

Changes in Stock Ownership by Race/Hispanic Status, 1998-2004

In 2004, 57% of White households directly and/or indirectly owned stocks, compared to less than 26% of Black households and 19% of Hispanic households. Counting both direct and indirect stock ownership, the stock ownership rate of Blacks doubled between 1992 and 2001 and the Hispanic rate was 2.5 times as high in 2001 as in 1992. However, minority stock ownership rates decreased substantially between 2001 and 2004, while White stock ownership rates remained about the same. This paper uses the 1998, 2001, and 2004 Surveys of Consumer Finances to analyze factors related to stock investment ownership rates over the 1998-2004 period. Based on a logistic regression model, Black households had the same predicted stock ownership rates in 1998 and 2001 as White households that were otherwise similar in terms of income, net worth, risk tolerance, and other characteristics, but in 2004 Black households had significantly lower predicted stock ownership rates than White households. Hispanic households had lower predicted stock ownership rates than White households in all three survey years, but the predicted difference was much smaller in 2001 than in 1998 and 2004. Implications for financial education are discussed.

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Black and Hispanic households have much lower net worth than White households, and the disparities have not decreased much during the past 20 years. The lower risk tolerance of minority households and the lower likelihood for middle and upper income minority households to invest in stocks and other high return investments, might contribute to the lack of progress in narrowing the net worth gaps. In 2004, the ratios of median and mean net worth for non-Hispanic White households to the corresponding levels for minority households were higher than the same ratios in 1995 (Bucks, Kennickell, & Moore, 2006), indicating no improvement in the relative position of minority households over that time period.

The lower stock ownership rates of Black and Hispanic households are due partly to their lower average income levels. Based on multivariate analyses, Gutter, Fox and Montalto (1999) and Coleman (2003) suggested that Black households with income and other characteristics comparable to average White households might have similar investment patterns. However, between 1995 and 2001, while stock ownership rates by minority households grew much more rapidly than for non-Hispanic White households (Aizcorbe, Kennickell, & Moore, 2003; Kennickell, Starr-McCluer, & Sundén, 1997; Kennickell, Starr-McCluer, & Surette, 2000) rates for minority households dropped substantially by 2004. In contrast, ownership rates for non-Hispanic White households actually increased slightly between 2001 and 2004 (Bucks, Kennickell, & Moore, 2006).

The objective of this study is to analyze causes of the recent drop in minority stock ownership rates. Understanding the change in trends is important because stock investments are superior to other financial investments for long-term investing. All households with long-term investing goals should have stock investments or other high return investments such as investment real estate or investments in businesses, and if minority households do not have such investments, the wealth gap could increase despite improvements in education and income.

Literature

Stocks Versus Other Risky Investments

All households with long-term investment goals should have some stock investments (Hanna & Chen, 1997). In terms of investments easily chosen by average workers through individual retirement accounts or employer provided defined contribution plans, stocks represent a good choice for long-term investing. Over 90% of individual retirement accounts funds are in financial assets (Investment Company Institute, 2006). Publicly traded Real Estate Investment Trusts (REITS) have a total value just over 2% of the total market capitalization of all U.S. stocks (National Association of Real Estate Investment Trusts, 2006; New York Stock Exchange, 2007). Even though investment in real estate may be a good alternative to stocks in terms of expected returns and correlation with stock investments (National Association of Real Estate Investment Trusts, 2007), most real estate investments represent very different issues and knowledge requirements for households compared to stock investments.

Investment in one's own business also may have a high expected return, but the decision to invest in one's own business represents a very different decision than the decision to invest in stock investments. The decision to own stocks represents a combination of choices including whether to have investments, which might be based on lifecycle considerations, and how much risk one can tolerate. Familiarity with financial markets may be important in that decision. Therefore, in this research, we focus on whether households have any stock investments, directly and/or through mutual funds.

All researchers have found that Black and Hispanic households are less likely than White households to own risky assets than White households. Previous research has also found that Black and Hispanic respondents are less willing to take investment risk than White respondents. The level of investment risk a household is willing to take has implications for the household's financial behavior and future well being. Owning high return investments is necessary for households to be able to reach long term goals such as having a comfortable retirement. An appropriate level of risk tolerance is important both for long term investment choices. Coleman(2003) analyzed the 1998 Survey of Consumer Finance (SCF) dataset and found that Blacks and Hispanics were more likely to choose the "no risk" response on the SCF risk tolerance question than were White households that were otherwise similar in gender, marital status, education, age, and family size. However, when she also controlled for net worth, she found that Blacks were not significantly different from similar Whites in willingness to take some risk versus no risk. Coleman did find that Hispanics were significantly different from Whites when she added net worth to her analysis.

Yao, et al. (2005) analyzed racial/ethnic differences in risk tolerance with a combined sample of the 1983 to 2001 SCF datasets. Based on a means test on the SCF risk tolerance variable, they found that Blacks and Hispanics were less willing to take investment risk than Whites. They found that even after controlling for income, education, and other characteristics with a logistic regression, Blacks and Hispanics were less willing to take investment risk than Whites.

Yao, Gutter, and Hanna (2005) discussed possible cultural and information availability issues related to racial/ethnic differences in risk tolerance. They suggested that financial companies may target minority households less for marketing of investment products, leading to lower investment risk tolerance. Minority households might also have less trust in financial institutions than White households due to experiences with discrimination.

Portfolio theory in finance has a focus on the risky asset proportion of investments, with the optimal proportion of risky assets for a household depending on its risk aversion level. Schooley and Worden (1996) analyzed the risky asset proportion of total wealth using the 1989 SCF dataset. However, they used an idiosyncratic definition of risky assets, including human wealth as a risky asset, based on the idea that the cash flow from human wealth was uncertain. Based on that definition, they found that White households had lower risky asset ratios than otherwise similar households with respondents in other racial/ethnic groups. The finding may be due to the unusual definition of risky assets. The usual definition of risky assets in discussion of portfolio choice includes stocks and direct business ownership (e.g., Gutter & Fontes, 2006; Gutter et al., 1999), and some authors have also included investment real estate other than one's personal residence (Coleman, 2003; private communication, 2006).

Coleman (2003) found that after controlling for net worth, Blacks in 1998 were not significantly different from Whites in the risky asset proportion of assets, but that Hispanics had a significantly lower predicted risky asset proportion than Whites. Gutter and Fontes (2006) found that of Black and White households that owned some risky assets in 2004, there was no significant difference between Blacks and Whites in the risky asset proportion of assets, controlling for net worth, income, and other characteristics. However, there was a significant difference between Blacks and Whites in risky asset ownership, even after controlling those characteristics, so the risky asset ratio seems to be less important in racial differences than whether or not households own some type of risky asset.

Xiao (1996) found that Whites in 1989 were more likely than otherwise similar Blacks, Hispanics, and those in other groups (including Asian Americans) to directly own stocks. Gutter, et al. (1999) found that Whites in 1995 were more likely to own risky assets than Blacks, and the risky asset ownership gap persisted even after controlling for other variables. When they also controlled for interaction terms between a dummy variable for Black and other independent variables, race did not have a significant effect by itself, and the only interaction terms that were significant were those involving household composition. However, the interaction method used by Gutter et al. (1999) is not conclusive, as they did not report a test of multicollinearity, so it is not clear whether any particular effect lacked significance because of a true lack of effect or because of a correlation with combinations of other variables (Kennedy, 1998, 184-193).

Wang and Hanna (2006) found in their analysis of a combination of the 1992 to 2001 SCF datasets that Whites had higher stock ownership than Blacks, Hispanics and those in other groups, even after controlling for income, risk tolerance, and other characteristics. Gutter and Fontes (2006) found that Blacks were significantly less likely than Whites to own risky assets, after controlling for income, net worth, and other household characteristics. In their interaction model, race did not have a significant separate effect on predicted risky asset ownership.

However, their interpretation of their findings from the interaction model is questionable, given the possibility of multicollinearity.

Methods

The racial/ethnic category represents the self-identification of the respondent, which is not necessarily the category that would be chosen by other household members. The SCF has no information on the racial/ethnic identification of household members other than the respondent. To streamline discussion, in some parts of our discussion we simply refer to households (e.g., White households,) and not the technically more accurate term households with a White respondent. The racial/ethnic categories used in this paper are White, Black, Hispanic, and Other/Asian.³

The dependent variable is dichotomous: Did household have any stock investments, directly or through mutual funds, including in retirement accounts?

In order to test for whether predicted stock ownership changed for Blacks and Hispanics between 1998 and 2004, interaction terms for racial/ethnic categories and survey year were included in a logistic regression (logit) analysis. With a large number of independent variables, multicollinearity can result in insignificant effects for some variables that really have effects on the dependent variable. One technique for reducing this impact of multicollinearity is stepwise entry of independent variables, as was done by Chien and DeVaney (2001). We report the results of a stepwise logistic regression, but a non-stepwise logistic regression produced similar results. Discussion of the stepwise results is much easier than discussion of the non-stepwise results, which requires consideration of a combination of effects of terms. A list of all independent variables used for the stepwise logit is at the bottom of Table 3.

Results

Descriptive Analyses of the 1992-2004 Surveys of Consumer Finances

Table 1 shows the results of analyses of the 1992-2004 Surveys of Consumer Finances (SCF). The patterns for 1992 to 2004 in Table 1 show persistent gaps between Whites and other groups in direct or indirect stock ownership, which is illustrated in Figure 1. However, the growth in stock ownership between 1992 and 2001 was much higher for minority households than for White households. The White stockownership rate in 2001 was 1.3 times the 1992 rate, while the Black rate was twice the 1992 rate, the Hispanic rate was 2.5 times the 1992 rate, and the Other/Asian rate was 1.9 times the 1992 rate. However, the stock ownership rates in 2004 were significantly lower than the rates in 2001 for each minority group, while the White rate did not significantly change between 2001 and 2004.

Table 2 shows selected household characteristics for the four race/ethnic groups in 2004. Households with White respondents had higher income, net worth, and were more educated than households with Black or Hispanic respondents. Over 63% of White respondents were willing to take some risks with investments, compared to 43% of Black respondents and 35% of Hispanic respondents.

Table 1

Stock Ownership by Race/Ethnic Category, 1992-2004

	Percent Distribution	Own Stocks Directly and/or Indirectly	Own Any Risky Asset
2004 SCF (traditional one question variable)			
White	73.6%	56.7% ^{BCD}	63.7% ^{BC}
Black	13.6%	25.5% ^{AD}	32.6% ^{AD}
Hispanic	9.2%	18.7% ^{AD}	26.7% ^{AD}
Other, including Asian	3.7%	45.9% ^{ABC}	60.5% ^{BC}
2001 SCF			
White	76.3%	57.5% ^{BC}	65.2% ^{BC}
Black	13.0%	34.2% ^{AD}	39.2% ^{AD}
Hispanic	7.9%	28.0% ^{AD}	31.6% ^{AD}
Other, including Asian	2.7%	51.7% ^{BC}	57.2% ^{BC}
1998 SCF			
White	77.7%	54.4% ^{BCD}	62.7% ^{BCD}
Black	11.9%	30.2% ^{AD}	36.6% ^{ACD}
Hispanic	7.2%	21.3% ^{AD}	26.6% ^{ABD}
Other, including Asian	3.2%	46.9% ^{ABC}	53.0% ^{ABC}
1995 SCF			
White	77.7%	45.0% ^{BCD}	56.9% ^{BCD}
Black	12.8%	19.6% ^{ACD}	27.8% ^{ACD}
Hispanic	5.6%	24.4% ^{ABD}	32.4% ^{ABD}
Other, including Asian	4.0%	38.7% ^{ABC}	45.9% ^{ABC}
1992 SCF			
White	75.3%	43.1% ^{BC}	55.5% ^{BCD}
Black	12.6%	17.2% ^{ACD}	23.8% ^{AD}
Hispanic	7.5%	11.4% ^{ABD}	20.8% ^{AD}
Other, including Asian	4.6%	26.6% ^{BC}	40.2% ^{ABC}

Based on authors' calculations, weighted analyses of Surveys of Consumer Finances datasets, using RII technique with all implicates.

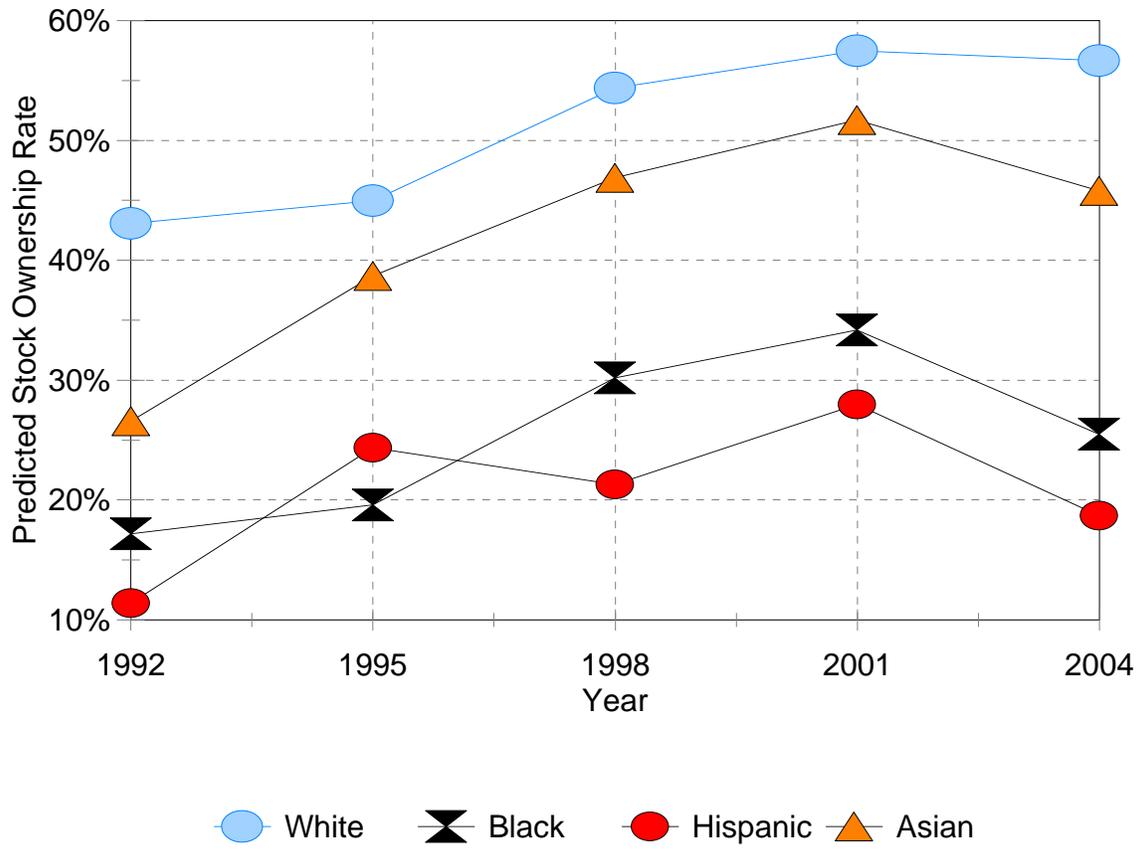
^A Significantly different from White at 0.05 level or better in that survey year

^B Significantly different from Black at 0.05 level or better in that survey year

^C Significantly different from Hispanic at 0.05 level or better in that survey year

^D Significantly different from Other at 0.05 level or better in that survey year

Figure 1
Direct and/or Indirect Stock Ownership by Racial/Ethnic Category, 1992-2004 SCF



Created by authors based on analyses of the 1992-2004 Surveys of Consumer Finances.

Table 2
Selected Household Characteristics, by Race/Ethnic Category, All Households, 2004

Variable	Means or Proportions for Each Group			
	Black	Hispanic	Other/ Asian	White
Respondent's age	47.1	41.8	45.4	50.4
Household size	2.4	3.4	3.1	2.4
Household income	39,112	39,460	78,145	79,940
Per capita household income	20,030	13,939	28,849	36,935
Net worth	110,608	126,576	378,319	553,711
Total household assets	153,392	179,528	502,958	640,469
Non-financial assets	116,305	146,842	383,463	401,593
Retirement financial assets	19,010	9,981	50,843	74,602
Debt of all types	42,784	52,952	124,639	86,758
Own home	50.2%	47.7%	57.6%	75.8%
Own stocks directly and/or indirectly	25.5%	18.6%	45.9%	56.7%
Willing to take some risks with investments	42.7%	34.8%	54.8%	63.4%
Respondent has < high school degree	20.4%	43.5%	5.0%	9.1%
Respondent has college degree	26.8%	11.9%	54.9%	41.5%
Respondent female	67.5%	52.4%	44.3%	53.4%
Weighted percent of households	13.6%	9.2%	3.7%	73.6%

Table created by authors, using weighted analyses of all five implicates of the 2004 Survey of Consumer Finances.

Logit Results

Table 1 shows the final variables for a stepwise logit with entry at the 0.05 level of significance. Black households have the same predicted stock ownership rates in 1998 and 2001 as White households that were otherwise similar in terms of income, net worth, risk tolerance, and other characteristics, but have significantly lower predicted stock ownership rates than White households in 2004. Hispanic households have lower predicted stock ownership rates than White households in all three survey years, but the predicted difference is much smaller in 2001 than in 1998 and 2004.

Predicted stock ownership increases with education, and is higher for those under 35 than for other age groups, although there is neither a linear nor quadratic pattern based on the effects for the dummy variables for age. Differences in net worth levels below \$200,000 have no significant effects on stock ownership, but predicted stock ownership increases with net worth above that level. Predicted stock ownership tends to increase with income. Households with above average risk tolerance have higher predicted stock ownership than households willing to take average or substantial risk.

Table 3
Logistic Analysis of Stock Ownership

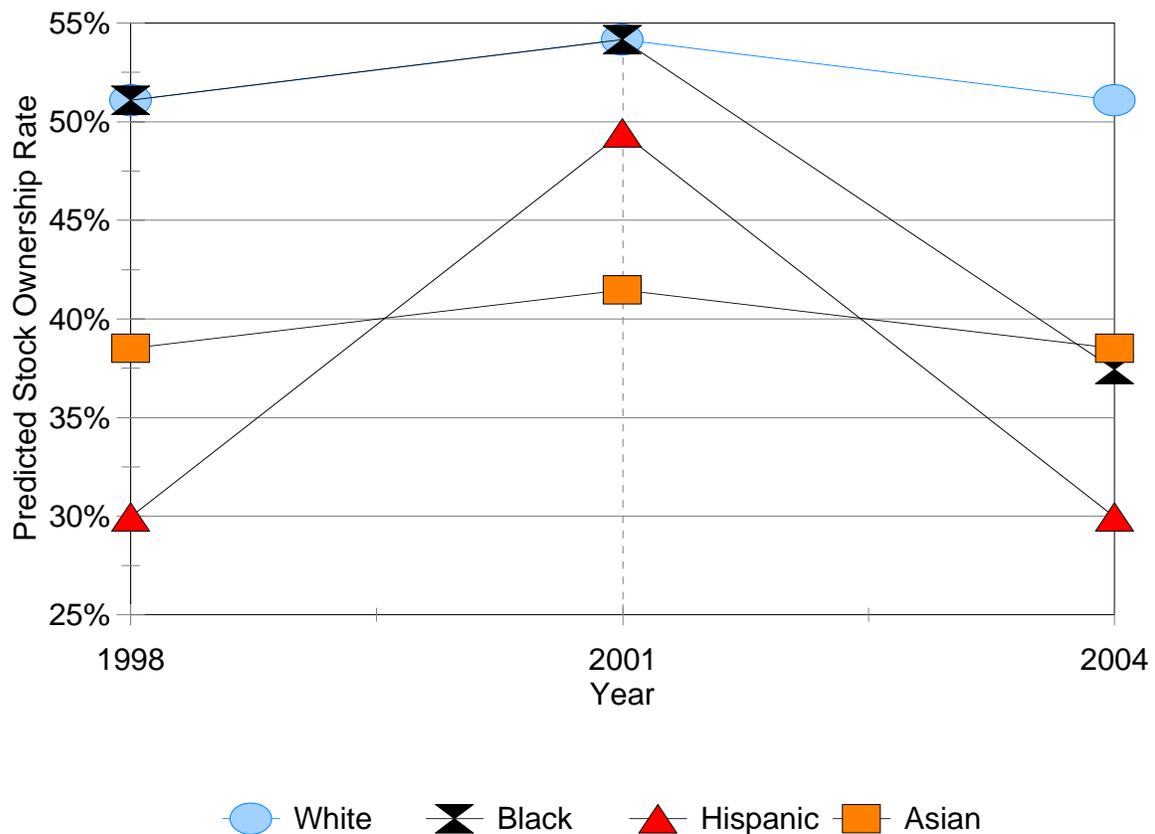
Parameters	Coefficients
Intercept	-8.0029 ***
Risk tolerance level of respondent: reference category = willing to take average or substantial risk	
No risk	-1.0017 ***
Above average risk	0.4436 ***
Racial/ethnic group: reference category = White	
Hispanic	-0.8927 ***
Asian, other groups	-0.5114 ***
Black, 2004 Survey	-0.5569 ***
Hispanic, 2001 Survey	0.7033 **
Year of survey: reference category = 1998, 2004	
Year 2001	0.1235 *
Education of respondent: reference category = less than high school diploma	
High school diploma	0.4881 ***
Some college	0.6431 ***
College degree	0.9429 ***
Financial assets > monthly income	
Reference category = income < \$10,000	2.4275 ***
\$10,000 ≤ household income < \$15,000	0.5761 **
\$15,000 ≤ household income < \$20,000	0.7681 ***
\$20,000 ≤ household income < \$25,000	1.3633 ***
\$25,000 ≤ household income < \$30,000	1.3728 ***
\$30,000 ≤ household income < \$40,000	1.6140 ***
\$40,000 ≤ household income < \$50,000	1.7889 ***
\$50,000 ≤ household income < \$60,000	1.9874 ***
\$60,000 ≤ household income < \$80,000	1.9936 ***
\$80,000 ≤ household income < \$120,000	2.1075 ***
Household income ≥ \$120,000	2.6661 ***
Reference category: Net worth < \$200,000	
\$200,000 ≤ net worth < \$500,000	0.5068 ***
\$500,000 ≤ net worth < \$700,000	0.8248 ***
Net worth ≥ \$700,000	1.0219 ***
Homeowners: reference category=renters	
	0.3181 ***
Age of respondent: reference category: 45-64	
Age < 35	0.3242 ***
Age 35 – 44	0.1723 *
Age 65 – 74	-0.4016 ***
Age > 74	-0.4255 ***
Concordance Ratio	91.3%

Note: * p<0.05, ** p<0.01, *** p<0.001. Multivariate analyses are unweighted, using RII.
 Estimated by authors based on analysis of 1998, 2001 and 2004 Surveys of Consumer Finances.

Variables included in stepwise procedure in Table 3:

Unwilling to take risk with investments, willing to take above average risk, willing to take substantial risk (original reference category: willing to take average risk);
 Age of respondent under 35, age 35-44, age 45-54, age 55-64, age 65 to 74 (original reference category: age >74);
 Respondent Black, respondent Hispanic, respondent Asian/other (original reference category: White);
 Dummy variables for 2004 and 2001 survey years (original reference category = 1998);
 Interaction variables between 2004 survey year and race/ethnic status variables, interaction variables between 2001 survey year and race/ethnic status variables (original reference category: interaction of race/ethnic status variables and 1998 survey year);
 Household income \$4,000 to \$9,999, income \$10,000 to \$14,999, income \$15,000 to \$19,999, income \$20,000 to \$24,999, income \$25,000 to \$29,999, income \$30,000 to \$39,999, income \$40,000 to \$49,999, income \$50,000 to \$59,999, income \$60,000 to \$79,999, income \$80,000 to \$79,999, income \$80,000 to \$119,999, income \$120,000 and over (original reference category: household income under \$4,000);
 Net worth less than \$0, net worth \$5,000 to \$9,999, net worth \$10,000 to \$29,999, net worth \$30,000 to \$59,999, net worth \$60,000 to \$99,999, net worth \$100,000 to \$199,999, net worth \$200,000 to \$499,999, net worth \$500,000 to \$699,999, net worth \$700,000 and over (original reference category: net worth \$0 to \$4999);
 Education of respondent high school diploma, education some college but no degree, education college degree (original reference category: less than high school diploma);
 Household status: partner couple, never married head, widow(er) head, divorced or separated head (original reference category: married couple);
 Own home (reference category: rent or other);
 Have at least one related child under 19 in household;
 Have financial assets greater than 1 months income;
 Respondent female.

Figure 2
 Predicted Stock Ownership by Racial/Ethnic Category, 1998-2004 SCF



Created by authors based on predicted stock ownership rates calculated from the Table 3 logit results, 1998-2004 SCF. Predicted rates for each group/year combination assuming that all variables other than year and racial/ethnic group were at the levels of the overall sample.

Conclusions

It appears that narrowing of the stock ownership gaps between Blacks and Whites, and between Hispanics and Whites had taken place by 2001, so that Black and Hispanic households with income and wealth levels similar to Whites had come close to White levels of stock ownership. However, by 2004 the gaps had widened, even after many factors such as risk tolerance, net worth, education, and income are controlled. Minority groups in the United States have started investing more recently than Whites, and thus may reacted more strongly to the stock market crash of 2000-2001. Given the superiority of stock investments over other financial investments for long-run investing goals, the substantial reduction in stock investing by Blacks and Hispanics is a problem. Financial education directed at Blacks and Hispanics could improve the chances of these households to achieve retirement and other goals.

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Endnotes

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3. The traditional racial/ethnic question in the Survey of Consumer Finances is:
“Which of these categories do you feel best describe you?”

Then a card is shown that had:

Please list your strongest identification first:

White

Black; African American

Hispanic; Latino

Asian

American Indian; Alaska Native; Native Hawaiian; Other Pacific Islander

Other

Also, the following question was first asked in the 2004 survey:

Do you consider yourself to be Hispanic or Latino in culture or origin?

For that question, 11.2% of the respondents chose Hispanic, even though only 9.2% chose Hispanic in response to the traditional question in the 2004 Survey.

We were interested in comparisons over time, so we had to use the old categories for race/Hispanic status. The differences in 2004 for stock investment ownership based on the old categories versus the new categories were not large.