liquid assets?
• Is your total debt service (principal and interest) less than 40 percent of your income?

How we scored the responses to these questions and the average number of points all respondents received on each question are in Table 2.[14] To investigate the predic-tive power of the scorecard for financial success, we split the SCF sample in each survey year into 48 unique group combinations, based on:

• Three age groups: younger than 40, 40-61 and 62 and older;
• Four education groups: less than high school diploma, high school or GED diploma , two- or four-year college degree only, and graduate or professional degree;
• The same four racial and ethnic groups: black, Hispanic, Asian and white.

The individual-item and overall-index scores in 2013 were remarkably similar to the averages computed over all eight waves of the SCF for which all the data were avail-able (1992-2013). In other words, the elements of financial health we estimated appear to be stable over time.

The average group scores are financially meaning-ful, too—the simple correlation co-efficient between the average financial-health score of a group and the 1992-2013 average of median inflation-adjusted net worth (expressed as a logarithm) for each of the 48 groups was 0.67. In other words, our financial-health scorecard was very good at predicting how much wealth a group was likely to have.

the standard errors of estimation for each group covering the entire sample ranged from 0.007 (for whites) to 0.031 (for Asians), we are highly con-fident in a statistical sense that the average score among blacks was lower than the average score of all other race and ethnic groups. The average score among Hispanics also was lower than the average scores of whites and Asians in a statistical sense. The average scores of whites and Asians could not be distinguished from each other at conventional levels of statistical significance.

The persistent gaps between the average in-dex scores of blacks, Hispanics and whites in the same direction as black-white and Hispanic-white wealth gaps—that is, blacks and Hispanics had both lower average financial-health scores and lower wealth (recall Figures 1 and 2)—suggest that differ-ences in seemingly mundane financial behaviors may be important for wealth accumulation. Table 3

also shows that the average Asian financial-health score has exceeded the average white score by a considerable margin since 2007. This is the same time period during which median Asian wealth grew faster than median white wealth (Figure 2). The strong overall link between financial health and wealth suggests that, if Asian financial-health scores remain higher than white scores in the future, median Asian wealth eventually will exceed median white wealth.

Financial-health scores correspond fairly closely to differences in the key portfolio choices high-lighted above, namely, liquidity, diversification and leverage. Scatterplots of the 48 groups formed by age, educational attainment, and race and ethnicity demonstrate a strong, albeit not perfect, correlation between each group's typical liquidity, asset-diver-sification and leverage measures on the one hand, and the group's average financial-health score on

Table 2. Questions in the Financial-Health Scorecard

Questions	Scoring	Mean score in eight SCF waves, 1992-2013	Mean score in 2013 SCF only
1. After adjusting for any purchases of durable goods or investments you made, did you spend more, the same, or less than your income in the past year?	Less = 1; Same or more = 0	0.56	0.53
2. Does either of these statements apply to you? "We sometimes got behind or missed payments;" or "Considering all the various loan or mortgage payments we made during the last year, not all of the payments were made the way they were scheduled, sometimes they were made later or missed."	No, neither one applies = 1; Yes, one or both apply = 0	0.84	0.85
3. Do any of these statements apply to you? "We carried over a credit-card balance after we made our last payment;" or "We have been turned down in the past five years by a particular lender or creditor when I (or my {husband/wife/partner}) made a request for credit, or we were not given as much credit as we applied for;" or "There was a time in the past five years that we thought of applying for credit at a particular place, but changed our minds because we thought we might be turned down."	No, none applies or no credit cards by choice = 1; Yes, one or more apply = 0	0.44	0.47
4. Including all of your assets, was more than 10 percent of the value in safe and liquid assets, defined as liquid accounts (checking, saving, or money-market accounts), certificates of deposits, bonds, or savings bonds?	Yes = 1, No = 0	0.27	0.26
5. Is your total debt service, including both scheduled repayment of principal and interest owed, less than 40 percent of your income?	Yes = 1, No = 0	0.91	0.92
Total score	0 to 5 possible	3.01	3.03

A family's score on the financial-health scorecard is the sum of the individual scores, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health.

Splitting the sample in each SCF wave into 48 unique groups, based on three age groups (younger than 40, 40-61, and 62 and over), four education groups (less than high school, high school or GED, two- or four-year college only, and graduate or professional degree), and four racial and ethnic groups (black, Hispanic, Asian and white), the simple correlation co-efficient between a group's average financial-health scorecard score for 1992-2013 and the group's inflation-adjusted median net worth (expressed as a logarithm) averaged across the eight waves is 0.67.

the other. (See Figures 8 , 9 and 10.) In general, the higher a group's average financial-health score, the higher its balance-sheet liquidity, the greater its asset diversification and the lower its leverage—all elements of the conservative financial decision-making that is likely to lead to greater wealth accumulation.

To be sure, poor financial decision-making could be the result of financial distress, as well as a cause of it.[15] However, Table 4 shows that the general pattern of differential financial-health scores across race and ethnic groups exists even among middle-aged (40-61 year-old) family heads with graduate or professional degrees. In fact, the financial-health score differences among racial and ethnic groups generally are larger when the sample is restricted to the most highly educated middle-aged families. For

Table 3. Average Group Scores in the Financial-Health Scorecard

Race- and Ethnic-Group Mean Scores									
	1992	1995	1998	2001	2004	2007	2010	2013	Average of 1992-2013
Asian	3.24	2.98	3.00	3.08	3.08	3.20	3.23	3.18	3.12
White	3.24	3.08	3.14	3.21	3.08	2.99	3.03	3.11	3.11
All families	3.13	2.97	3.04	3.10	2.98	2.91	2.95	3.03	3.01
Hispanic	2.63	2.62	2.80	2.71	2.72	2.65	2.71	2.81	2.71
Black	2.74	2.50	2.58	2.69	2.58	2.56	2.68	2.72	2.63

A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health.

Standard errors when pooling the 1992-2013 period as a whole were 0.031 (Asians), 0.007 (whites), 0.019 (Hispanics) and 0.014 (blacks). Averages using this methodology negligibly vary from those reported in this table. This means that we are highly confident (with 98 percent probability), that the true mean scores for the entire period for Asians was between about 3.08 and 3.20; for whites, it was between about 3.09 and 3.12; for Hispanics, it was between about 2.68 and 2.75; and for blacks, it was between about 2.60 and 2.66.

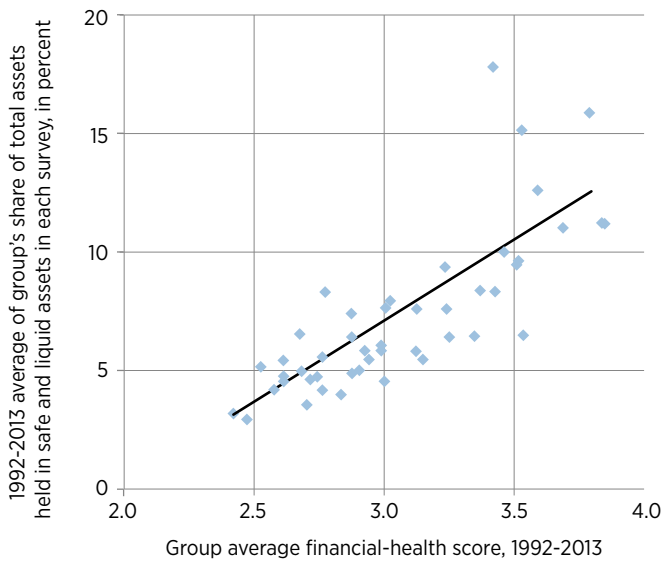> The source for all tables and figures is the Federal Reserve's Survey of Consumer Finances.

example, the average middle-aged black graduate- and professional-degree holder scored 0.72 points below the average of middle-aged white graduate- or professional-degree holders (see last column), compared with a gap of 0.48 points among all black and white families (Table 3). The gap between Hispanic and white middle-aged graduate- or professional degree holders was 0.44 points, versus 0.40 among the entire Hispanic and white groups. Asian middle-aged graduate- or professional-degree holders scored 0.11 points higher than similar whites, versus only 0.01 points higher among all Asian and white families. These discrepancies suggest a deeper connection between race or ethnicity and financial health than the suggestion that merely periodic shortages of time or money or lower educational attainment could be responsible.

III. Potential Explanations of Race- and Ethnicity-Related Disparities

Two possible explanations for the large and persistent differences across racial and ethnic groups that we have been discussing are differences in the age composition of the groups and differences in educational attainment of the groups. Other researchers have examined the potential effects of current and/or historical discrimination, cumulative disadvantage, early childhood learning experiences, genetic characteristics, prenatal environments and other factors on levels of wealth in adulthood. These explanations, however, fall beyond the scope of our expertise and our ability to assess them based on the Fed's Survey of Consumer Finances. Accordingly, this section focuses on how age and educational attainment may contribute to racial and ethnic disparities in family wealth.

Figure 8. Scatterplot of Group's Share of Total Assets in Safe and Liquid Assets against Group's Financial-Health Score (r=0.79)

Y-axis: 1992-2013 average of group's share of total assets held in safe and liquid assets in each survey, in percent

X-axis: Group average financial-health score, 1992-2013

Figure 9. Scatterplot of Group's Share of Total Assets in Financial and Business Assets against Group's Financial-Health Score (r=0.59)

Y-axis: 1992-2013 average of group's share of total assets held in financial and business assets in each survey, in percent

X-axis: Group average financial-health score, 1992-2013

Each diamond represents one of the 48 groups we defined on the basis of age, educational attainment and race or ethnicity. The scatterplot illustrates the relationship between a group's average financial-health score and the liquidity of the typical family's balance sheet in that group. The straight line is an estimate of the underlying relationship between financial health and the liquidity ratio. The simple correlation co-efficient between these measures is 0.79, which is very high; correlation estimates vary between -1.00, perfect negative correlation, and 1.00, perfect positive correlation. This scatterplot suggests that a group with a high average financial-health score is very likely also to have a relatively high ratio of safe and liquid assets to total assets.

A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health. Scores are the average of eight waves of the SCF, between 1992 and 2013. See Sidebar 3 for more information.

A group's mean share of safe and liquid assets in total assets is a measure of the typical family's balance-sheet liquidity in a demographically defined group, as described below. A higher group mean share means that the typical family in the group has a larger stock of assets that it can sell to raise cash quickly at low cost.

The plot's 48 unique group combinations are defined by:

• Three age groups: younger than 40, 40-61, and 62 and over;

• Four education groups: less than high school diploma, high school or GED diploma, two- or four-year college degree only, and graduate or professional degree;

• Four racial and ethnic groups: black, Hispanic, Asian or white.

Each diamond represents one of the 48 groups we defined on the basis of age, educational attainment and race or ethnicity. The scatterplot illustrates the relationship between a group's average financial-health score and a measure of the asset diversification of the typical family's balance sheet in that group. The straight line is an estimate of the underlying relationship between financial health and asset diversification. The simple correlation co-efficient between these measures is 0.59, which is moderately high; correlation estimates vary between -1.00, perfect negative correlation, and 1.00, perfect positive correlation. This scatterplot suggests that a group with a high average financial-health score is somewhat likely also to have a relatively well-diversified portfolio of assets.
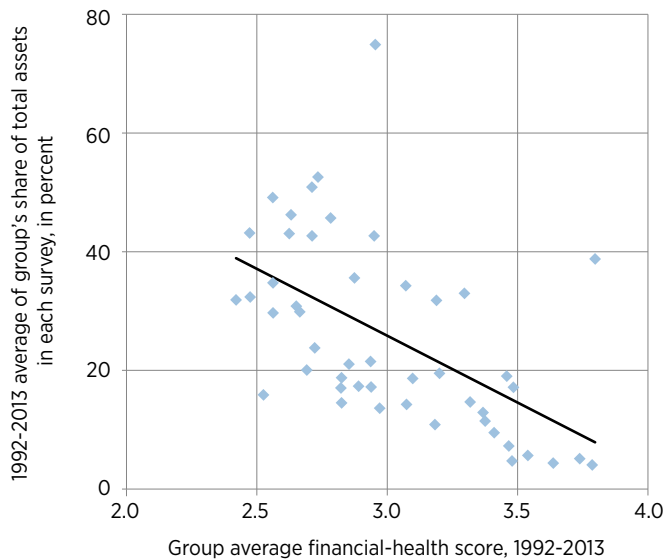
A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health. Scores are the average of eight waves of the SCF, between 1992 and 2013. See Sidebar 3 for more information.

A group's mean ratio of financial and business assets to total assets is a measure of the typical family's balance-sheet diversification in a demographically defined group, as described below. A higher group mean share means that the typical family in the group has a more diversified balance sheet that tends to produce higher financial returns with less risk than a balance sheet with less diversification.

The plot's 48 unique group combinations are defined by:

• Three age groups: younger than 40, 40-61, and 62 and over;

• Four education groups: less than high school diploma, high school or GED diploma, two- or four-year college degree only, and graduate or professional degree'

• Four racial and ethnic groups: black, Hispanic, Asian or white.

Figure 10. Scatterplot of Group's Ratio of Total Debt to Total Assets against Group's Financial-Health Score (r=−0.55)

Each diamond represents one of the 48 groups we defined on the basis of age, educational attainment and race or ethnicity. The scatterplot illustrates the relationship between a group's average financial-health score and a measure of the leverage (in other words, the degree of debt financing) of the typical family's balance sheet in that group. The straight line is an estimate of the underlying relationship between financial health and leverage. The simple correlation co-efficient between these measures is -0.55, which is moderately strong; correlation estimates vary between -1.00, perfect negative correlation, and 1.00, perfect positive correlation. This scatterplot suggests that a group with a high average financial-health score is somewhat less likely also to have a relatively large amount of debt compared to its assets.

A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health. Scores are the average of eight waves of the SCF, between 1992 and 2013. See Sidebar 3 for more information.

The group mean ratio of total debt to total assets is a measure of the typical family's balance-sheet leverage in a demographically defined group, as described below. A higher group mean ratio means that the typical family in the group has more debt per dollar of assets, which amplifies changes in the value of assets into a proportionately larger change in the family's net worth.

The plot's 48 unique group combinations are defined by:

- Three age groups: younger than 40, 40-61, and 62 and over;

- Four education groups: less than high school diploma, high school or GED diploma, two- or four-year college degree only, and graduate or professional degree;

- Four racial and ethnic groups: black, Hispanic, Asian or white.

Why differences in age and educational attainment might explain financial disparities. There are clear life-cycle patterns in family income, wealth, financial health and financial choices. In particular, income, wealth and financial-health scores typically rise as we observe people at older ages. Their balance-sheet choices also become more conservative. Income typically declines in old age, but wealth and financial health often do not decline until very advanced ages.[16] Thus, two groups that differ in age composition—for example, one group is much older than another, on average—could differ on measures of financial health or wealth even if individuals of the same age were identical across groups.

Just as the white population is, on average, older than the other three racial and ethnic groups, which tends to increase measured financial health, whites also have above-average educational attainment. There is a strong correlation between education level and financial health, financial choices and financial outcomes. So two groups that differ in educational attainment—for example, one group has a much higher rate of college completion than another—could differ on measures of financial health or wealth even if individuals with the same level of education were identical across groups.

To evaluate the importance of these factors, we performed counterfactual exercises that isolated the role of age and educational-attainment differences across groups in turn. These exercises provided answers to the following questions:

1) What would the overall average financial-health score be for each race and ethnic group if the actual age-specific scores remained the same, but the share of families in each age range (young, middle-aged and old) were assumed to be identical to that of the white population?

2) What would the overall average financial-health score be for each race and ethnic group if the actual scores of families with each level of educational attainment remained the same, but the

Table 4. Average Group Financial-Health Scores among Middle-Aged Families with Advanced Degrees (40-61)

	1992	1995	1998	2001	2004	2007	2010	2013	Average of 1992-2013
Asian	3.55	3.26	3.27	3.93	3.23	3.48	3.67	3.49	3.49
White	3.46	3.35	3.24	3.49	3.44	3.40	3.33	3.29	3.38
All families w/graduate or professional degree	3.39	3.27	3.21	3.45	3.39	3.39	3.28	3.22	3.33
Hispanic	2.71	2.73	3.17	2.66	2.99	3.51	2.74	2.97	2.94
Black	2.63	2.18	2.61	3.13	3.06	3.07	2.64	1.99	2.66

A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health.

Table 5. Hypothetical Financial-Health Scores Assuming All Groups Have Same Age Distribution

Effect of Population Distribution on Average Financial-Health Scores						
	Average financial-health score, 1992-2013	Percent of group under 40, 1992-2013	Percent of group 40-61, 1992-2013	Percent of group 62 and older, 1992-2013	Hypothetical financial-health score if population distribution matched white	Discrepancy due to age distribution: Percent of actual gap eliminated if population matched white
White	3.109	29.2	41.5	29.2	3.109	–
Asian	3.125	38.7	45.9	15.5	3.162	*
Hispanic	2.707	49.4	39.9	10.7	2.762	13.8%
Black	2.630	38.4	41.1	20.5	2.649	4.0%

A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health.

* The actual average Asian score is 0.016 point higher than the average white score before making any adjustments. Imposing the white population distribution on the age-based set of Asian scores would increase the Asian advantage to 0.053 points.

share of families at each educational-attainment level (no high-school diploma, high-school diploma or GED, a two- or four-year college degree only, and a graduate or professional degree) were assumed to be identical to that of the white population?

The role of a group's age composition. Figure 11 shows the average financial-health scores of the four racial and ethnic groups overall and broken out into three age groups, corresponding to young, middle-aged and older family heads. All racial and ethnic groups show relatively small differences between younger and middle-aged scores but relatively large differences between middle-aged and older-aged scores. Figure 12 presents the same data expressed as percent deviations for each age and race or ethnic group from their white counterparts.[17]

Table 5 provides our estimates of the quantitative importance of age-composition differences in explaining different financial-health scores. The first column lists actual average scores by racial and ethnic group, using data from eight waves of the

Figure 11. Average Financial-Health Score by Age of Family Head and Racial and Ethnic Group
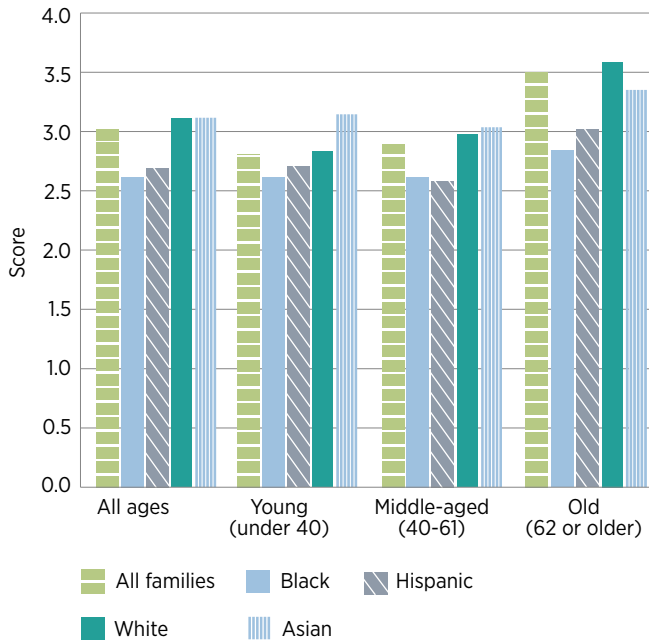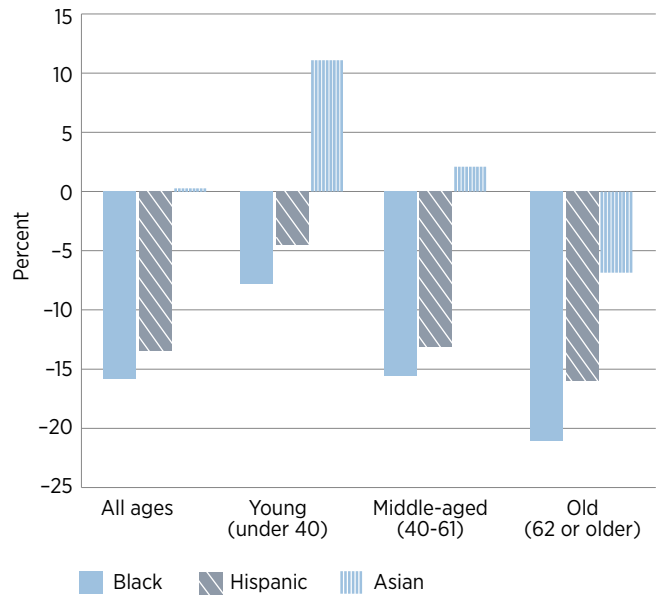

Figure 12. Percent Difference between Average Financial-Health Score of Nonwhite Groups and Whites by Age of Family Head

A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health. Scores are the averages from eight waves of the SCF, between 1992 and 2013. See Sidebar 3 for more information.

SCF. The second through fourth columns show the actual age distributions for each group. Column 5 shows the hypothetical average financial-health scores that would result if each of the other three groups had exactly the same age distribution as whites. The actual age- and race/ethnicity-specific financial-health scores found in the data were assumed to be unchanged for purposes of this exercise. (See Figure 11 for these scores.)

The final column of Table 5 shows that about 13.8 percent of the Hispanic-white financial-health score gap can be attributed to the different population age structures, while about 4.0 percent of the black-white gap is due to differing population age structures. Different age structures, therefore, are a measurable but minor factor in explaining the overall score differences for blacks and Hispanics vs. whites.

The overall Asian financial-health score already was slightly higher than that of whites. Imposing the white population's age structure on Asian age-specific financial-health scores would raise the advantage of Asians over whites from 0.016 to 0.053 points. Thus, all three nonwhite groups' financial-health scores are understated a small amount due simply to differences in the age composition of each group. Most of the differences apparently are due to something else, however.

The role of a group's educational attainment. Figure 13 shows average financial-health scores for race and ethnicity groups overall and broken down by levels of educational attainment. Figure 14 shows the percent score differences between each nonwhite group and its education-level-matched white counterpart group.

Table 6. Hypothetical Financial-Health Scores Assuming All Groups Have Same Educational Attainment

	Effect of Educational Attainment on Average Financial-Health Scores						
	Average financial-health score (FHS), 1992-2013	Percent of group with less than high school, 1992-2013	Percent of group with high school or GED only, 1992-2013	Percent of group with 2- or 4-year college degree only, 1992-2013	Percent of group with graduate or professional degree, 1992-2013	Hypothetical FHS score if educational attainment matched white	Discrepancy due to age distribution: Percent of actual gap eliminated if population matched white
White	3.109	11.5	50.2	26.0	12.3	3.109	–
Asian	3.125	9.9	38.0	30.7	21.4	3.046	*
Hispanic	2.707	39.1	44.9	12.1	3.9	2.741	8.6%
Black	2.630	20.5	56.3	17.0	6.2	2.640	2.1%

A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health.

* The actual average Asian score is 0.016 point higher than the average white score before making any adjustments. Imposing the lower white educational attainment on Asians makes the average Asian score 0.078 points lower. This is because Asians have higher educational attainment; hypothetically reducing their amount of education reduces their average financial-health score because less-educated families have lower scores.

Figure 13. Average Financial-Health Score by Educational Attainment of Family Head and Racial and Ethnic Group
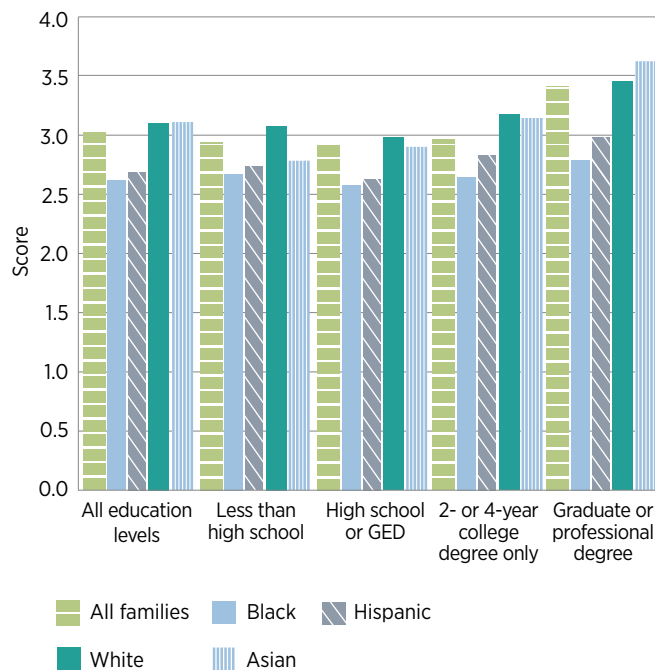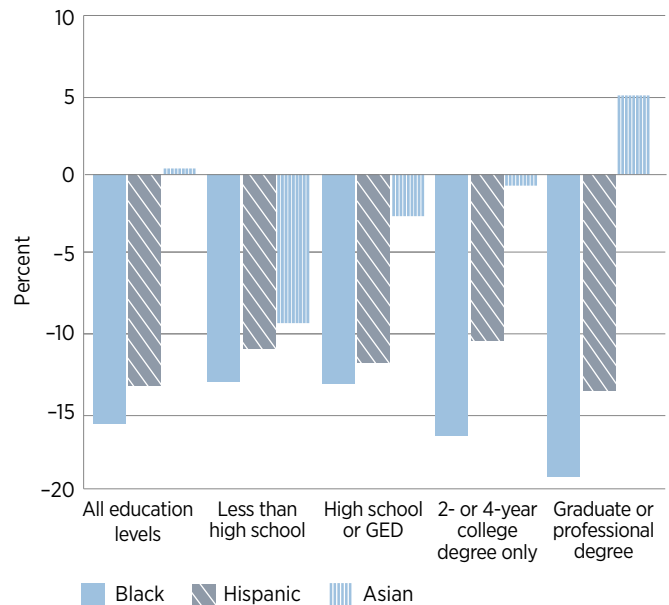

Figure 14. Percent Difference between Average Financial-Health Score of Nonwhite Groups and Whites by Educational Attainment of Family Head

A family's score on the financial-health scorecard is the sum of the individual scores to questions listed in Table 2, with a range of zero to five. A score of five indicates the highest financial health, with a score of zero indicating the lowest financial health. Scores are the averages from eight waves of the SCF, between 1992 and 2013. See Sidebar 3 for more information.

Analogous to the larger gaps in measured financial health between Hispanics and blacks at successively older ages compared with the scores of whites (Figures 11 and 12), the Hispanic and black financial-health shortfalls from white levels generally are larger at higher levels of educational attainment, as well. The pattern is reversed for Asians, culminating in a higher financial-health score among Asians with graduate or professional degrees than their white counterparts.

 Table 6 shows the results of assuming that all three nonwhite groups had educational-attainment levels identical to those of whites. We assumed the actual financial-health scores for each race and ethnicity at each education level (see Figure 13) remained unchanged. The results of the exercise are in the last two columns. The hypothetical mean overall financial-health scores for Hispanics and blacks increased slightly, eliminating 8.6 percent of the gap for Hispanics and 2.1 percent of the gap for blacks. The effect went the opposite way for Asians because their actual educational attainment is higher than that of whites. Imposing a lower average level of education on the Asian population causes their hypothetical mean financial-health score to decline to a 0.063 point shortfall compared to whites. This is because families with less education have lower financial-health scores. As was true for age distributions, differing levels of educational attainment across groups appear to explain little of the financial-health score differences we observe.

Conclusions

We document profound and persistent differences in financial behaviors and financial outcomes across racial and ethnic groups in the United States during the past quarter-century. Whites and Asians typically score higher on our measure of financial health than Hispanics or blacks. Similarly, whites and Asians generally have more financially conser-

vative balance sheets and accumulate much more wealth than Hispanics and blacks.

We find that differences in the age composition and in the level of educational attainment across groups explain relatively little of the gaps. Indeed, race- and ethnicity-related financial-health disparities are greatest among older and better-educated groups, where financial health and wealth generally are at their highest levels.

While black-white and Hispanic-white gaps in educational attainment, family income, financial health and wealth remain largely unchanged (on balance) or have worsened since 1989, Asian-white gaps are diminishing or, on some measures, have been eliminated. Greater focus on the causes of upward mobility of many Asian families may provide insights into the lack of mobility observed in other groups. ■

In the spring and summer of 2015, other essays in this series will be published, including those on the roles that age and education play in the accumulation of wealth. Look for these on the website of the Center for Household Financial Stability at **www.stlouisfed.org/hfs**. There, you will also find a short video summarizing each of the essays in this series.

Endnotes

1. Data in this article are from the Federal Reserve's Survey of Consumer Finances (SCF) unless otherwise noted; totals do not equal 100 percent due to rounding.
2. See the appendix in Bricker (see References) for a detailed discussion of the methodology in the SCF for assigning racial and ethnic classifications.
3. See Bricker et al.
4. See Census Bureau, homeownership rates.
5. Data are from the Census Bureau for 2013. We focus on the 35-39 age group because those in this group are old enough to capture the completed formal educational experience of the vast majority of adults and they are young enough to reflect much of the ongoing rise in educational attainment across successive birth-year cohorts. See Census Bureau, educational attainment.
6. A statistical curiosity worth noting is that the median wealth levels of all four groups were higher in 2013 than in 1989, while the overall median was lower: $81,456 in 2013 vs. $85,575 in 1989. This is possible, for example, when groups with relatively low wealth increase as a share of the population, bringing down the overall median.
7. There are, of course, many ways to compare distributions, but several other approaches lead to the same conclusion. Using the mean rather than the median, mean Hispanic wealth declined between 1989 and 2013 from 20 to 17 percent of mean white wealth, while mean black wealth declined from 18 to 14 percent. The median Hispanic wealth in 1989 would rank in the 17th percentile of the white distribution, rising only to the 22nd percentile by 2013. The median black wealth in 1989 would rank in the 16th percentile of the white distribution, rising to the 20th percentile in 2013.
8. We show middle-aged families, defined as those headed by someone aged between 40 and 61, because they are the most likely among all broad age groups to have both some debt and a positive net worth.
9. Emmons and Noeth (2013, pp. 364-66) explain this argument, which was proposed in Lusardi, Michaud and Mitchell.
10. See Emmons and Noeth (2013, Tables 1 and 2) for evidence from the Survey of Consumer Finances that financial assets have produced much higher returns than housing over long time periods.
11. We show the mean, rather than the median, debt-to-assets ratio because the median behaves erratically in the presence of many families with very low levels of assets and large debts.
12. See Emmons and Noeth (2014b) for more discussion of the scorecard and its correlation with wealth accumulation.
13. We excluded 1989 because it did not contain a satisfactory version of the first question in our scorecard.
14. The questions in the text are paraphrases; the precise wording of the questions is in Table 2.
15. Mullainathan and Shafir suggest that a scarcity of time and money—leading to "cognitive overload" and emotional distress—can cause the quality of financial decision-making to deteriorate, independent of one's inherent unstressed financial decision-making capability.
16. See Emmons and Noeth (2014a).
17. Emmons and Noeth (2013) show that balance-sheet choices follow the same pattern of differences as financial-health scores. In particular, older families hold more liquid, better diversified and less-leveraged balance sheets than younger and middle-aged families. This is true among all racial and ethnic groups.

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