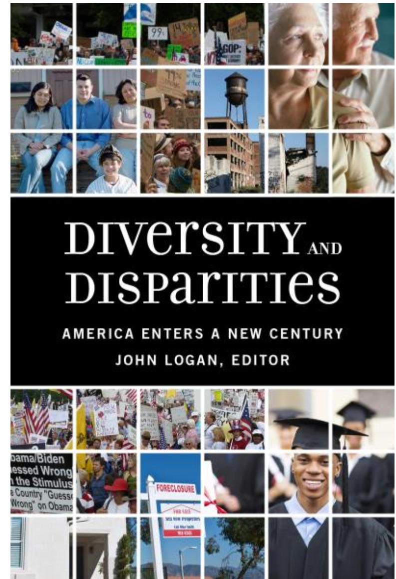

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Chapter 3

The Middle Class: Losing Ground, Losing Wealth

Edward N. Wolff

We Americans see ourselves not so much as a classless society but as a resolutely middle-class one, where ordinary people who work hard, obey the rules, and behave decently will prosper. "Middle-class" connotes not simply income but a mind-set. Americans from a range of incomes and a spectrum of occupations describe themselves as middle-class.

Optimism has been the leitmotif of the middle class—the belief that one generation will "do better" than the next, that a rising tide will lift all boats, that just as our nation's economy grows, so too will our household budgets. From the left and the right, politicians have promised to help the "middle class." For voters who feel shut out of the middle class, particularly the poor and minorities, politicians have promised to broaden opportunities—in short, to close the gap and push them into the middle class.

Until the start of the Great Recession in 2007, statistics on employment, wages, and net worth had buoyed that optimism. Consider the state of the middle class at the start of this millennium. Employment was up; indeed, some firms in parts of the country complained of worker shortages. Two-parent working households bolstered disposable income. More of us owned homes than ever before. A century ago, we were a nation of renters; by 2000, we were a nation of owners. Immigrants, minorities, poor families, and single heads of household all had a chance to buy into the American dream. Those homes, moreover, were growing in value. On paper anyway, a lot of us were wealthy—at least wealthy enough to borrow on those homes. Some of us used our homes as ATM machines. Borrowing was made easy through second mortgages, home equity loans, and credit cards. We could turn on the spigots to buy a second car, a bigger house, more amenities.

The stock market, too, was up, and many of us turned into "investors" ourselves. Not coincidentally, we were segueing from "defined benefit" pensions to "defined contribution" plans like IRAs and 401(k)s.

The financial marketplace emerged as a wondrous, complex creation. Banks were no longer the hometown savings-and-loan from the 1940s. Instead, they had merged into monolithic entities, some headquartered overseas. Furthermore, banks no longer held mortgage loans but sold them to a secondary market, which packaged and repackaged the loans into "tranches" to sell to investment banks and investors all over the globe. With access to capital, banks could make many more loans. And those mortgages evolved. The traditional fixed-rate, long-term mortgage requiring a large down payment gave way to a plethora of products: "no doc" (no documentation required) loans, NINJA (no income, no job, no assets) loans, variable rates, and balloon payments at the end of the loan. If a person had poor credit and could not qualify for "prime" rates,

no problem: a subprime market of lenders rose up to meet demand. Some prime-rate lenders established lucrative subprime businesses.

Yet starting in 2007, that wondrous creation did not look so wonderful. Some homeowners discovered that they could not pay according to the onerous terms of their amazingly cheap mortgages. Some investors discovered that the bad loans in the tranches made their investments worthless. Credit, once so freely available, tightened. Employers cut back. As the country entered what is now called the Great Recession, all those upward-trending statistics fell: stocks, housing prices, employment. Americans watched their personal wealth plummet. The news media reported sad tales of layoffs, bankruptcies, and foreclosures. The financial setbacks of individuals spread to cities and towns. As tax revenues slumped, governments began to retrench on public services, including schools, libraries, recreation, and transportation.

By now we have identified the key culprits. The marketers of mortgages in the subprime market earned commissions based on sales, not on the performance of the loans. Not surprisingly, they made loans to borrowers who could not meet the terms. A subset of subprime lenders—dubbed "predatory" lenders—expressly lured vulnerable people, especially minorities, into taking loans that they could not repay. The credit agencies in charge of rating the bundled mortgages sold to investors failed to do their job. The explosion of easy credit, especially the ubiquitous credit cards, strangled some households with debt. Job losses led to delinquencies and then to foreclosures.

Today, when those once-grim statistics—the stock market, employment, housing—are pushing upward and the economy is moving toward recovery, it is important to assess the losses of the middle class over the Great Recession. This chapter traces the impact of the Great Recession on the middle class, focusing mainly on its financial plight from 2007 to 2010 during one of the sharpest declines in stock and real estate prices. From 1983 to 2007, the debt of the middle class exploded. This chapter charts its further deterioration over the Great Recession, investigating trends in wealth inequality, changes in the racial wealth gap, wealth differences by age, and trends in homeownership rates, stock ownership, and mortgage debt. The period covered spans the years from 1962 to 2010. The choice of years is dictated by the availability of survey data on household wealth. By 2010, we are able to see the fallout from the financial crisis and subsequent recession.

I address seven trends: (1) the overall market fluctuations leading up to and including the Great Recession; (2) the median household wealth of the middle class; (3) the inequality of household wealth; (4) the debt of the middle class, particularly during the Great Recession; (5) homeownership and home equity; (6) stock ownership; and (7) variations in trends by race, ethnicity, and age.

DATA SOURCES AND METHODS

The primary data sources used for this study are the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 Survey of Consumer Finance (SCF), conducted by the Federal Reserve Board. Each survey consists of a core representative sample combined with a high-income supplement. The high-income supplement was selected as a list sample derived from tax data from the Internal Revenue Service (IRS) Statistics of Income (SOI). This second sample was designed to disproportionately select families that were likely to be wealthy.[1] The high-income supplement provides a much "richer" sample of high income and therefore potentially very wealthy families. About two-thirds of the cases come from the representative sample and one-third are drawn from the high-income supplement. In the 2007 SCF, the standard multistage area-probability sample contributed 2,915 cases, while the high-income supplement contributed another 1,507 cases.[2]

The principal wealth concept used here is "marketable wealth" (or "net worth"), which is defined as the current value of all marketable or fungible assets less the current value of debts. Net worth is thus the difference in value between total assets and total liabilities or debt. Total assets are defined as the sum of: (1) owner-occupied housing; (2) other real estate; (3) demand deposits; (4) time and savings deposits, certificates of deposit, and money market accounts; (5) government, corporate, and foreign bonds and other financial securities; (6) the cash surrender value of life insurance plans; (7) the cash surrender value of pension plans, including IRAs, Keogh, and 401(k) plans; (8) corporate stock and mutual funds; (9) net equity in unincorporated businesses; and (10) equity in trust funds. Total liabilities are the sum of: (1) mortgage debt, (2) consumer debt, including auto loans; and (3) other debt, such as educational loans.

This measure reflects wealth as a store of value and therefore a source of potential consumption. Thus, only assets that can be readily converted to cash (that are "fungible") are included. Consumer durables such as automobiles, televisions, and furniture are excluded, since they are not easily marketed. (The resale value of automobiles typically far understates the value of their consumption services to the household.) Also, national accounts consider the purchase of vehicles as expenditures, not savings.[3] As a result, my estimates of household wealth will differ from those provided by the Federal Reserve Board, which includes the value of vehicles in its standard definition of household wealth (see, for example, Kennickell and Woodburn 1999).

Also excluded is the value of future Social Security benefits that the family may receive upon retirement (usually referred to as "Social Security wealth"), as well as the value of retirement benefits from defined benefit (DB) pension plans ("pension wealth"). Even though these funds are a source of future income to families, they are not in families' direct control and cannot be marketed.[4] In contrast, the defined contribution (DC) plans (largely IRAs and 401[k]s) are included. (Including 401[k]s but not IRAs would lead to an understatement of household wealth.)

I used three other data sources. The first is the 1962 Survey of Financial Characteristics of Consumers (SFCC), also conducted by the Federal Reserve Board (see Projector and Weiss 1966). This stratified sample oversamples high-income households. Though the sample design and questionnaire differ from the SCF, the methodology is sufficiently similar to allow comparisons with the SCF data.[5] The second is a synthetic data set, the 1969 Measurement of Economic and Social Performance (MESP) database. A statistical matching technique was employed to assign income tax returns for 1969 to households in the 1970 census of population. Property income flows (such as dividends) in the tax data were capitalized into corresponding asset values (such as stocks) to obtain estimates of household wealth.[6] The third data set is the Panel Study of Income Dynamics (PSID), which spans the years from 1984 to the present and is basically a representative sample with a special supplement on house foreclosures and "distressed" mortgages.

THE GREAT RECESSION SETS IN

To understand the impact of the Great Recession, it is necessary to trace the trajectory from prosperity to hardship through key national statistical shifts.

Homeownership Trends

In the years leading up to the Great Recession, homeownership was on the rise. From 1989 to 2001, the median house price remained virtually the same in real terms.[7] But more Americans were buying homes, and the homeownership rate shot up from 62.8 percent in 1989 to 67.7 percent in 2001, according to data from the SCF.

But house prices did not stay set. Starting in the early part of the twenty-first century (even during 2001's brief recession), house prices suddenly soared. The median price of existing one-family homes rose by 17.9 percent in real terms nationwide from 2001 to 2004. From 2001 to 2007, real housing prices gained 18.8 percent. As the price of housing rose, more Americans recognized the "home" as not just a place to live but a lucrative asset. Aided by an array of "creative" mortgages (including subprime ones), the homeownership rate expanded, from 67.7 percent in 2001 to 68.6 percent in 2007. More Americans were buying into the "American dream" of homeownership.

From 2001 to 2007, mortgage debt grew. With more people buying homes, some with minimal (or no) down payments, the average mortgage debt per household expanded by 59 percent, according to the SCF data. Crucially, outstanding mortgage loans as a share of house value rose from 33.4 to 34.9 percent, despite the 19 percent gain in real housing prices (table 3.4). When house prices collapsed after 2007, many homeowners found themselves "underwater"—that is, with loan balances greater than the value of their homes. High unemployment compounded the misery: many homeowners who lost their jobs became delinquent on their mortgages, followed by foreclosure (table 3.7).

At the end of 2007, the dream (and assets) were problematic. From 2007 to 2010, the median price of existing homes nosedived by 24 percent in real terms.[8] Moreover, for the first time in thirty years the share of households owning their home fell, from 68.6 to 67.2 percent.

Stock Trends

Stocks also fell during the Great Recession, but the trajectory showed a different pattern. During the 1990s, the stock market boomed: the Standard & Poor's (S&P) 500 index showed prices surging 171 percent between 1989 and 2001.[9] Just as homeownership rose, so did stock ownership: by 2001, over half of U.S. households owned stock either directly or indirectly. Thus, by 2001, the statistics signaled a comfortable, even prosperous middle class. In 2000, the stock market peaked. From 2000 to 2007, the market careened: plummeting, then recovering in 2004, then rebounding from 2004 to 2007. From 2001 to 2007, the S&P 500 was up 6 percent in real terms. However, the share of households who owned stock directly or indirectly fell from 52 percent to 49 percent. Then came the Great Recession. Stock prices (the S&P 500 index) crashed from 2007 to 2009 and then partially recovered in 2010, for a net decline of 26 percent in real terms. The stock ownership rate declined to 47 percent.

Employment and Wages

The Great Recession did not depress real wages, but employment plummeted. Median household income also declined sharply as more Americans found themselves jobless. Real wages, after stagnating for many years, had finally grown in the late 1990s. According to BLS figures, from 1989 to 2001 real wages rose by 4.9 percent and median household income in constant dollars inched up by 2.3 percent.[10] Employment also surged over these years, growing by 16.7 percent.[11] The (civilian) unemployment rate remained relatively low, at 5.3 percent in 1989, at 4.7 percent in 2001, with a low point of 4.0 percent in 2000, and averaging 5.5 percent over this time.[12] Real wages then inched up from 2001 to 2007, with the BLS real mean hourly earnings up by 2.6 percent, while median household income gained only 1.6 percent. Employment also grew more slowly over these years, gaining 6.7 percent. The unemployment rate remained low again, at 4.7 percent in 2001 and 4.6 percent in 2007, averaging 5.2 percent over the period.

Real wages picked up from 2007 to 2010: the BLS real mean hourly earnings increased by 3.6 percent. In contrast, median household income in real terms declined by 6.4 percent over this period. The reason was unemployment: the unemployment rate surged from 4.6 percent in 2007 to 10.5 percent in 2010, though it did drop a bit to 8.9 percent in 2011. Employment statistics varied by region and state: Florida and Nevada suffered much more than Indiana, for instance.

Debt Trends

In the years leading up to the Great Recession, the country was morphing into a nation of debtors. Between 1989 and 2001, total outstanding consumer credit in 2007 dollars surged by 70 percent; from 2001 to 2007 it rose another 17 percent.[13] Relaxed credit standards made more households eligible for credit cards. Banks, moreover, expanded credit limits to profit from late-payment fees and higher interest rates. Student loans added to the debt: according to the SCF data, the share of households reporting an educational loan rose from 13.4 percent in 2004 to 15.2 percent in 2007, then to 19.1 percent in 2010.[14] The mean value of educational loans in 2010 dollars among loan holders increased by 17 percent, from $19,410 in 2004 to $22,367 in 2007, then by another 14 percent, to $25,865, in 2010. The median value rose by 19 percent, from $10,620 in 2004 to $12,620 in 2007, then by another 3 percent, to $13,000, in 2010. These loans were concentrated among younger households, and as we shall see, they were one of the factors (though not the principal one) that led to a precipitous decline in the net worth of these households between 2007 and 2010.

Wealth Trends

The switch from defined benefit pensions to defined contribution pensions bears mention. Statistics generally exclude the former from "wealth" and include the latter. As documented in Wolff (2011b), in 1989, 46 percent of all households reported holding a DB pension plan, which guarantees a steady flow of income upon retirement. By 2007, that figure was down to 34 percent. The decline was steep for younger households (under age forty-six), from 38 to 23 percent, as well as for middle-aged households (ages forty-seven to sixty-four), from 57 to 39 percent. With DC pension accounts, households accumulate savings for retirement purposes directly. In 1989, 24 percent of households had a DC plan; in 2007, 53 percent did. The share of younger households holding DC plans went from 31 percent to 50 percent; the share of middle-aged households increased from 28 to 64 percent.

In dollar values, while the average value of DB pension wealth among all households crept up by 8 percent, from $56,500 in 1989 to $61,200 in 2007, the average value of DC plans shot up more than sevenfold, from $10,600 to $76,800 (all figures are in 2007 dollars).[15] Among younger households, average DB wealth fell in absolute terms, while DC wealth rose by a factor of 3.3. Among middle-aged households, the value of DB pensions also fell, while the value of DC plans mushroomed by a factor of 6.5. Since DB pension wealth is *not* included in the measure of marketable household wealth whereas DC wealth *is* included, the new pensions overstate the "true" gains in household wealth.[16]

MEDIAN WEALTH PLUMMETS OVER THE LATE 2000s

My previous research (see Wolff 1994, 1998, 2002, and 2011a), using SCF data from 1983 to 2007, presented evidence of sharply increasing household wealth inequality between 1983 and

1989, followed by little change between 1989 and 2007. Both mean and median wealth climbed briskly during the 1983–1989 period, as well as from 1989 to 2007. Most of the wealth gains from 1983 to 2007, however, were concentrated among the richest 20 percent of households.

Consider median wealth. From 1962 to 2007, it grew steadily in real terms (see table 3.1 and figure 3.1); notably, from 2001 to 2007, it grew 2.91 percent per year. However, the year 2007 marked a fiscal cliff: between 2007 and 2010, median wealth plunged by a staggering 47 percent! Indeed, median wealth was lower in 2010 than in 1969 (in real terms). The primary reasons, as we shall see, were the collapse in the housing market and the high leverage of middle-class families.[17]

Similarly, the Great Recession pushed more households into the negative or zero net worth category. In 1983, 15.5 percent of households reported negative or zero net worth; by 2007, that share had risen to 18.6 percent (figure 3.2). The year 2010 marked a peak of insolvency: 22.5 percent, the highest point over the half-century, had negative or zero net worth.

The trajectory of mean net worth shows a different pattern. It grew vigorously from 1962 to 1983, at 1.82 percent annually; from 1983 to 1989 it grew at 2.27 percent, from 1989 to 2001 at 3.02 percent, and from 2001 to 2007 at 3.10 percent. This modest acceleration was due largely to the rapid increase in housing prices counterbalanced by the reduced growth in stock prices between 2001 and 2007 in comparison to 1989 to 2001, and to the fact that in 2001 housing made up 28 percent of total assets and (total) stocks made up 25 percent of total assets. But it is important to note that mean wealth grew about twice as fast as the median between 1983 and 2007, indicating widening wealth inequality. The Great Recession also saw an absolute decline in mean household wealth. But where median wealth plunged by 47 percent, mean wealth fell by only 18 percent.[18] Again, the more moderate decline of mean wealth signaled rising wealth inequality; in short, the wealthy suffered much less from the fallout from the Great Recession.

Household income is another dimension of well-being; indeed, insofar as rising levels of unemployment affect household income, policymakers look to this figure. The Great Recession showed a decline in household income, but not so great as the decline in household wealth. Based on the Current Population Survey (CPS), median household income in real terms advanced at a fairly solid pace from 1962 to 1983, at 0.85 percent per year (figure 3.3).

Until 2007, household income rose: from 1989 to 2001 it grew by 2.3 percent (in total) and from 2001 to 2007 by 1.6 percent. From 2007 to 2010, it fell off by 6.4 percent. This reduction was not nearly as great as that in median wealth. Mean income similarly advanced—from 1962 to 1983 at 1.2 percent annually, from 1983 to 1989 at 2.4 percent, and from 1989 to 2001 by 0.9 percent—until the years from 2001 to 2007, when it dipped by –0.1 percent annually. From 2007 to 2010 mean income dropped in real terms by 5.0 percent, slightly less than the rate of decrease in median income.

In sum, while median household income stagnated over the 1990s and 2000s, median net worth grew strongly over this period, at least until 2007. From 2001 to 2007, mean and median income changed very little, while mean and median net worth grew strongly. With the Great Recession, the middle class lost ground: there was a massive reduction in median net worth, but more modest declines in mean wealth and both median and mean income.

WEALTH INEQUALITY JUMPS IN THE LATE 2000s

The Great Recession widened the gap between the rich and the poor. In 1983 wealth inequality was close to its level in 1962 (see table 3.2 and figure 3.4).[19] After rising steeply between 1983 and 1989, it remained virtually unchanged from 1989 to 2007. The share of wealth held by the

TABLE 3.1 *Mean and Median Net Worth, Wealth, and Income and Annual Growth Rates, 1962–2010*

Values	1962	1969	1983	1989	1992	1995	1998	2001	2004	2007	2010
Net worth (2010 dollars in thousands)											
Median	51.9	63.6	73.0	78.2	66.7	65.3	81.2	90.5	89.9	107.8	57.0
Mean	194.1	232.5	284.4	325.8	316.8	292.6	361.5	468.1	496.9	563.8	463.8
Percentage with net worth											
Zero or negative	18.2	15.6	15.5	17.9	18.0	18.5	18.0	17.6	17.0	18.6	22.5
Less than $5,000[a]	30.0	20.9	25.4	27.6	27.2	27.8	27.2	26.6	26.8	26.6	33.5
Less than $10,000[a]	34.1	26.0	29.7	31.8	31.2	31.9	30.3	30.1	29.9	30.0	37.1
Nonhome wealth (2010 dollars in thousands)											
Median	14.1	17.7	15.8	18.6	15.6	14.2	23.8	28.6	21.0	24.7	10.0
Mean	154.4	197.3	206.4	243.2	241.5	224.5	284.0	367.5	368.6	421.6	360.7
Percentage with zero or negative nonhome wealth	25.9	23.5	25.7	26.8	28.2	28.7	25.7	25.5	28.0	27.4	30.9
Income (2010 dollars in thousands)[b]											
Median	38.2	49.8	45.7	50.8	47.6	48.8	52.0	52.0	51.2	52.8	49.4
Mean	43.5	56.7	55.6	64.2	60.4	64.3	69.4	71.7	69.8	71.1	67.5

Annual Growth Rates (percentages)	1962–1969	1969–1983	1983–1989	1989–2001	2001–2007	2007–2010	1962–2010
Net worth							
Median	2.91	0.98	1.13	1.22	2.91	–15.19	0.19
Mean	2.58	1.44	2.27	3.02	3.10	–2.29	1.81
Nonhome wealth							
Median	3.33	–0.84	2.76	3.57	–2.41	–24.75	–0.71
Mean	3.50	0.32	2.74	3.44	2.29	–0.73	1.77
Income[b]							
Median	3.78	–0.62	1.76	0.19	0.27	–1.15	0.54
Mean	3.80	–0.14	2.40	0.91	–0.13	–1.10	0.92

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 Survey of Consumer Finance (SCF). Additional sources are the 1962 Survey of Financial Characteristics of Consumers (SFCC) and the 1969 MESP file.

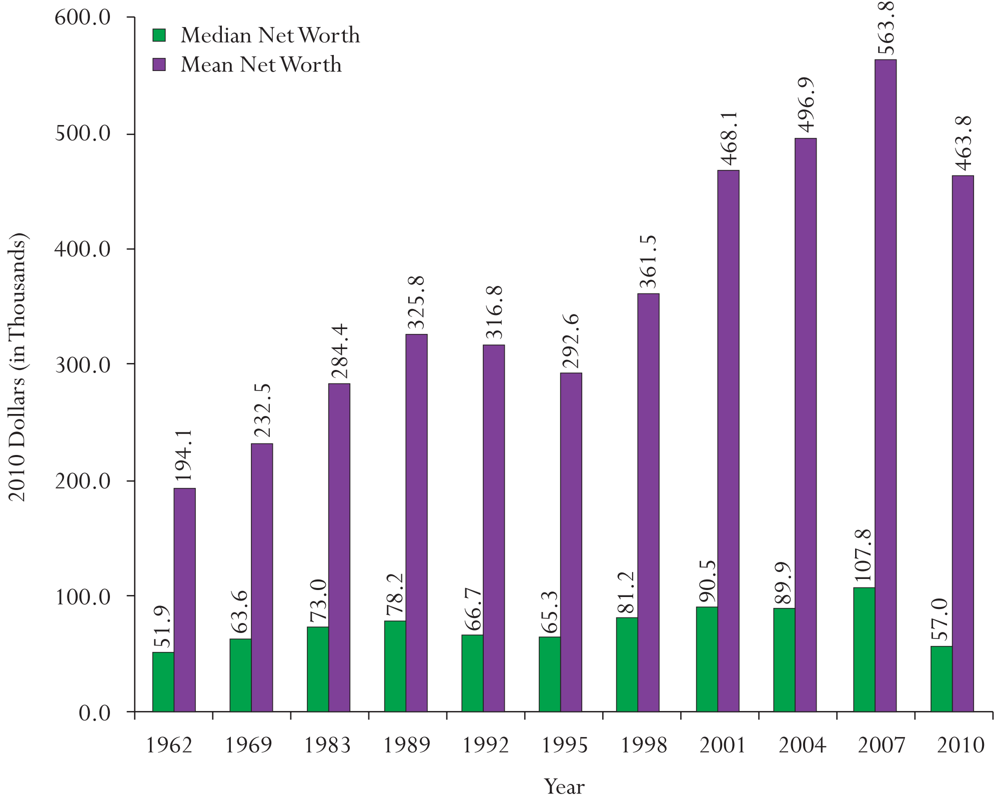
Note: Wealth figures are deflated using the Consumer Price Index (CPI-U).

[a]Constant 1995 dollars.

[b]Source for household income data: U.S. Census Bureau, Current Populations Survey (CPS).

The 1962 figures are based on family income and the rate of change of family income between 1962 and 1969.

FIGURE 3.1 *Mean and Median Net Worth, 1962–2010*



Source: Author's computations from the 1962 SFCC, the 1969 MESP file, and the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

top 1 percent rose by 3.6 percentage points from 1983 to 1989; the Gini coefficient increased from 0.80 to 0.83.

Two principal factors account for changes in wealth concentration. The first is the change in income inequality. Between 1983 and 1989, the Gini coefficient for income rose by 0.041 points. Second, stock prices increased much faster than housing prices. The stock market boomed, and the S&P 500 Index in real terms was up by 62 percent, whereas median home prices increased by a mere 2 percent in real terms. As a result, the ratio between the two climbed by 58 percent. Middle- and lower-income Americans were less likely to own stock. For them, the key component of wealth was their home.

Between 1989 and 2007, the share of total wealth of the top percentile actually declined, from 37.4 to 34.6 percent, although an increase in the share of the next four percentiles more than compensated for this loss. As a result, the share of the top 5 percent increased from 58.9 percent in 1989 to 61.8 percent in 2007, and the share of the top quintile rose from 83.5 to 85.0 percent.[20] The share of the fourth and middle quintiles each declined by about a percentage point from 1989 to 2007, while that of the bottom 40 percent increased by almost one percentage

FIGURE 3.2 *Households with Zero or Negative Net Worth, 1962–2010*

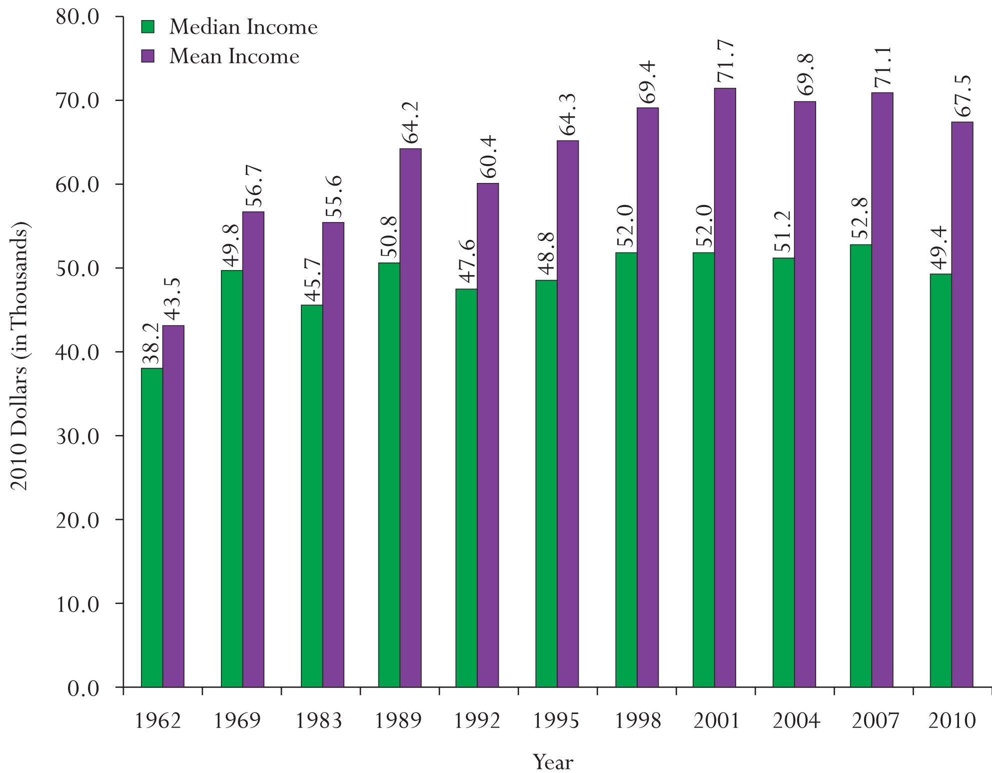
Source: Author's computations from the 1962 SFCC, the 1969 MESP file, and the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

point. Overall, the Gini coefficient was virtually unchanged—it was 0.832 in 1989 and 0.834 in 2007.[21]

The Great Recession spurred a sharp rise in wealth inequality: the Gini coefficient rose from 0.83 to 0.87. Interestingly, the top percentile's share of total wealth showed less than a one-percentage-point gain.[22] Most of the rise in wealth took place in the remainder of the top quintile, whose share of wealth climbed by almost four percentage points. The shares of the other quintiles dropped: the share of the lowest quintile fell from 0.2 percent to –0.9 percent.

The gap in household income does not explain this wealth gap; in fact, income inequality contracted during the Great Recession. In 2009 the top 1 percent of families (as ranked by income on the basis of the SCF data) earned 17 percent of total household income, and the top 20 percent accounted for 59 percent—large figures, but lower than the corresponding wealth shares.[23] The time trend for income inequality contrasts with that for wealth inequality. Income inequality rose sharply from 1961 to 1982: the Gini coefficient expanded from 0.428 to 0.480, and the share of the top 1 percent grew from 8.4 to 12.8 percent.[24] Income inequality increased sharply again between 1982 and 1988, with the Gini coefficient rising from 0.48 to 0.52 and the share of the top 1 percent increasing from 12.8 to 16.6 percent. There was very little change between 1988 and 1997. Between 1997 and 2000, however, income inequality again surged, with the share of the top percentile rising by 3.4 percentage points, the shares of the other quintiles falling again, and the Gini index advancing from 0.53 to 0.56.[25] This was followed by a modest uptick in income inequality: the Gini coefficient advanced from 0.562 in 2000 to 0.574

FIGURE 3.3 *Mean and Median Household Income, 1962–2010*



Source: Author's computations from the 1962 SFCC, the 1969 MESP file, and the 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

in 2006. Overall, there were moderate rises in both wealth and income inequality between 2001 and 2007.

During the Great Recession, however, income inequality contracted. The Gini coefficient fell from 0.574 to 0.549, and the share of the top 1 percent dropped sharply, from 21.3 to 17.2 percent. Property income and realized capital gains (included in the SCF definition of income), as well as corporate bonuses and the value of stock options, plummeted over these years, which explains the steep decline in the share of the top percentile. Real wages, as I have shown, actually rose over these years, although the unemployment rate increased. As a result, the income of the middle class fell, but not nearly as much in percentage terms as that of the high-income groups. In contrast, transfer income such as unemployment insurance rose, so that the bottom also did better in relative terms than the top. As a result, overall income inequality fell over the years 2006 to 2009.[26] One of the puzzles we have to contend with is the fact that wealth inequality rose sharply over the Great Recession while income inequality fell. I return to this question later.

From 1983 to 2010, the economy had clear winners and losers (see table 3.3). The top 1 percent saw their average wealth (in 2010 dollars) rise by 71 percent. The remainder of the top quintile experienced increases from 52 to 101 percent, and average wealth for the fourth quin-

TABLE 3.2 *The Size Distribution of Wealth and Income, 1962–2010*

		Share of Wealth or Income Held by:								
Year	Gini Coefficient	Top 1 Percent	Next 4 Percent	Next 5 Percent	Next 10 Percent	Top 20 Percent	Fourth 20 Percent	Third 20 Percent	Bottom 40 Percent	All
Net worth										
1962	0.803	33.4%	21.2%	12.4%	14.0%	81.0%	13.4%	5.4%	0.2%	100.0%
1969	0.811	34.4	20.3	14.0	12.0	80.7	12.8	4.9	1.5	100.0
1983	0.799	33.8	22.3	12.1	13.1	81.3	12.6	5.2	0.9	100.0
1989	0.832	37.4	21.6	11.6	13.0	83.5	12.3	4.8	–0.7	100.0
1992	0.823	37.2	22.8	11.8	12.0	83.8	11.5	4.4	0.4	100.0
1995	0.828	38.5	21.8	11.5	12.1	83.9	11.4	4.5	0.2	100.0
1998	0.822	38.1	21.3	11.5	12.5	83.4	11.9	4.5	0.2	100.0
2001	0.826	33.4	25.8	12.3	12.9	84.4	11.3	3.9	0.3	100.0
2004	0.829	34.3	24.6	12.3	13.4	84.7	11.3	3.8	0.2	100.0
2007	0.834	34.6	27.3	11.2	12.0	85.0	10.9	4.0	0.2	100.0
2010	0.870	35.4	27.7	13.6	12.2	88.9	9.4	2.6	–0.9	100.0
Income										
1962	0.428	8.4	11.4	10.2	16.1	46.0	24.0	16.6	13.4	100.0
1969	0.533	18.3	11.5	9.5	14.7	54.0	21.7	15.2	9.1	100.0
1982	0.480	12.8	13.3	10.3	15.5	51.9	21.6	14.2	12.3	100.0
1988	0.521	16.6	13.3	10.4	15.2	55.6	20.6	13.2	10.7	100.0
1991	0.528	15.7	14.8	10.6	15.3	56.4	20.4	12.8	10.5	100.0
1994	0.518	14.4	14.5	10.4	15.9	55.1	20.6	13.6	10.7	100.0
1997	0.531	16.6	14.4	10.2	15.0	56.2	20.5	12.8	10.5	100.0
2000	0.562	20.0	15.2	10.0	13.5	58.6	19.0	12.3	10.1	100.0
2003	0.540	17.0	15.0	10.9	14.9	57.9	19.9	12.1	10.2	100.0
2006	0.574	21.3	15.9	9.9	14.3	61.4	17.8	11.1	9.6	100.0
2009	0.549	17.2	16.5	10.7	14.7	59.1	18.7	14.9	7.3	100.0

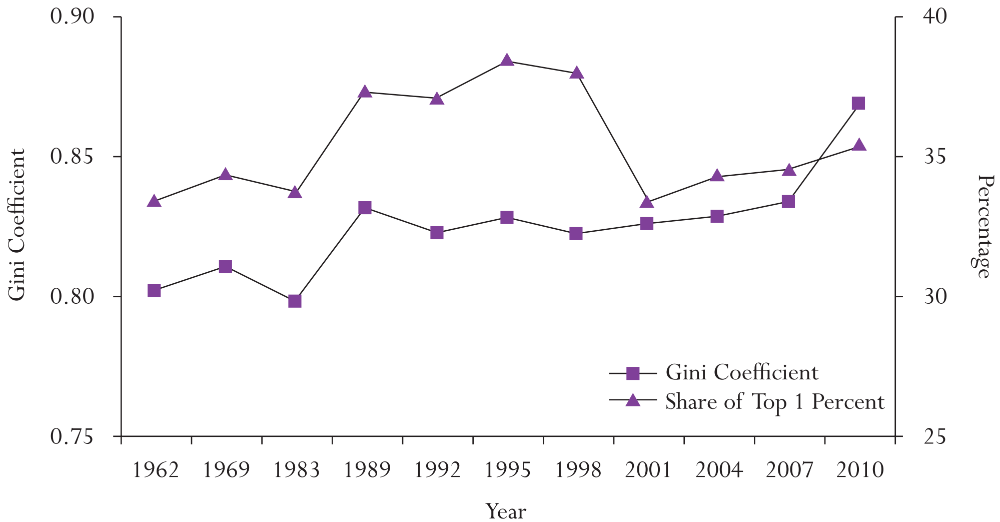
Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF. Additional sources are the 1962 SFCC and the 1969 MESP file. Income data are from these files.

Note: For the computation of percentile shares of net worth, households are ranked according to their net worth; for percentile shares of income, households are ranked according to their income.

tile grew by 21 percent. The middle quintile, on the other hand, lost 18 percent. By far the starkest declines were in the bottom two quintiles: the poorest 40 percent lost 270 percent of their average wealth!

I calculate the proportion of the total increase in real household wealth between 1983 and 2010 that accrued to different wealth groups by dividing the increase in the total wealth of each percentile group by the total increase in household wealth, while holding constant the number of households in that group. If a group's wealth share remains constant over time, the percentage of the total wealth growth received by that group will equal its share of total wealth. If a group's share of total wealth increases (decreases) over time, then it will receive a percentage of the total wealth gain greater (less) than its share in either year. It should be noted, however, that in these calculations the households found in a given group may be different in the two years. The richest 1 percent received over 38 percent of the total gain in marketable wealth over the period

FIGURE 3.4 *Gini Coefficient and the Share of the Top 1 Percent for Net Worth, 1962–2010*



Source: Author's computations from the 1962 SFCC, the 1969 MESP file, and the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

from 1983 to 2010. This proportion was greater than the share of wealth held by the top 1 percent in any of the nine years. The next 4 percent received 36 percent of the total gain, and the next 15 percent received 27 percent. The top quintile collectively accounted for a little over 100 percent of the total growth in wealth, while the bottom 80 percent accounted for virtually none.[27]

Income data show the same skewed pattern. A similar calculation using the SCF income data reveals that households in the top 1 percent of the income distribution saw their incomes grow by 59 percent from 1982 to 2009. Mean incomes increased by almost half for the next 4 percent, by over one-quarter for the next highest 5 percent, and by 13 percent for the next highest 10 percent. The fourth quintile of the income distribution experienced only a 3 percent growth in income. As for the middle quintile and the bottom 40 percent, they had absolute declines in mean income. Of the total growth in real income between 1982 and 2009, 39 percent accrued to the top 1 percent and over 100 percent to the top quintile.

In sum, the growth in the economy during the period from 1983 to 2010 was concentrated in a surprisingly small part of the population—the top 20 percent, particularly the top 1 percent.

HOUSEHOLD DEBT REMAINS HIGH

In 2010 debt as a proportion of gross assets was 17 percent, and the debt-equity ratio (the ratio of household debt to net worth) was 0.21. Even though owner-occupied housing accounted for 31 percent of total assets (see table 3.4 and figure 3.5), home equity—the value of a house minus any outstanding mortgage—amounted to only 18 percent of total assets. Real estate other than owner-occupied housing amounted to 12 percent of total assets, and business equity made up another 18 percent. Liquid assets (demand and time deposits, money market funds, CDs, and the cash surrender value of life insurance) made up 6 percent and pension accounts 15

TABLE 3.3 *Mean Wealth Holdings and Income, by Wealth or Income Class, 1983–2010 (In Thousands of 2010 Dollars)*

Variable	Top 1 Percent	Next 4 Percent	Next 5 Percent	Next 10 Percent	Top 20 Percent	Fourth 20 Percent	Third 20 Percent	Bottom 40 Percent	All
Net worth (2010 dollars in thousands)									
1983	9,599	1,588	691	373	1,157	179	74	6	284
2010	16,439	3,192	1,263	567	2,062	217	61	–11	464
Percentage change	71.3	101.1	83.0	52.1	78.3	21.4	–17.9	–269.7	63.1
Percentage of gain[a]	38.1	35.8	16.0	10.8	100.7	4.3	–1.5	–3.8	100.0
Nonhome wealth (2010 dollars in thousands)									
1983	8,276	1,212	474	212	881	76	16	–4	193
2010	15,172	2,662	950	378	1,720	101	12	–15	361
Percentage change	83.3	119.6	100.6	78.3	95.3	32.1	–25.7	—	86.9
Percentage of gain[a]	41.1	34.6	14.2	9.9	99.8	2.9	–0.5	–2.5	100.0
Income (2010 dollars in thousands)									
1982	827	214	133	100	167	70	46	20	64
2009	1,318	317	164	112	226	72	42	17	77
Percentage change	59.4	48.4	23.6	12.5	35.4	3.3	–8.4	–12.9	19.3
Percentage of gain[a]	39.4	41.6	12.7	10.1	103.7	3.6	–3.1	–4.1	100.0

Source: Author's computations from the 1983 and 2010 SCF.

Note: For the computation of percentile shares of net worth, households are ranked according to their net worth; for percentile shares of nonhome wealth, households are ranked according to their nonhome wealth; and for percentile shares of income, households are ranked according to their income.

[a]The computation is performed by dividing the total increase in wealth of a given group by the total increase of wealth for all households over the period, under the assumption that the number of households in each group remains unchanged over the period. It should be noted that the households found in a given group (such as the top quintile) may be different in each year.

TABLE 3.4 *Composition of Total Household Wealth, 1983–2010 (Percentage of Gross Assets)*

	1983	1989	1992	1995	1998	2001	2004	2007	2010
Principal residence	30.1	30.2	29.8	30.4	29.0	28.2	33.5	32.8	31.3
Other real estate[a]	14.9	14.0	14.7	11.0	10.0	9.8	11.5	11.3	11.8
Unincorporated business equity[b]	18.8	17.2	17.7	17.9	17.7	17.2	17.1	20.1	18.0
Liquid assets[c]	17.4	17.5	12.2	10.0	9.6	8.8	7.3	6.6	6.2
Pension accounts[d]	1.5	2.9	7.2	9.0	11.6	12.3	11.8	12.1	15.3
Financial securities[e]	4.2	3.4	5.1	3.8	1.8	2.3	2.1	1.5	1.8
Corporate stock and mutual funds	9.0	6.9	8.1	11.9	14.8	14.8	11.9	11.8	11.4
Net equity in personal trusts	2.6	3.1	2.7	3.2	3.8	4.8	2.9	2.3	2.4
Miscellaneous assets[f]	1.3	4.9	2.5	2.8	1.8	1.8	1.8	1.7	1.7
Total wealth	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Debt on principal residence	6.3	8.6	9.8	11.0	10.7	9.4	11.6	11.4	12.9
All other debt[g]	6.8	6.4	6.0	5.3	4.2	3.1	3.9	3.9	4.5
Total debt	13.1	15.0	15.7	16.3	15.0	12.5	15.5	15.3	17.4
Selected ratios (percentage)									
Debt-equity ratio	15.1	17.6	18.7	19.4	17.6	14.3	18.4	18.1	21.0
Debt-income ratio	68.4	87.6	88.8	91.3	90.9	81.1	115.0	118.7	127.0
Net home equity/total assets[h]	23.8	21.6	20.1	19.5	18.2	18.8	21.8	21.4	18.4
Principal residence debt as ratio to house value	20.9	28.6	32.7	36.0	37.0	33.4	34.8	34.9	41.2
Stocks, directly or indirectly owned as a ratio to total assets[i]	11.3	10.2	13.7	16.8	22.6	24.5	17.5	16.8	17.8

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

[a]In 2001, 2004, and 2007, this equals the gross value of other residential real estate plus the *net equity* in nonresidential real estate.

[b]Net equity in unincorporated farm and nonfarm businesses and closely held corporations.

[c]Checking accounts, savings accounts, time deposits, money market funds, certificates of deposits, and the cash surrender value of life insurance.

[d]IRAs, Keogh plans, 401(k) plans, the accumulated value of defined contribution pension plans, and other retirement accounts.

[e]Corporate bonds, government bonds (including savings bonds), open-market paper, and notes.

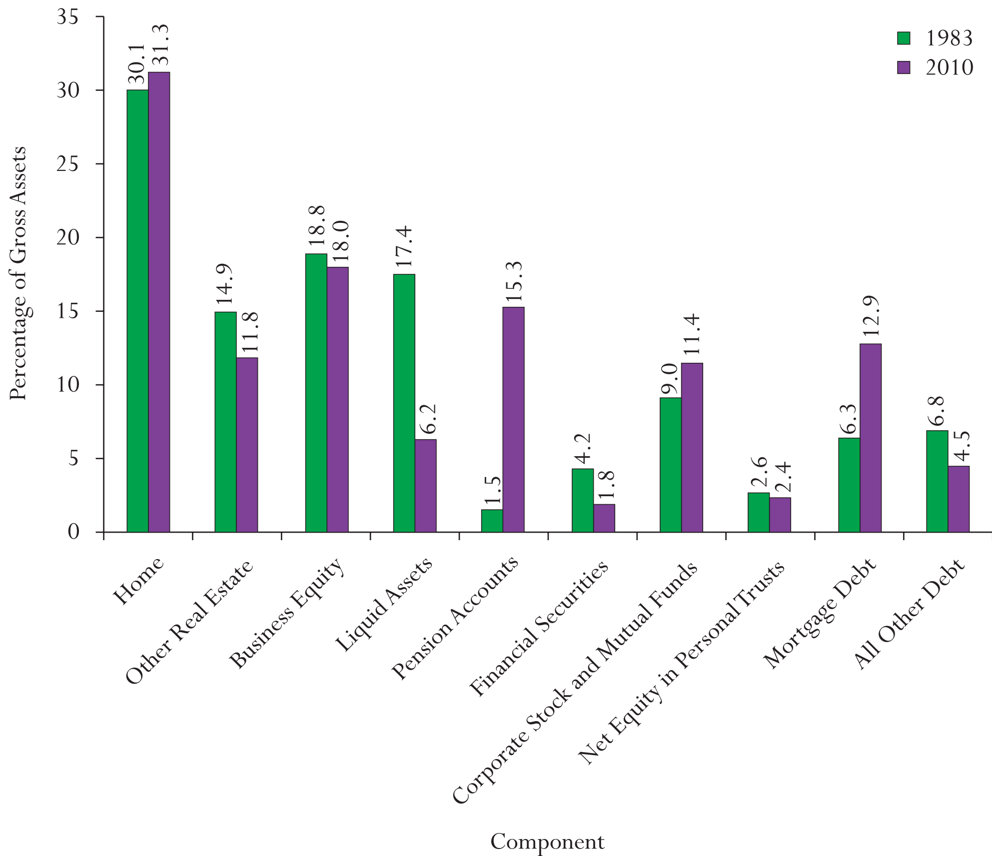
[f]Gold and other precious metals, royalties, jewelry, antiques, furs, loans to friends and relatives, future contracts, and miscellaneous assets.

[g]Mortgage debt on all real property except principal residence; credit card, installment, and other consumer debt.

[h]Ratio of gross value of principal residence less mortgage debt on principal residence to total assets.

[i]Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.

FIGURE 3.5 *Composition of Household Wealth, 1983 and 2010*



Source: Author's computations from the 1983 and 2010 SCF.

percent. Bonds and other financial securities amounted to 2 percent; 11 percent was corporate stock, including mutual funds, and 2 percent was trust equity.

The composition of household wealth shifted from 1983 to 2010. First, the share of gross housing wealth in total assets, after fluctuating between 28.2 and 30.4 percent from 1983 to 2001, increased to 32.8 percent in 2007, then fell to 31.3 percent in 2010. There are two main explanations: the homeownership rate and housing prices. According to the SCF, the homeownership rate, after falling from 63.4 percent in 1983 to 62.8 percent in 1989, rose to 67.7 percent in 2001 and 68.6 percent in 2007, but in 2010 it fell to 67.2 percent. Median house prices for existing homes rose by 19 percent in real terms between 2001 and 2007, but plunged by 26 percent from 2007 to 2010.

Second, equity in owner-occupied housing as a share of total assets, after falling from 24 percent in 1983 to 19 percent in 2001, rose to 21 percent in 2007, but dropped to 18 percent in 2010. Mortgage debt as a proportion of total assets increased from 21 percent in 1983 to 33 percent in 2001, 35 percent in 2007, and 41 percent in 2010. Moreover, mortgage debt on a principal residence climbed from 9.4 to 11.4 percent of total assets between 2001 and 2007 and

to 12.9 percent in 2010. The sharp decline in home equity as a proportion of assets from 2007 to 2010 is attributable to the sharp decline in housing prices; this decline varied by region, and some parts of the country were particularly hurt.

Third, as the debt-equity (net worth) ratio climbed, relative indebtedness increased as well, from 15 percent in 1983 to 18 percent in 2007, to 21 percent in 2010. Likewise, the ratio of debt to total income surged: from 68 percent in 1983 to 119 percent in 2007, to 127 percent in 2010, the high over this period. Mortgage debt is the culprit. If mortgage debt on a principal residence is excluded, the ratio of other debt to total assets actually fell, from 6.8 percent in 1983 to 3.9 percent in 2007, but then rose slightly to 4.5 percent in 2010.

The steep rise in the debt-to-equity and the debt-to-income ratios over the three years, 2007 to 2010, was entirely due to the reduction in wealth and income, not to a rise in the absolute level of debt. As shown in table 3.1, both mean net worth and mean income fell over this period. At the same time, debt in constant dollars contracted, with mortgage debt declining by 5.0 percent, other debt by 2.6 percent, and total debt by 4.4 percent. There were several key factors in that contraction: fewer people took out mortgages (influenced by higher down payments, less access to credit, and a feeling of uncertainty) and fewer people took out home equity loans, but foreclosures also erased a portion of the overall debt.

A fourth change is a dramatic increase in pension accounts, which represented 1.5 percent of total assets in 1983, 12 percent in 2007, and 15 percent in 2010. In 1983, 11 percent of households held these accounts; by 2001, 52 percent did. The mean value of these plans in real terms climbed dramatically. It almost tripled among account holders and skyrocketed by a factor of 13.6 among all households. These time trends partially reflect the history of DC plans. IRAs were established in 1974, followed by 401(k) plans in 1978 for profit-making companies. (403[b] plans for nonprofits are much older.) However, 401(k) plans and the like did not become widely available until about 1989.

From 2001 to 2007, the share of households with a DC plan leveled off and then fell modestly from 2007 to 2010, from 52.6 to 50.4 percent. The average value of DC plans in constant dollars continued to grow after 2001. Overall, it advanced by 21 percent from 2001 to 2007, by 11 percent from 2007 to 2010 among account holders, and by 7 percent among all households. Thus, despite the stock market collapse of 2007–2010 and the 18 percent decline of overall mean net worth, the average value of DC accounts continued to grow after 2007 because households shifted their portfolios out of other assets and into DC accounts.

Portfolio Composition by Wealth Class

The middle class and the rich invest their wealth differently. The richest 1 percent of households (ranked by wealth) invested over three-quarters of their savings in investment real estate, businesses, corporate stock, and financial securities in 2010 (see table 3.5 and figure 3.6). Corporate stocks, either directly or indirectly owned, accounted for 21 percent of these investments. Housing accounted for only 9 percent of the wealth of the 1 percent, liquid assets were 5 percent, and pension accounts were 8 percent. The debt-equity ratio was 3 percent, the ratio of debt to income was 61 percent, and the ratio of mortgage debt to house value was 19 percent.

Among the next richest 19 percent of U.S. households, housing was 30 percent of their total assets, their liquid assets accounted for 7 percent, and pension assets made up 21 percent. Investment assets—nonhome real estate, business equity, stocks, and bonds—made up 41 percent of total assets, and 20 percent was in the form of stocks directly or indirectly owned. Debt amounted to 14 percent of the net worth of the next 19 percent of households and 118 percent of their income, and the ratio of mortgage debt to house value was 30 percent.

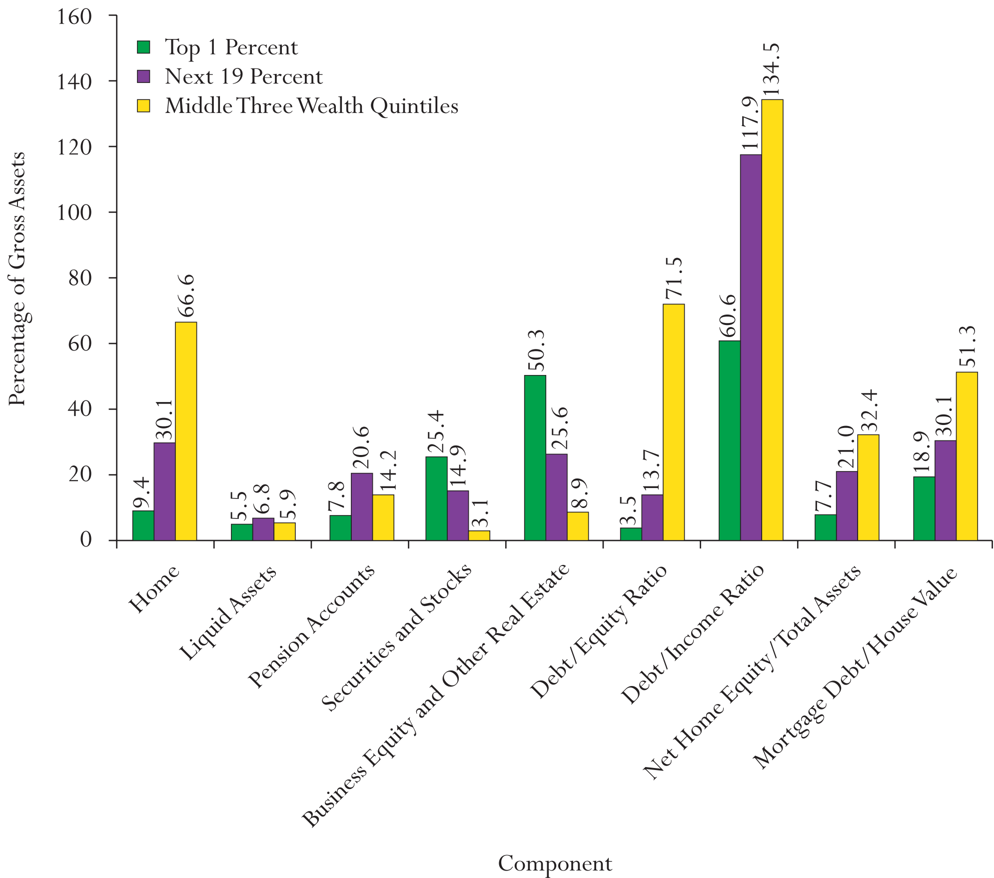
TABLE 3.5 *Composition of Household Wealth, by Wealth Class, 2010 (Percentage of Gross Assets)*

	All Households	Top 1 Percent	Next 19 Percent	Middle Three Quintiles
Principal residence	31.3	9.4	30.1	66.6
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	6.2	5.5	6.8	5.9
Pension accounts	15.3	7.8	20.6	14.2
Corporate stock, financial securities, mutual funds, and personal trusts	15.7	25.4	14.9	3.1
Unincorporated business equity, other real estate	29.8	50.3	25.6	8.9
Miscellaneous assets	1.7	1.6	2.0	1.3
Total assets	100.0	100.0	100.0	100.0
Selected ratios (percentage)				
Debt-equity ratio	21.0	3.5	13.7	71.5
Debt-income ratio	127.0	60.6	117.9	134.5
Net home equity/total assets[a]	18.4	7.7	21.0	32.4
Principal residence debt/house value	41.2	18.9	30.1	51.3
All stocks/total assets[b]	17.8	20.6	20.1	8.2
Ownership rates (percentage)				
Principal residence	67.2	98.1	96.3	68.4
Other real estate	18.6	75.1	48.9	12.4
Pension assets	50.4	90.2	82.7	45.8
Unincorporated business	12.1	74.1	30.3	8.1
Corporate stock, financial securities,[c] mutual funds, and personal trusts	22.9	88.8	61.2	15.4
Stocks, directly or indirectly owned[b]	46.9	94.9	84.4	41.4
(1) $5,000 or more	35.5	94.3	79.7	29.4
(2) $10,000 or more	31.1	93.1	77.2	24.0

Source: Author's computations from the 2010 SCF.
Note: Households are classified into wealth class according to their net worth. Brackets for 2010 are:
Top 1 percent: net worth of $6,616,000 or more.
Next 19 percent: net worth between $373,000 and $6,616,000.
Quintiles 2 through 4: net worth between $0 and $373,000.
[a]Ratio of gross value of principal residence less mortgage debt on principal residence to total assets.
[b]Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.
[c]Financial securities exclude U.S. government savings bonds in this entry.

In contrast, almost exactly two-thirds of the wealth of the middle three quintiles of households was invested in their homes in 2010. However, home equity amounted to only 32 percent of total assets, a reflection of the large mortgage debt of these households. Another 20 percent went into monetary savings of one form or another and into pension accounts. Together housing, liquid assets, and pension assets accounted for 87 percent of total assets, with the remainder in investment assets. Stocks directly or indirectly owned made up only 8 percent of their total assets. The debt-equity ratio was 0.72, substantially higher than that for the richest 20 percent, and the ratio of debt to income for the middle three quintiles was 135 percent—also much higher than that of the top quintile. Finally, their mortgage debt amounted to a little more than half the value of their principal residences.

FIGURE 3.6 *Composition of Household Wealth, by Wealth Class, 2010*



Source: Author's computations from the 2010 SCF.

Almost all households among the top 20 percent of wealth holders owned their homes, compared to 68 percent of households in the middle three quintiles. The "very rich"—those in the top percentile—stand out. Three-quarters of those households owned some other form of real estate, compared to 49 percent of "rich" households (those in the next 19 percent of the distribution) and 12 percent of households in the middle 60 percent. Eighty-nine percent of the very rich owned some form of pension asset, compared to 83 percent of the rich and 46 percent of the middle. Seventy-four percent of the very rich reported owning their own business, compared to 30 percent among the rich and 8 percent of the middle class. Among the very rich, 89 percent held corporate stock, mutual funds, financial securities, or a trust fund, in comparison to 61 percent of the rich and only 15 percent of the middle. Ninety-five percent of the very rich reported owning stock either directly or indirectly, compared to 84 percent of the rich and 41 percent of the middle. If we exclude small holdings of stock, the ownership rates drop off sharply among the middle three quintiles, from 41 percent to 29 percent for stocks worth $5,000 or more and to 24 percent for stocks worth $10,000 or more.

TABLE 3.6 *Composition of Household Wealth of the Middle Three Wealth Quintiles, 1983–2010 (Percentage of Gross Assets)*

	1983	1989	1998	2001	2004	2007	2010
Principal residence	61.6	61.7	59.8	59.2	66.1	65.1	66.6
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	21.4	18.6	11.8	12.1	8.5	7.8	5.9
Pension accounts	1.2	3.8	12.3	12.7	12.0	12.9	14.2
Corporate stock, financial securities, mutual funds, and personal trusts	3.1	3.5	5.5	6.2	4.2	3.6	3.1
Unincorporated business equity, other real estate	11.4	9.4	8.8	8.5	7.9	9.3	8.9
Miscellaneous assets	1.3	2.9	1.8	1.2	1.4	1.3	1.3
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Selected ratios (percentage)							
Debt-equity ratio	37.4	41.7	51.3	46.4	61.6	61.1	71.5
Debt-income ratio	66.9	83.0	101.6	100.3	141.2	156.7	134.5
Net home equity/total assets[a]	43.8	39.2	33.3	33.8	34.7	34.8	32.4
Principal residence debt/house value	28.8	36.5	44.4	42.9	47.6	46.6	51.3
All stocks/total assets[b]	2.4	3.3	11.2	12.6	7.5	7.0	8.2
Ownership rates (percentage)							
Principal residence	71.6	71.5	73.3	75.9	78.2	76.9	68.4
Other real estate	15.4	15.5	13.7	13.2	13.6	14.7	12.4
Pension assets	12.2	27.3	48.5	52.9	51.4	53.4	45.8
Unincorporated business	8.5	8.4	8.5	7.9	8.1	8.8	8.1
Corporate stock, financial securities,[c] mutual funds, and personal trusts	21.6	24.2	26.7	27.5	27.1	23.1	15.4

Source: Author's computations from the 1983, 1989, 1998, 2001, 2004, 2007, and 2010 SCF.
Note: Households are classified into wealth class according to their net worth. See notes to table 3.5.
[a]Ratio of gross value of principal residence less mortgage debt on principal residence to total assets.
[b]Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.
[c]Financial securities exclude U.S. government savings bonds in this entry.

The staggering debt level of the middle class in 2010 raises the question of whether this is a recent phenomenon or whether it has long been the norm. Table 3.6 shows the wealth composition for the middle three wealth quintiles from 1983 to 2010. Houses as a share of assets remained virtually unchanged from 1983 to 2001, but increased from 2001 to 2010. It might seem surprising that despite the steep drop in home prices from 2007 to 2010, housing as a share of total assets actually increased slightly. The reason is that the other components of wealth fell even more than housing. While housing fell by 30 percent in real terms, other real estate fell by 39 percent, liquid assets by 48 percent, and stocks and mutual funds by 47 percent.

Pension accounts rose as a share of total assets by almost thirteen percentage points from 1983 to 2010, while liquid assets declined as a share of total assets by sixteen percentage points.

These changes paralleled changes in all households. The share of all stocks in total assets mushroomed from 2.4 percent in 1983 to 12.6 percent in 2001, then fell to 8.2 percent in 2010 as stock prices stagnated and then collapsed and middle-class households divested themselves of stocks. The proportion of middle-class households with a pension account surged by forty-one percentage points between 1983 and 2007, but fell off sharply by almost eight percentage points in 2010.

Changes in debt, however, represent the most dramatic movements. The debt-equity ratio of the middle class rose from 0.37 in 1983 to 0.61 in 2007; all of the increase occurred between 2001 and 2004, reflecting mainly the surge in mortgage debt. The debt-to-income ratio more than doubled from 1983 to 2007. Once again, much of the increase happened between 2001 and 2004. The rise in the debt-equity ratio and the debt-to-income ratio was much steeper for the middle class. In 1983, for example, the debt-to-income ratio was about the same for middle-class households as it was for all households. By 2007, the ratio was much larger for the middle class.

Then the Great Recession hit. The debt-equity ratio reached 0.72 in 2010, but there was actually a retrenchment in the debt-to-income ratio, which fell to 1.35 in 2010. The reason? From 2007 to 2010, the mean debt of the middle class in constant dollars actually contracted by 25 percent. There was, in fact, a 23 percent reduction in mortgage debt as families paid down their outstanding balances (and as foreclosures reduced households' debt.) Households' nonmortgage debt dropped 32 percent as families paid off credit card balances and other forms of consumer debt. (Also, a climate of uncertainty dampened Americans' proclivity to borrow.) The steep rise in the debt-equity ratio of the middle class between 2007 and 2010 was due to the sharp drop in net worth, while the decline in the debt-to-income ratio was almost exclusively due to the sharp contraction of overall debt.

As for all households, the ratio of home equity to assets fell for the middle class from 1983 to 2010, and mortgage debt as a proportion of house value rose. The decline in the ratio of home equity to total assets between 2007 and 2010 was relatively small despite the steep decrease in home prices, a reflection of the sharp reduction in mortgage debt. On the other hand, the rise in the ratio of mortgage debt to house values was relatively large over these years because of the falloff in home prices.

The "Middle-Class Squeeze"

Nowhere is the middle-class squeeze more vividly demonstrated than in its rising debt. As noted, the ratio of debt to net worth of the middle three wealth quintiles rose from 0.37 in 1983 to 0.46 in 2001, and then to 0.61 in 2007. Correspondingly, the middle-class debt-to-income ratio rose from 0.67 in 1983 to 1.00 in 2001, then zoomed to 1.57 in 2007.

This new debt took two major forms. First, when housing prices soared, families borrowed against the enhanced value of their homes by refinancing their mortgages or taking out home equity loans. In fact, mortgage debt on owner-occupied housing (principal residence only) as a proportion of total assets climbed from 29 percent in 1983 to 47 percent in 2007, and home equity as a share of total assets fell from 44 to 35 percent over these years. Second, families ran up enormous debt on their credit cards.

Where did the borrowing go? Some have asserted that borrowers invested in stocks. But stocks as a share of total assets fell from 13 to 7 percent between 2001 and 2007. The rise in housing prices almost fully explains the increase in the net worth of the middle class from 2001 to 2007. Of the $16,400 rise in median wealth, gains in housing prices alone accounted for $14,000 (86 percent) of it. It also appears that middle-class households, experiencing stagnating incomes, expanded their debt to finance normal consumption expenditures.

The large buildup of debt set the stage for the financial crisis of 2007 and the ensuing Great Recession. When the housing market collapsed in 2007, many households found themselves "underwater," with mortgage debt larger than the value of their home. This factor, coupled with the loss of income emanating from the recession, led many homeowners to stop paying their mortgages. The resulting foreclosures led, in turn, to steep reductions in the value of mortgage-backed securities. Banks and other financial institutions holding such assets experienced a large decline in their equity, which touched off the financial crisis.

THE HOUSING MARKET

The housing sector plummeted. The prime culprits were the plethora of "creative" mortgages with often onerous terms, faulty credit rating agency practices, and the creation of financial instruments tied to the fate of the housing market (particularly, the securitization of mortgage debt). The housing bubble in the early part of the last decade set the stage for a major market "correction." Indeed, as noted earlier, from 2007 to 2010 the median price of existing homes plummeted by 24 percent in real terms. Because housing makes up about two-thirds of middle-class assets, any economic downturn in the housing market erodes the wealth of the middle class.[28]

As noted, the overall homeownership rate declined from 68.6 percent in 2007 to 67.2 percent in 2010, according to the SCF data (see table 3.7). This change seems modest, given all the media hype about home foreclosures. (However, there were huge regional variations: the South and West were particularly hard hit, as well as parts of neighborhoods in cities throughout the country.) Also, once the filing for foreclosure happens, the occupant remains the "owner" until the process is complete. That process can take up to two years while banks and owners negotiate, stall, try for short sales, and the like. Percentage-point reductions were sharper for African American and Hispanic households (1.9 percentage points) than for whites (almost no change); for single males (2.6 percentage points) than for married couples or single females (who actually had a net increase); for high school graduates (4.3 percentage points) than for other educational groups; for younger age groups than for those age seventy-five and older (a large net increase); and for households with annual incomes below $25,000 and, surprisingly, those with incomes above $75,000 than for middle-income households.

Moreover, the collapse in home values led to a surprisingly modest uptick in the number of families who were underwater with their mortgage or had negative home equity. By 2010, only 8.2 percent of homeowners were underwater. As discussed, although housing prices dropped by 24 percent in real terms from 2007 to 2010, there was also a substantial retrenchment of mortgage debt, which accounts for the relatively small share of homeowners (including those with no mortgages) who were underwater in 2010.[29]

In general, the less expensive the house, the less likely the owners were to find themselves underwater. Consequently, the poorest households, who owned the least expensive houses, were least likely to end up underwater. Single females, the poorest of the three family types, and single males had a somewhat lower incidence of negative home equity among homeowners than married couples because they had less expensive houses and therefore lower mortgage debt. Similarly, owners with the lowest education (less than twelve years of schooling) had the smallest incidence of negative home equity, at 5 percent.[30] In contrast, 8 to 11 percent of high school graduates, those with some college, and college graduates found themselves underwater, with negative home equity.

The age pattern is consistent with expectations. Older owners, who bought homes before the "bubble" and had been paying off their mortgages, were least likely to end up underwater.

TABLE 3.7 *Share of Homeowners with Negative Home Equity and Delinquent on Their Mortgage, by Household Characteristics, 2007–2010*

	Homeownership Rate		Percentage of Homeowners with Negative Home Equity		Percentage Decline in Average Home Equity for Homeowners, 2007–2010	Percentage of Homeowners Delinquent on Their Mortgage, 2009
	2007	2010	2007	2010		
All households	68.6%	67.2	1.8	8.2	25.7	5.1
Race/ethnicity[a]						
Non-Hispanic white	74.8	74.6	1.7	8.0	20.6	3.4
African American	48.6	47.7	1.3	9.2	24.6	11.0
Hispanic	49.2	47.3	2.1	9.1	48.3	15.4
Family type						
Married couple	79.0	77.5	1.9	8.4	22.8	4.6
Single male	51.4	48.9	3.0	7.5	24.7	3.7
Single female	55.1	55.5	0.9	7.8	26.9	7.8
Years of schooling[b]						
Less than twelve years	52.8	54.3	0.4	5.0	29.7	11.8
Twelve years	68.9	64.6	2.4	8.4	27.2	6.0
Thirteen to fifteen years	62.3	61.5	2.1	10.5	31.8	5.0
Sixteen or more years	77.8	76.5	1.4	7.8	23.9	1.6
Age class[c]						
Under thirty-five	40.7	37.5	5.5	16.2	58.7	4.6
Thirty-five to forty-four	66.1	63.8	2.6	13.8	48.7	6.5
Forty-five to fifty-four	77.3	75.2	1.4	8.5	27.4	5.6
Fifty-five to sixty-four	81.0	78.1	0.9	5.3	13.6	4.7
Sixty-five to seventy-four	85.5	82.5	0.4	3.5	29.6	1.0
Seventy-five and older	77.0	81.3	0.0	2.7	9.3	3.9
Income class (2007 dollars)						
Under $15,000	36.3	32.5	0.8	2.6	6.9	7.7
$15,000–$24,999	53.5	49.5	1.7	6.4	27.4	5.5
$25,000–$49,999	60.9	65.8	1.9	8.1	10.9	8.4
$50,000–$74,999	76.8	79.4	1.9	11.7	23.3	6.4
$75,000–$99,999	89.2	84.3	3.2	10.9	34.5	4.2
$100,000–$249,999	92.9	91.3	1.3	7.4	18.1	2.7
$250,000 or over	97.2	96.1	0.3	1.4	14.6	0.4

Source: The first five columns are from the author's computations from the 2007 and 2010 SCF. The sixth column is from the author's computations from the 2009 PSID.

[a]Asian and other races are excluded from the table because of small sample sizes.

[b]Households are classified by the schooling level of the head of household.

[c]Households are classified by the age of the head of household.

Only 3 percent of owners age seventy-five and older had negative equity, while owners under age thirty-five had the highest incidence, at 16 percent.[31] The pattern by income is U-shaped. The lowest income class (under $15,000 of annual income) and the highest ($250,000 or more) had the lowest incidence of negative home equity. Negative home equity peaked at the $50,000 to $75,000 income class. In short, the collapse in housing prices hit the middle class the hardest.

They took out higher mortgage debt through refinancing, secondary mortgages, and home equity lines of credit, relative to their homes' value, compared to the poor or the rich (as shown in table 3.6).

Among all homeowners, the decline in average home equity was 26 percent in real terms from 2007 to 2010. This, again, is a surprisingly low figure given the 24 percent decline in real housing prices. The reason is that if average mortgage debt had remained constant over the three years, average home equity would have dropped by 43 percent.[32] It was the contraction of average mortgage debt (including the fact that foreclosures erased debt) over these years that kept the percentage decline in home equity at 26 percent instead of 43 percent.

Hispanic homeowners suffered by far the largest decline in home equity—48 percent—of the three racial-ethnic groups. Black homeowners experienced a somewhat larger percentage decline than white homeowners. Single-female households experienced a somewhat larger decline than single males or married couples. The less-educated households suffered a larger decline than college graduates (only 24 percent for the latter). The youngest age group experienced a 59 percent fall in home equity, while the oldest age group experienced "only" a 9 percent decline.

This pattern probably reflects the timing of Hispanic, black, and younger home buyers, who bought later, when prices were peaking. Indeed, during the early 2000s mortgage companies and banks were using all kinds of devices to permit households with low incomes and low credit ratings to take out risky mortgages.

In a special supplement to its 2009 wealth survey on distressed mortgages, the PSID asked families about mortgage distress (foreclosures, delinquencies, mortgage modification, and expectations about payment difficulties in the coming twelve months). Results on the share of homeowners who were delinquent on their mortgages in 2009 are shown in the last column of table 3.7.

These results do not automatically line up with the share of households underwater. That is to say, a family with negative equity in its home will not necessarily "walk away" by stopping mortgage payments. ("Walking away" has consequences for credit ratings. In addition, there are the "friction" costs of moving.) Indeed, the low-income groups have the highest delinquency rate, which points to affordability as the main determinant of mortgage delinquency. Historically, people stopped paying their mortgages when they lost their job, their health, or their spouse. The Great Recession was different. Initially the "teaser" mortgages, with their onerous terms and balloon payments, were the spur. Soon afterward, however, rising unemployment emerged as the spur. Those individuals who are least able to handle unexpected financial hardships are the most likely to default, regardless of their home equity levels. However, a lack of home equity may make these individuals even more vulnerable to foreclosure, as it reduces their ability to refinance and impedes a short sale (where the owner must pay the outstanding balance).

The overall delinquency rate among homeowners in 2009 was 5 percent, and the percentage of those who were likely to continue to be behind or to fall behind soon was a startling 14 percent. Indeed, the percentage of individuals who were likely to fall behind or remain behind on their mortgage was approximately three times the percentage of individuals who were currently behind, suggesting that rates of default and foreclosure rose at least through 2011. Among white households, the percentage was only 3.4 percent, but it was 11 percent among blacks and 15 percent among Hispanics. (In contrast, the share underwater was slightly higher for blacks than Hispanics.) Single females were further behind on mortgage payments (an 8 percent delinquency rate) than single males or couples, even though single females had a smaller share of underwater mortgages than married couples.

Overall, the lower a homeowner's education, the lower his or her income (the two are correlated), and the younger a homeowner is the more likely he or she is to default on a mortgage. Briefly, those with the least education had a 12 percent delinquency rate, compared to 6 percent for high school graduates, 5 percent for those with some college, and 1.6 percent for college graduates. Similarly, the bottom income group had a delinquency rate of 7.7 percent; those with income of $25,000 to $50,000 had a rate of 8.4 percent; those with income of $50,000 to $75,000 defaulted at a rate of 6.4 percent; and only 0.4 percent of the highest income class defaulted. As for age, the delinquency rate for people age sixty-five to seventy-four was 1.0 percent, compared to 4.7 to 6.5 percent for non-elderly owners. Unemployment is a factor as well. Lower-income Americans, as well as younger Americans, are more vulnerable to employment shifts. Elderly Americans, who are generally retired, are less vulnerable to employment shifts. Also, many older homeowners incurred mortgage debt years ago, may not have refinanced, and may no longer even have a mortgage.

LEVERAGING: THE FALL IN WEALTH AND RISE IN WEALTH INEQUALITY

Two puzzles emerge from the preceding analysis. The first is the dramatic plunge in median net worth between 2007 and 2010 of 47 percent. This happened despite a moderate drop in median income of 6.4 percent in real terms and steep declines in housing and stock prices of 24 and 26 percent in real terms, respectively.

The second is the sharp increase in wealth inequality of 0.035 Gini points. It is surprising that wealth inequality rose so sharply, given that income inequality dropped by 0.025 Gini points (at least according to the SCF data) and the ratio of stock prices to housing prices was essentially unchanged. In fact, as I have shown elsewhere (Wolff 2002), wealth inequality is positively related to the ratio of stock to house prices, since the former is heavily concentrated among the rich and the latter is the chief asset of the middle class. A regression run of the share of wealth held by the top 1 percent of households (WLTH) on the share of income received by the top 5 percent of families (INC), and the ratio of the S&P 500 index to housing prices (RATIO), with twenty-one data points between 1922 and 1998, yields:

$$\text{WLTH} = \underset{(0.9)}{5.10} + \underset{(4.2)}{1.27}\,\text{INC} + \underset{(2.5)}{0.26}\,\text{RATIO},\ R^2 = 0.64,\ N = 21\ (0.9)\ (4.2)\ (2.5)$$

with t-ratios shown in parentheses. Both variables are statistically significant (INC at the 1 percent level and RATIO at the 5 percent level) and have the expected (positive) sign. Also, the fit is quite good, even for this simple model.

Changes in median wealth and wealth inequality from 2007 to 2010 can be explained to a large extent by leverage—the ratio of debt to net worth. The steep fall in median wealth was due in large measure to the high leverage of middle-class households. The spike in wealth inequality was largely due to "differential leverage" between the rich and the middle classes.[33]

Two Arithmetic Examples

A simple arithmetical example illustrates the effects of leverage. Suppose average assets are 50 and average debt is 0 (left panel of table 3.8). Also, suppose that asset prices rise by 20 percent. Then average net worth also rises by 20 percent. However, now suppose that average debt is 40 and asset prices once again rise by 20 percent. Then average net worth increases from a base of 10 (50 minus 40) to 20 (60 minus 40) or by *100 percent*. Thus, leverage amplifies the effects of

TABLE 3.8 *The Effects of Leverage and Differential Leverage on the Rate of Return*

	Leverage				Differential Leverage		
	Year 1	Year 2	Percentage Change		Year 1	Year 2	Percentage Change
"The Rich"				"The Rich"			
Assets	50	60		Stocks	50	40	
Debt	0	0		Other assets	50	50	
Net worth	50	60	20	Debt	0	0	
Percentage increase in asset prices			20	Net worth	100	90	–10
				Percentage change in stock prices			–20
"The Middle Class"				"The Middle Class"			
Assets	50	60		Housing	60	48	
Debt	40	40		Other assets	10	10	
Net worth	10	20	100	Debt	30	30	
Percentage increase in asset prices			20	Net worth	40	28	–30
				Percentage increase in asset prices			–20

Source: Author's compilation.

asset price changes. However, the converse is also true. Suppose that asset prices decline by 20 percent. In the first case, net worth falls from 50 to 40, or by 20 percent. In the second case, net worth falls from 10 to 0 (40 minus 40), or by 100 percent. Thus, leverage can also magnify the effects of an asset price bust.

Another example illustrates the effects of differential leverage (see bottom of table 3.8). Suppose the total assets of the very rich in a given year are 100, consisting of 50 in stocks and 50 in other assets, and their debt is 0, for a net worth of 100. For the "middle class," suppose total assets are 70, consisting of 60 in housing and 10 in other assets, and their debt is 30, for a net worth of 40. The ratio of net worth between the very rich and the middle is 2.5 (100/40).

Suppose the value of both stocks and housing falls by 20 percent but the value of "other assets" remains unchanged. Then the total assets of the rich fall to 90 (40 in stocks and 50 in other assets), for a net worth of 90. The total assets of the middle class fall to 58 (48 in housing and 10 in other assets), but its debt remains unchanged at 30, for a net worth of 28. As a result, the ratio of net worth between the two groups *rises* to 3.21 (90/28). Even though housing and stock prices fall at the *same rate,* wealth inequality goes up. The reason is differential leverage between the two groups. If asset prices decline at the same rate, net worth decreases at an even greater rate for the middle than for the rich, since the debt-equity ratio is higher for the former than the latter. The converse is also true. A proportionate increase in house and stock prices will result in a decrease in wealth inequality.

Rates of Return

Table 3.9 shows estimated average annual rates of return for both gross assets and net worth over the period from 1983 to 2010. Results are based on the average portfolio composition over the period (see appendix table 3A.1 for the source data). For all households, the overall average annual rate of return on gross assets rose from 2.20 percent (1983–1989) to 3.25 percent

TABLE 3.9 *Average Annual Percentage Rates of Return, by Period and Wealth Class, 1983–2010*

	1983–1989	1989–2001	2001–2007	2007–2010	1983–2010
Gross assets					
All households	2.20	3.25	3.34	–6.95	1.90
Top 1 percent	3.00	3.88	3.86	–6.94	2.48
Next 19 percent	2.17	3.33	3.19	–6.70	1.93
Middle three quintiles	1.21	2.23	2.95	–7.52	1.08
Net worth					
All households	3.17	4.25	4.31	–7.39	2.73
Top 1 percent	3.38	4.15	4.03	–7.10	2.70
Next 19 percent	2.82	3.97	3.80	–7.35	2.42
Middle three quintiles	3.15	4.55	5.95	–8.89	3.06

Source: Author's computations from the 1983, 1989, 1991, 2007, and 2010 SCF.
Note: Rates of return by asset type are provided in appendix table 3A.1. Households are classified into wealth class according to their net worth. Calculations are based on household portfolios averaged over the period. Miscellaneous assets are excluded from the calculation.

(1989–2001), to 3.34 percent (2001–2007), before plummeting to –6.95 percent over the Great Recession. As shown in table 3A.1, the largest declines in asset prices over the years 2007 to 2010 occurred for residential real estate and the category businesses and nonhome real estate. The value of financial assets, including stocks, bonds, and other securities, registered an annual rate of return of "only" –2.23 percent because interest rates on corporate and foreign bonds remained strong over these years. The value of pension accounts had a –2.46 percent annual rate of return, reflecting the mixture of bonds and stocks held in pension accounts.

The average annual rate of return on net worth among all households also increased, from 3.17 percent in the first period to 4.25 percent in the second, then to 4.31 percent in the third, but it fell off sharply to –7.98 percent in the last period. The annual rates of return on net worth are uniformly higher—by about one percentage point—than those on gross assets over the first three periods, when asset prices were generally rising. In the 2007–2010 period, however, the opposite was the case, with the annual return on net worth 1.03 percent lower than that on gross assets. These results illustrate the effect of leverage, which raises the return when asset prices rise and lowers the return when asset prices fall. Over the full 1983–2010 period, the annual return on net worth was 0.77 percentage points higher than that on gross assets.[34]

There are striking differences in returns by wealth class. The top 1 percent of wealth holders reaped the highest returns on gross assets, followed by the next 19 percent and then by the middle three wealth quintiles. The one exception is the 2007–2010 period, when the next 19 percent was first, followed by the top 1 percent and then the middle three quintiles. The differences are substantial. Over the full 1983–2010 period, the average annual rate of return on gross assets for the top 1 percent was 0.55 percentage points greater than that of the next 19 percent and 1.39 percentage points greater than that of the middle quintiles. The differences reflect the greater share of high-yield investment assets like stocks in the portfolios of the rich and the greater share of housing in the portfolio of the middle class (shown in table 3.5).

This pattern is almost exactly reversed for rates of return for net worth. In this case, in the first three periods, when asset prices were generally rising, the highest return was recorded by the middle three wealth quintiles, but in the 2007–2010 period, when asset prices were declining, the middle three quintiles registered the lowest (that is, most negative) return. The exception was the first period, when the top 1 percent had the highest return. The reason was the

substantial spread in returns on gross assets between the top 1 percent and the middle three quintiles—1.79 percentage points. Interestingly, returns for the top 1 percent were greater than those of the next 19 percent, and for the same reason.

Differences in returns between the top 1 percent and the middle three quintiles were substantial in some years. In 2001–2007, the return on net worth was 5.95 percent per year for the latter and 4.03 percent per year for the former, a difference of 1.92 percentage points. Over the Great Recession, the rate of return on net worth was –7.98 percent for the top 1 percent and –11.37 percent for the middle three quintiles, a difference of 4.27 percentage points. The spread in rates of return between the top 1 percent and the middle three quintiles reflects the much higher leverage of the middle class. In 2010, for example, the debt-equity ratio of the middle three quintiles was 0.72, while that of the top 1 percent was 0.04. The debt-equity ratio of the next 19 percent was also relatively low, at 0.14.

The huge negative rate of return on net worth of the middle three wealth quintiles was largely responsible for the precipitous drop in median net worth between 2007 and 2010. This factor, in turn, was due to the steep drop in asset prices, particularly housing, and the very high leverage of the middle wealth quintiles. Likewise, the very high rate of return on the net worth of the middle three quintiles over the 2001–2007 period (5.95 percent per year) played a big role in explaining the robust advance of median net worth, despite the sluggish growth in median income. This in turn was a result of their high leverage coupled with the boom in housing prices.

The substantial differential in rates of return on net worth between the middle three wealth quintiles and the top quintile (over four points lower) helps explain why wealth inequality rose sharply between 2007 and 2010 despite the decline in income inequality. Likewise, this differential over the 2001–2007 period (a spread of about two percentage points in favor of the middle quintiles) helps account for the stasis in wealth inequality over these years despite the increase in income inequality.

THE RACIAL DIVIDE WIDENS OVER THE GREAT RECESSION

The racial-ethnic divide widened during the Great Recession. Tables 3.10 and 3.11 divide households into non-Hispanic whites ("whites"), non-Hispanic African Americans ("blacks"), and Hispanics.[35] As shown table 3.10, in 2006 the ratio of mean incomes between white and black households was an already low 0.48, and the ratio of median incomes was 0.60. The ratios of mean and median wealth holdings were lower, at 0.19 and 0.06, respectively.[36] The homeownership rate for black households was 49 percent in 2007, a little less than two-thirds that of whites, and the percentage of black households with zero or negative net worth stood at 33, more than double that of whites.

Between 1982 and 2006, while the average real income of white households increased by 42 percent and the median by 10 percent, the former rose by only 28 percent for black households and the latter by 18 percent. As a result, the ratio of mean income slipped from 0.54 in 1982 to 0.48 in 2006, while the ratio of median income rose from 0.56 to 0.60.[37] The contrast in time trends between the ratio of means and that of medians reflects the huge increase in income for a relatively small number of white households—a result of rising income inequality among whites.

Between 1983 and 2001, average net worth in constant dollars climbed by 73 percent for whites, but rose by only 31 percent for black households, so that the net worth ratio fell from 0.19 to 0.14. Most of the slippage occurred between 1998 and 2001, when white net worth surged by a spectacular 34 percent and black net worth advanced by only a respectable 5 percent. Indeed, mean net worth growth among black households was slightly higher in the 1998–

TABLE 3.10 *Household Income and Wealth for Non-Hispanic Whites and Blacks, 1982–2010*

	Means			Medians		
	Non-Hispanic Whites	Non-Hispanic Blacks	Ratio	Non-Hispanic Whites	Non-Hispanic Blacks	Ratio
Income (in thousands of 2010 dollars)						
1982	68.2	36.7	0.54	48.0	26.7	0.56
1988	74.7	33.2	0.45	49.7	18.9	0.38
1991	74.2	37.2	0.50	45.7	25.9	0.57
1994	68.2	32.9	0.48	45.8	24.3	0.53
1997	77.4	38.0	0.49	49.5	26.8	0.54
2000	93.4	45.3	0.48	54.2	30.8	0.57
2003	89.8	44.0	0.49	55.4	32.3	0.58
2006	97.1	46.9	0.48	52.6	31.6	0.60
2009	86.8	41.4	0.48	51.0	30.0	0.59
Net worth (in thousands of 2010 dollars)						
1983	332.3	62.5	0.19	95.7	6.4	0.07
1989	393.2	65.9	0.17	113.6	2.9	0.03
1992	380.5	70.7	0.19	95.3	16.0	0.17
1995	346.8	58.3	0.17	87.3	10.5	0.12
1998	429.3	78.0	0.18	109.3	13.4	0.12
2001	573.5	81.7	0.14	131.0	13.1	0.10
2004	616.4	117.1	0.19	136.6	13.7	0.10
2007	685.8	129.0	0.19	151.1	9.7	0.06
2010	593.3	84.5	0.14	97.0	4.9	0.05
Homeownership rate (percentage)						
1983	68.1	44.3	0.65			
1989	69.3	41.7	0.60			
1992	69.0	48.5	0.70			
1995	69.4	46.8	0.67			
1998	71.8	46.3	0.64			
2001	74.1	47.4	0.64			
2004	75.8	50.1	0.66			
2007	74.8	48.6	0.65			
2010	74.6	47.7	0.64			
Percentage of households with zero or negative net worth						
1983	11.3	34.1	3.01			
1989	12.1	40.7	3.38			
1992	13.8	31.5	2.28			
1995	15.0	31.3	2.09			
1998	14.8	27.4	1.85			
2001	13.1	30.9	2.35			
2004	13.0	29.4	2.27			
2007	14.5	33.4	2.30			
2010	18.6	33.9	1.83			

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.
Note: Households are divided into four racial-ethnic groups: non-Hispanic whites; non-Hispanic blacks; Hispanics; and American Indians, Asians, and others. For 1995, 1998, and 2001, the classification scheme does not explicitly indicate non-Hispanic whites and non-Hispanic blacks for the first two categories, so that some Hispanics may have classified themselves as either white or black.

TABLE 3.11 *Household Income and Wealth for Non-Hispanic Whites and Hispanics, 1982–2010*

	Means			Medians		
	Non-Hispanic Whites	Hispanics	Ratio	Non-Hispanic Whites	Hispanics	Ratio
Income (in thousands of 2010 dollars)						
1982	68.2	41.2	0.60	48.0	31.8	0.66
1988	74.7	34.0	0.46	49.7	23.8	0.48
1991	74.2	35.0	0.47	45.7	24.4	0.53
1994	68.2	44.2	0.65	45.8	31.5	0.69
1997	77.4	41.6	0.54	49.5	30.8	0.62
2000	93.4	46.3	0.50	54.2	29.6	0.55
2003	89.8	44.4	0.49	55.4	30.0	0.54
2006	97.1	48.8	0.50	52.6	36.8	0.70
2009	86.8	49.1	0.57	51.0	34.0	0.67
Net worth (in thousands of 2010 dollars)						
1983	332.3	54.0	0.16	95.7	3.7	0.04
1989	393.2	64.7	0.16	113.6	2.4	0.02
1992	380.5	84.6	0.22	95.3	5.7	0.06
1995	346.8	73.4	0.21	87.3	7.2	0.08
1998	429.3	106.0	0.25	109.3	4.0	0.04
2001	573.5	98.6	0.17	131.0	3.6	0.03
2004	616.4	132.1	0.21	136.6	6.4	0.05
2007	685.8	179.2	0.26	151.1	9.6	0.06
2010	593.3	90.3	0.15	97.0	1.3	0.01
Homeownership rate (percentage)						
1983	68.1	32.6	0.48			
1989	69.3	39.8	0.57			
1992	69.0	43.1	0.62			
1995	69.4	44.4	0.64			
1998	71.8	44.2	0.61			
2001	74.1	44.3	0.60			
2004	75.8	47.7	0.63			
2007	74.8	49.2	0.66			
2010	74.6	47.3	0.63			
Percentage of households with zero or negative net worth						
1983	11.3	40.3	3.01			
1989	12.1	39.9	3.38			
1992	13.8	41.2	2.28			
1995	15.0	38.3	2.09			
1998	14.8	36.2	2.09			
2001	13.1	35.3	2.69			
2004	13.0	31.3	2.41			
2007	14.5	33.5	2.30			
2010	18.6	35.8	1.93			

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.
Note: See table 3.10 note for details on racial-ethnic categories.

2001 years, at 1.55 percent per year, than in the preceding fifteen years, at 1.47 percent per year. Between 2001 and 2007, however, mean net worth among blacks gained an astounding 58 percent, while white wealth advanced by 29 percent, so that by 2007 the net worth ratio was back to 0.19, the same level as in 1983.

One salient difference between the two groups is the much higher share of stocks in the white portfolio and the much higher share of homes in the portfolio of black households. In 2001 the gross value of principal residences formed 46 percent of the total assets of black households, compared to 27 percent among whites, while (total) stocks were 25 percent of the total assets of whites and only 15 percent of total assets of black households. In the case of median wealth, the black-white ratio fluctuated over time but was almost exactly the same in 2007 as in 1983—0.06 compared to 0.07.

The homeownership rate of black households grew from 44 to 47 percent between 1983 and 2001, but relative to white households, the homeownership rate slipped slightly, from 0.65 in 1983 to 0.64 in 2001. From 2001 to 2007, the white homeownership rate rose slightly, from 74.1 to 74.8 percent, and the ratio of homeownership rates advanced slightly, to 0.65. The percentage of black households with zero or negative net worth fell from 34 percent in 1983 to 31 percent in 2001 (and also declined relative to the corresponding rate for whites). In the ensuing six years, however, the share rose back to 33 percent (though relative to white households it remained largely unchanged).

The picture differs for Hispanics (see table 3.11). The ratio of mean income between Hispanics and non-Hispanic whites in 2007 was 0.50, almost the same as that between black and white households. However, the ratio of median income was 0.70, much higher than the ratio between black and white households. The ratio of mean net worth was 0.26 compared to a ratio of 0.19 between blacks and whites. However, the ratio of medians was 0.06, almost identical to that between blacks and whites. The Hispanic homeownership rate was 49 percent, almost identical to that of black households, and 34 percent of Hispanic households reported zero or negative wealth, almost the same as for African Americans.

Hispanic households made considerable progress from 1983 to 2007. Mean income grew by 18 percent and median income by 16 percent, so that while the ratio of mean income slid from 60 to 50 percent, the ratio of median income advanced from 66 to 70 percent. Between 1983 and 2001, mean wealth doubled for Hispanic households and the ratio of mean net worth increased slightly, from 16 to 17 percent. Mean net worth among Hispanics then climbed by another 82 percent between 2001 and 2007, and the corresponding ratio advanced to 26 percent, quite a bit higher than that between black and white households. The surge in Hispanic wealth from 2001 to 2007 can be traced to a five-percentage-point jump in the Hispanic homeownership rate.

From 1983 to 2007, median wealth among Hispanics remained largely unchanged, so that the ratio of median wealth between Hispanics and whites stayed virtually the same. In contrast, the homeownership rate among Hispanic households surged from 33 to 44 percent between 1983 and 2001, and the ratio of homeownership rates between the two groups grew from 0.48 in 1983 to 0.60 in 2001. Between 2001 and 2007, the Hispanic homeownership rose once again, to 49 percent, about the same as for black households, and the homeownership ratio rose sharply to 0.66. The percentage of Hispanic households with zero or negative net worth fell steadily over time, from 40 percent in 1983 to 34 percent in 2007 (about the same as for black households), and the share relative to white households tumbled from a ratio of 3.0 to 2.3.

Despite some progress from 2001 to 2007, the respective wealth gaps between minorities and whites were still much greater than the corresponding income gaps in 2007. While mean income ratios were about 50 percent, mean wealth ratios were about 20 to 25 percent, and the share with zero or negative net worth was around one-third, in contrast to 15 percent among

TABLE 3.12 *Composition of Household Wealth, by Race and Ethnicity, 2007 (Percentage of Gross Assets)*

	Non-Hispanic Whites	Non-Hispanic Blacks	Hispanics
Principal residence	30.8	54.0	52.5
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	6.6	7.6	3.9
Pension accounts	12.5	12.3	7.7
Corporate stock, financial securities, mutual funds, and personal trusts	17.1	3.4	2.5
Unincorporated business equity, other real estate	31.3	20.9	32.9
Miscellaneous assets	1.7	1.8	0.4
Total assets	100.0	100.0	100.0
Selected ratios (percentage)			
Debt-equity ratio	15.4	55.3	51.1
Debt-income ratio	109.0	152.2	187.9
Net home equity/total assets[a]	20.8	27.3	28.8
Principal residence debt/house value	32.4	49.4	45.2
All stocks/total assets[b]	18.3	5.0	5.1

Source: Author's computations from the 2007 SCF.
[a]Ratio of gross value of principal residence less mortgage debt on principal residence to total assets.
[b]Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.

non-Hispanic white households (a difference that appears to mirror the gap in poverty rates). While blacks and Hispanics were left out of the wealth surge of the years 1998 to 2001 because of relatively low stock ownership, they actually benefited from this (and the relatively high share of houses in their portfolios) in the 2001–2007 period. However, all three racial-ethnic groups saw an increase in their debt-to-asset ratio from 2001 to 2007.

By 2010, the racial picture had shifted. While the ratio of both mean and median income between black and white households changed very little between 2007 and 2010 (mean income, in particular, declined for both groups), the ratio of mean net worth dropped from 0.19 to 0.14. The proximate causes were the higher leverage of black households and their higher share of housing wealth in gross assets (see table 3.12). In 2007 the debt-equity ratio among blacks was an astounding 0.55, compared to 0.15 among whites, while housing as a share of gross assets was 0.54 for the former as against 0.31 for the latter. The ratio of mortgage debt to home value was also much higher for blacks (0.49) than for whites (0.32). The sharp drop in home prices from 2007 to 2010 thus led to a relatively steeper loss in home equity for the former (25 percent) than the latter (21 percent) (see table 3.12). This factor explains the steeper fall in mean net worth for black households relative to white households.[38]

The Great Recession hit Hispanic households much harder than black households in terms of wealth. Mean income among Hispanic households rose a bit from 2007 to 2010, and the ratio with respect to white households increased from 0.50 to 0.57. On the other hand, the median income of Hispanics fell, as did the ratio of median income between Hispanics and whites. However, the mean net worth of Hispanics, in 2010 dollars, fell almost *in half,* and the ratio of this to the mean wealth of whites plummeted from 0.26 to 0.15. The same factors were responsible here as with black households. In 2007 the debt-equity ratio for Hispanics was 0.51, compared

to 0.15 among whites, while housing as a share of gross assets was 0.53 for the former as against 0.31 for the latter (see table 3.12). The ratio of mortgage debt to home value was also higher for Hispanics (0.45) than for whites (0.32). As a result, home equity dropped by 48 percent among Hispanic homeowners, compared to 21 percent among white homeowners (see table 3.7). This factor was largely responsible for the huge decline in Hispanic net worth both in absolute and relative terms.

Hispanic net worth plummeted, first, because a large proportion of Hispanic owners bought their homes from 2001 to 2007, when prices were peaking. As a result, they suffered a disproportionately large percentage drop in their home equity. Second, Hispanic homeowners were clustered in regions where home prices fell the most, like California, Arizona, and Nevada (the "sand states") and Florida.

There was also a steep drop in the homeownership rate among Hispanic households of 1.9 percentage points from 2007 to 2010. Indeed, after catching up to white households in this dimension from 1983 to 2007, Hispanic households fell back in 2010 to the same level as in 2004. These results accord with those of table 3.7, which shows that Hispanics had by far the highest percentage of homeowners who were delinquent in their mortgage payments in 2009 of any group. Also, the "sand states" and Florida suffered especially large hikes in unemployment.

WEALTH SHIFTS FROM THE YOUNG TO THE OLD

The cross-sectional age-wealth profiles generally follow the predicted hump-shaped pattern of the life-cycle model (table 3.13). Mean wealth increases with age up through age sixty-five, then falls off. Homeownership rates have a similar profile, though the falloff after the peak age is much more attenuated than for the wealth numbers. (In 2004 homeownership rates actually showed a steady rise with age.) In 2010 the wealth of elderly households (age sixty-five and older) was 2.1 times as high as that of the non-elderly, and their homeownership rate was nineteen percentage points higher. Despite the apparent similarity in profiles, there were notable shifts in the relative wealth holdings by age group from 1983 to 2007. The relative wealth of the youngest age group (under thirty-five years of age) declined from 21 percent of the overall mean in 1983 to 17 percent in 2007. In 2007 the mean wealth of the youngest age group was $95,900 (in 2010 dollars), only slightly more than the mean wealth of this age group in 1989 ($93,100). Though educational loans expanded markedly over the 2000s and by 2007 one-third of households in this age group reported an outstanding student loan, 74 percent of the total debt of this age group was mortgage debt and only 9.5 percent took the form of student loans.

The mean net worth of the next-youngest age group (age thirty-five to forty-four) relative to the overall mean collapsed from 0.71 in 1983 to 0.58 in 2007. The relative wealth of the next-youngest age group (age forty-five to fifty-four) also declined, from 1.53 in 1983 to 1.19 in 2007. The relative wealth of fifty-five- to sixty-four-year-olds was about the same in 2007 (1.69) as it was in 1983. The relative net worth of sixty-five- to seventy-four-year-olds plummeted from 1.93 in 1983 to 1.61 in 1989, but recovered to 1.86 in 2007. The wealth of the oldest age group (age seventy-five and older) gained ground, from only 5 percent above the mean in 1983 to 16 percent above in 2007.

Changes in homeownership rates mirror these trends. While the overall ownership rate increased by 5.2 percentage points, from 63.4 to 68.6 percent, between 1983 and 2007, the share of households in the youngest age group owning their own home increased by only 2.1 percentage points. The homeownership rate of households between ages thirty-five and forty-four actually fell by 2.3 percentage points, and that of forty-five- to fifty-four-year-olds declined by 0.9 percentage points. The older groups reported the biggest gains in homeownership: 3.9

TABLE 3.13 *Age-Wealth Profiles and Homeownership Rates, by Age, 1983–2010*

	1983	1989	1992	1995	1998	2001	2004	2007	2010
Mean net worth (ratio to overall mean)									
Under thirty-five	0.21	0.29	0.20	0.16	0.22	0.19	0.14	0.17	0.10
Thirty-five to forty-four	0.71	0.72	0.71	0.65	0.68	0.64	0.65	0.58	0.41
Forty-five to fifty-four	1.53	1.50	1.42	1.39	1.27	1.25	1.21	1.19	1.14
Fifty-five to sixty-four	1.67	1.58	1.82	1.81	1.91	1.86	1.91	1.69	1.81
Sixty-five to seventy-four	1.93	1.61	1.59	1.71	1.68	1.72	1.57	1.86	1.74
Seventy-five and older	1.05	1.26	1.20	1.32	1.12	1.20	1.19	1.16	1.36
Mean nonhome wealth (ratio to overall mean)									
Under thirty-five	0.17	0.28	0.18	0.14	0.21	0.19	0.12	0.15	0.09
Thirty-five to forty-four	0.59	0.68	0.69	0.62	0.67	0.61	0.64	0.54	0.39
Forty-five to fifty-four	1.53	1.48	1.45	1.43	1.31	1.27	1.24	1.19	1.14
Fifty-five to sixty-four	1.72	1.60	1.89	1.86	1.99	1.94	1.97	1.80	1.89
Sixty-five to seventy-four	2.12	1.69	1.60	1.75	1.66	1.74	1.61	1.86	1.76
Seventy-five and older	1.10	1.27	1.14	1.26	1.00	1.11	1.08	1.10	1.27
Homeownership rate (percentage)									
All ages	63.4	62.8	64.1	64.7	66.3	67.7	69.1	68.6	67.2
Under thirty-five	38.7	36.3	36.8	37.9	39.2	40.2	41.5	40.8	37.5
Thirty-five to forty-four	68.4	64.1	64.4	64.7	66.7	67.6	68.6	66.1	63.8
Forty-five to fifty-four	78.2	75.1	75.5	75.4	74.5	76.1	77.3	77.3	75.2
Fifty-five to sixty-four	77.0	79.2	77.9	82.3	80.6	83.2	79.1	80.9	78.1
Sixty-five to seventy-four	78.3	78.1	78.8	79.4	81.7	82.5	81.2	85.5	82.5
Seventy-five and older	69.4	70.2	78.1	72.5	76.9	76.2	85.1	77.0	81.3

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.
Note: Households are classified according to the age of the household head.

percentage points for those ages fifty-five to sixty-four, 7.1 percentage points for ages sixty-five to seventy-four, and 7.6 percentage points for the oldest group.[39] By 2007, homeownership rates rose monotonically up to ages sixty-five to seventy-four and then dropped for the oldest age group. The statistics point to a relative shifting of homeownership away from younger and toward older households between 1983 and 2007.

Changes in wealth were even more dramatic from 2007 to 2010. In actual (2010) dollar terms, the average wealth of the youngest age group collapsed from $95,500 in 2007 to $48,400 in 2010—the second-lowest point over the twenty-seven-year period (the lowest occurred in 1995).[40] The relative wealth of the thirty-five- to forty-four-year-old age group also shrank drastically, from $325,00 to $190,000, its lowest point over the whole 1983–2010 period. One possible reason for these steep declines in wealth is that younger households were more likely to have bought homes near the peak of the housing cycle.

In contrast, the relative net worth of fifty-five- to sixty-four-year-olds increased sharply. The oldest age group gained in relative terms, though it fell in absolute terms, from $653,700 to $629,100. The relative wealth of sixty-five- to seventy-four-year-olds declined relatively and fell in absolute dollars as well, from $1,048,600 to $808,500. Homeownership rates fell for all age groups from 2007 to 2010 (except the very oldest), but the percentage-point decline (3.3 percentage points) was greatest for the youngest age group.

Changes in the relative wealth position of different age groups depend in large measure on relative asset price movements and differences in asset composition. The latter are highlighted

in table 3.14 for the year 2007. Homes accounted for over half the value of total assets for the age group thirty-five and younger, and the share declined to about one-quarter for fifty-five- to sixty-four-year-olds, then rose to 30 percent for the oldest age group. Liquid assets as a share of total assets remained relatively flat with age group at around 6 percent, except for the oldest group, for whom it was 11 percent, perhaps reflecting their conservative financial strategy. Pension accounts as a share of total assets rose from 4 percent for the youngest group to 16 percent for fifty-five- to sixty-four-year-olds and fell to 5 percent for the oldest age group. This pattern reflects the buildup of retirement assets until retirement age, when retirees begin to liquidate those assets.[41] Corporate stock and financial securities showed a steady rise with age, from a 4 percent share for the youngest group to a 26 percent share for the oldest. A similar pattern was evident for total stocks as a percentage of all assets. Unincorporated business equity and non-home real estate were relatively flat as a share of total assets with age, at about 30 percent. The debt-equity ratio declined from 0.93 for the youngest group to 0.02 for the oldest; the debt-to-income ratio fell from 1.68 to 0.30, youngest to oldest, and similarly, mortgage debt as a share of house value decreased from 0.65 to 0.05. Home equity as a proportion of total assets rose from 19 to 29 percent from the youngest to oldest age groups.

Younger households are more heavily invested in homes and more heavily in debt, while the portfolio of older households is skewed toward financial assets, particularly corporate stock. As a result, younger households benefit relatively when housing prices rise and inflation is strong, while older households benefit relatively from rising stock prices. Changes in the relative net worth position of age groups over the 1983–2007 period were largely due to these relative asset price movements. In particular, as with minority households, the higher leverage of younger age groups made them vulnerable when asset prices, particularly housing prices, declined. The steep decline in house prices from 2007 to 2010 thus led to a relatively steeper loss in home equity for the youngest age group (59 percent) than overall (26 percent) (see table 3.7). This factor, in turn, led to a much steeper fall in net worth.

The story is very similar for the next-youngest age group, thirty-five- to forty-four-year-olds. In 2007 their debt-equity ratio was 0.41, their ratio of mortgage debt to house value was 0.51, and their share of housing in gross assets was 0.44. All were much higher than average. As with the youngest age group, the drop in home prices from 2007 to 2010 caused a large fall in home equity (49 percent) in this age group, which in turn caused a steep fall in their relative net worth.

SUMMARY AND CONCLUSION

Median wealth showed robust growth during the 1980s and 1990s and an even faster advance from 2001 to 2007. Then the Great Recession hit. From 2007 to 2010, house prices fell by 24 percent in real terms, stock prices by 26 percent, and median wealth by a staggering 47 percent. Median income also dropped by a relatively modest 6.4 percent. The percentage of households with nonpositive net worth rose sharply, from 18.6 to 22.5 percent.

Wealth inequality, after remaining relatively stable from 1989 to 2007, increased over the Great Recession. The Gini coefficient climbed from 0.834 to 0.870, and the share of the top 20 percent from 85 to 89 percent. The share of the bottom 40 percent plunged from 0.2 to –0.9 percent. In contrast, income inequality, after rising moderately from 2000 to 2007 (an increase of 0.012 Gini points), dropped substantially from 2006 to 2009 (a decrease of 0.025 Gini points).

The percentage increase in net worth (also income) from 1983 to 2010 was much greater for the top wealth (and income) groups than for those lower in the distribution. Between 1983 and 2010, the top 1 percent received 38 percent of the total growth in net worth and 39 percent

TABLE 3.14 *Composition of Household Wealth, by Age Class, 2007 (Percentage of Gross Assets)*

	All	Under Thirty-Five	Thirty-Five to Forty-Four	Forty-Five to Fifty-Four	Fifty-Five to Sixty-Four	Sixty-Five to Seventy-Four	Seventy-Five and Older
Principal residence	32.8	54.3	43.7	33.8	25.6	28.2	30.2
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	6.6	5.7	5.4	6.4	6.3	6.1	10.5
Pension accounts	12.1	6.0	10.7	13.0	15.8	12.9	5.0
Corporate stock, financial securities, mutual funds, and personal trusts	15.5	4.2	8.6	13.1	16.4	20.5	25.6
Unincorporated business equity, other real estate	31.3	28.7	30.1	32.0	34.4	30.2	27.1
Miscellaneous assets	1.7	1.2	1.5	1.7	1.5	2.1	1.6
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Selected ratios (percentage)							
Debt-equity ratio	18.1	92.7	41.3	20.2	11.9	7.1	2.1
Debt-income ratio	118.7	167.5	156.5	118.2	100.0	79.7	29.9
Net home equity/total assets[a]	21.4	18.8	21.3	20.9	18.1	23.4	28.7
Principal residence debt/house value	34.9	65.4	51.4	38.3	29.2	16.9	4.9
All stocks/total assets[b]	16.8	5.9	11.2	15.1	19.4	21.5	20.0

Source: Author's computations from the 2007 SCF.

Note: Households are classified into age class according to the age of the household head.

[a]Ratio of gross value of principal residence less mortgage debt on principal residence to total assets.

[b]Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.

of the total increase in income. The figures for the top 20 percent were 101 percent and 104 percent, respectively—that is to say, the upper quintile enjoyed all of the gains of this period.

The years 2001 to 2007 also saw a sharply rising debt-to-income ratio, which reached its highest level in almost twenty-five years, at 1.19 among all households in 2007. The debt-equity ratio also rose, from 0.14 to 0.18. Most of the rising debt was from increased mortgages on homes. From 2007 to 2010, both ratios rose, the former moderately, from 1.19 to 1.27, and the latter more steeply, from 0.18 to 0.21. This was true despite a moderate retrenchment of overall average debt of 4.4 percent, and it reflected the drop in both mean wealth and income.

Home values as a share of total assets among all households remained relatively unchanged from 1983 to 2010 (around 30 percent). However, home equity as a share of total assets fell from 0.24 in 1983 to 0.18 in 2010, reflecting rising mortgage debt, which grew from 21 percent of house value in 1983 to 35 percent in 2007 and then jumped to 41 percent in 2010. The large increase in the ratio from 2007 to 2010 was a result of falling home values. (Average mortgage debt actually declined by 5.0 percent in constant dollars.)

Trends are more pronounced for the middle class. Among the middle three wealth quintiles, there was a huge increase in the debt-income ratio, from 1.00 in 2001 to 1.57 in 2007, and an almost doubling of the debt-equity ratio, from 0.32 to 0.61 percent. The debt-equity ratio was also much higher among the middle 60 percent of households in 2007, at 0.61, than among the top 1 percent (0.028) or the next 19 percent (0.121). However, from 2007 to 2010, while the debt-equity ratio advanced to 0.72, the debt-to-income ratio fell to 1.35. The reason is the substantial retrenchment of average debt among the middle class over these years. Overall debt fell by 25 percent in real terms, mortgage debt declined by 23 percent, and other debt fell by 32 percent. The fact that the debt-equity ratio rose over these years reflected the steep drop in median net worth.

From 2007 to 2010, the average home equity among homeowners declined by 26 percent. This reduction would have been higher except for the contraction of mortgage debt noted earlier. Hispanics, younger households, and middle-income households were hit particularly hard in terms of the loss of home equity.

In terms of retirement preparedness from defined contribution accounts, there was generally an improvement from 2007 to 2010, except for middle-class households. The share of households with a DC account, after rising from 11 percent in 1983 to 53 percent in 2007, fell to 50 percent in 2010. However, average DC pension wealth grew from 2007 to 2010, largely because portfolios shifted. Pension accounts as a share of total assets, after rising from 1.5 percent in 1983 to 12 percent in 2007, jumped to 15 percent in 2010. Among middle-class families, however, the share with a DC plan, after growing robustly from 12 percent in 1983 to 53 percent in 2007, fell off sharply to 46 percent in 2010, and the change in real dollar terms from 2007 to 2010 was –24 percent.

The key to understanding the plight of the middle class over the Great Recession was their high degree of leverage and the high concentration of assets in their homes. The steep decline in median net worth between 2007 and 2010 was primarily due to the very high negative annual rate of return on net worth of the middle three wealth quintiles (–8.9 percent). This, in turn, was attributable to the precipitous fall in home prices and the very high degree of leverage in these quintiles. High leverage, moreover, helps explain why median wealth fell more than house (and stock) prices over these years and declined much more than median household income.

The large spread in rates of return on net worth between the middle three wealth quintiles and the top quintile (over a point and a half lower) also largely explains why wealth inequality increased steeply from 2007 to 2010 despite the decline in income inequality. Indeed, the middle class took a bigger relative hit on their net worth from the decline in home prices than the

top 20 percent did from the stock market plunge. This factor is also reflected in the fact that median wealth dropped much more in percentage terms than mean wealth over the Great Recession. The evidence further suggests that middle-class households went into debt partly in order to increase their leverage and raise their rate of return, at least when asset (particularly home) prices were rising. Of course, the increased leverage also made them vulnerable when asset prices collapsed.

The racial disparity in wealth holdings, after fluctuating from 1983 to 2007, was almost exactly the same in 2007 as in 1983. The Great Recession hit black households much harder than whites, however, and the ratio of mean wealth between the two groups plunged from 0.19 in 2007 to 0.14 in 2010, mainly owing to a 34 percent decline (in real terms) in African American wealth. The relative (and absolute) losses suffered by black households from 2007 to 2010 were due to the fact that blacks had a higher share of homes in their portfolio than did whites and much higher debt-equity ratios (0.55 and 0.15, respectively).

Hispanic households made sizable gains on (non-Hispanic) white households from 1983 to 2007. The ratio of mean net worth grew from 0.16 to 0.26, the homeownership rate among Hispanic households climbed from 33 to 49 percent, and the ratio of homeownership rates with white households advanced from 48 percent in 1983 to 66 percent in 2007. In a reversal of fortunes, however, the Great Recession decimated Hispanic households' gains. Their mean net worth plunged in half, the ratio of their mean net worth with white households fell from 0.26 to 0.15, their homeownership rate fell by 1.9 percentage points, and their home equity plummeted by 48 percent. The relative (and absolute) losses suffered by Hispanic households over these three years were also mainly due to the much larger share of homes in their wealth portfolio and their much higher debt-equity ratio (0.51 versus 0.15). Also, a high percentage of Hispanics bought their homes close to the housing cycle peak.

The Great Recession also pummeled young households. The ratio of net worth between households under age thirty-five and all households fell from 0.21 in 1983 to 0.17 in 2007 and then plunged to 0.10 in 2010. In (real) dollar terms, their mean net worth declined by 49 percent from 2007 to 2010. The ratio of thirty-five- to forty-four-year-olds' net worth to the overall figure fell from 0.71 in 1983 to 0.58 in 2007 and then declined precipitously to 0.41 in 2010. In dollar terms, their wealth fell by 42 percent over the latter three years. The same two factors explain the losses suffered by young households—the higher share of homes in their wealth portfolio and their much higher leverage ratios.

What has happened since 2010? Median household income still has not recovered (it is actually down 1.5 percent in real terms from 2010 to 2011, according to the latest CPS data), and the unemployment rate remains high, at 7.9 percent in January 2013, according to BLS data, though below its peak of 10.0 percent in October 2009. The stock market is recovering. As of March 2013, stock prices in nominal terms had risen above the last peak, in 2007. With the recovery in the stock market, data from the World Top Incomes Database, based on IRS tax data, indicate a sharp increase in income inequality from 2010 and 2011 as property income and capital gains also recovered. The housing sector also is on the upswing, beginning in 2012, when median house prices rose about 7 percent over the year.

What are some of the policy implications of these findings? Though a complete analysis is not possible here, I will present a few ideas about how we might prevent a recurrence of the financial crisis of the late 2000s. While most studies and commentators have focused on the asset-building side, I am more concerned with the liability side here. As noted extensively throughout this chapter, middle-class households found themselves extremely overleveraged in 2007. This factor, together with loose credit, helped fuel the housing bubble and resultant mortgage crisis (see, for example, Mian and Sufi 2011). This, in turn, helped set off the financial

crisis and ensuing Great Recession. As I argue, the credit market was rife with perverse incentives that helped to precipitate the Great Recession.

As noted earlier, loose credit allowed prospective homeowners to obtain mortgages that were not justified by the level of their household income. This process was compounded by the securitization of home mortgages, since it allowed banks and other financial institutions to issue more mortgages. Indeed, perverse incentives were built into this system, since banks and other financial institutions were able to package these new mortgages and sell them off almost immediately to other investors. As a result, mortgage loan defaults were not directly a concern of the initial lenders. This system was aided and abetted by credit rating agencies such as Standard & Poor's. Once again, perverse incentives were at work: credit rating agencies were paid directly by the bond issuers, so they had a strong motivation to collude with the bond issuers and provide a high rating to such suspect bonds.

As a result, President George W. Bush's well-intentioned effort to promote minority homeownership from 2001 to 2008 generally backfired. The huge expansion of credit, particularly in the mortgage market, led to a large growth of mortgage loans requiring little in the way of down payment and, indeed, little in the way of income documentation. Loans were issued to families who were not creditworthy and who lacked the wherewithal to repay them, particularly in times of economic distress. Indeed, many lenders preyed on unsuspecting, gullible, and financially illiterate potential homeowners, mainly minority and low-income households. Such predatory lending led to the excessive use of subprime mortgages and even "no-doc" and NINJA mortgages, which left a lot of people, particularly minorities, vulnerable to the collapse of the housing market.

The federal government also played a role in the process. The main culprits were Fannie Mae and Freddie Mac, which guaranteed or even bought up a lot of suspect mortgages. Very little attempt was made to ensure the creditworthiness of these loans. The Federal Housing Administration (FHA) played a subsidiary role during these years by insuring mortgage loans that it had no right to insure.

On the basis of the disastrous experience with the housing market from 2007 onward and the ensuing general—indeed, international—financial crisis that emanated from it, policy recommendations must take the form of better ways to structure the market for mortgage loans. Credit flowed too freely in the years leading up to the Great Recession, spurring the raft of unsustainable mortgages. The snowball effect of delinquencies and foreclosures led to the collapse of the whole credit system.

Greater government restrictions on mortgage loans may appear harmful when people are trying to buy a home, but they can prove beneficial in the long run if they prevent families from foreclosure and possible bankruptcy. The policy upshot is to enact tighter controls on mortgage loans. Today credit markets, particularly mortgage markets, have tightened their credit lines. As of 2013, 20 percent down payments and higher FICO credit scores are now standard. Regulations need to be put in place, however, to ensure that credit restrictions are not loosened as the economy recovers. Moreover, new regulations preventing "predatory" lending must also be put in place. New regulations are already contained in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. The Dodd-Frank Act covers mortgages that have already been issued but are not yet in effect (qualified mortgages, or QMs), as well as mortgages that have not yet (at least, not as of March 2013) been issued (qualified residential mortgages, or QRMs).

New restrictions must also be placed on the securitization of mortgage loans. In particular, I would recommend that the issuing financial institution be required to buy back a minimum percentage of the securities it issues (say, 5 percent). This requirement would ensure that the financial institution has a strong incentive to issue only creditworthy mortgages.

What to do about Fannie Mae and Freddie Mac is another important concern. Apparently, these two agencies cannot be left to self-monitor their activities, as the huge bailout of both by the federal government gives testament. An oversight committee might make a lot of sense. The credit rating agencies like Standard & Poor's must also be subject to greater scrutiny. The existing legal system may actually be the best way to handle this problem. Numerous lawsuits to collect damages have already been filed against these agencies, and the adverse outcome of such suits may provide them with a strong incentive to rationally rate new securities that are issued.

On the more immediate front, the federal government's Home Affordable Refinance Program (HARP), designed to aid underwater homeowners, has so far been a disappointment, although it might be too early to judge it a failure. Its purpose is to prevent foreclosures by reducing the outstanding balances on mortgage loans. Most banks have been reluctant, however, to reduce the outstanding principal on first mortgages. As reported in the *New York Times* in February 2013, even though a settlement was reached by the federal government that required banks to grant $25 billion worth of mortgage relief, only 71,000 borrowers had had their primary mortgages modified through 2012, versus 170,000 who received reductions and even forgiveness of their second mortgages, including home equity loans. As the *Times* noted, forgiveness of second mortgages does not prevent foreclosure if there is a balance outstanding on the primary mortgage loan, and foreclosures have continued for these homeowners.

The program must continue to help those people who are either in the foreclosure pipeline or about to enter it. Forgiveness of loans does, of course, have an economic impact. First, there is the well-known problem of moral hazard—forgiving loans today may encourage reckless behavior on the part of potential homeowners in the future. Second, even loan "forgiveness" may impair the credit ratings of these homeowners, thus impairing their ability to secure future credit. Third, the use of so-called short sales—which are to a large extent replacing foreclosed sales—is likely to harm future credit ratings as well. Interestingly, the fact that house prices are now going up (by about 7 percent in 2012 alone) may alleviate many of the problems associated with underwater homeowners.

APPENDIX

TABLE 3A.1 *Average of Annual Nominal Rates of Return (percentage), by Asset Type and Period, 1983–2010*

Description	1983–2010	1983–1989	1989–2001	2001–2007	2007–2010
Residential real estate	3.39	4.02	4.49	5.84	–7.22
Business and nonhome real estate	4.05	3.94	4.10	9.75	–7.33
Liquid assets	4.41	6.70	4.69	3.11	1.28
Financial assets (including stocks)	9.01	13.32	13.01	2.34	–2.24
Pension accounts[a]	5.96	6.07	8.57	4.86	–2.46
Mortgage debt	0.00	0.00	0.00	0.00	0.00
Nonmortgage debt	0.00	0.00	0.00	0.00	0.00
Inflation (CPI-U average)	2.95	3.72	3.02	2.66	1.71

Source: Wolff, Zacharias, and Masterson (2009), updated by the author to 2010.

Notes: Real rate of return = (1 + nominal rate) / (1 + ΔCPI) – 1.

Owner-occupied housing: U.S. Census Bureau, *Statistical Abstract of the United States, 2009,* "Median Price of Existing One-Family Homes Sold, 1968 to 2005," table 943; updated with data from National Association of Realtors, "Median Sales Price of Existing Single-Family Homes for Metropolitan Areas," available at: www.Realtor.org/research (accessed April 10, 2013).

Business and nonhome real estate: Holding gains (taken from the Flow of Funds, table R.100) divided by equity in noncorporate business (taken from the Flow of Funds, table B.100), Federal Reserve, "Financial Accounts of the United States" (statistical release), available at: http://www.federalreserve.gov/releases/Z1 (accessed April 10, 2013).

Liquid assets: The weighted average of the rates of return on checking deposits and cash, time and saving deposits, and life insurance reserves. The weights are the proportion of these assets in their combined total (calculated from the Flow of Funds, table B.100). The assumptions regarding the rates of return are: zero for checking deposits, the rate of return on a one-month CD (taken from Board of Governors of the Federal Reserve System, "Table H.15: Selected Interest Rates—Daily," available at: http://www.federalreserve.gov/releases/h15/data.htm, accessed April 10, 2013) for time and saving deposits, and one plus the inflation rate for life insurance reserves.

Financial assets: The weighted average of the rates of return on open market paper, Treasury securities, municipal securities, corporate and foreign bonds, corporate equities, and mutual fund shares. The weights are the proportion of these assets in total financial assets held by the household sector (calculated from the Flow of Funds, table B.100). The assumption regarding the rate of return on open market paper is that it equals the rate of return on one-month finance paper (taken from Board of Governors of the Federal Reserve System, "Table H.15: Selected Interest Rates—Daily," available at: http://www.federalreserve.gov/releases/h15/data.htm, accessed April 10, 2013). The data for the rates of return on other assets are taken from The White House, Council of Economic Advisers, *Economic Report of the President 2009,* table B.73, available at: http://www.gpo.gov/fdsys/pkg/ERP-2009/pdf/ERP-2009.pdf (accessed April 10, 2013). The assumptions regarding Treasury securities, municipal securities, corporate and foreign bonds, and corporate equities are, respectively: average of Treasury security yields; high-grade municipal bond yield; average of corporate bond yields; and annual percentage change in the S&P 500 index. Mutual fund shares are assumed to earn a rate of return equal to the weighted average of the rates of return on open market paper, Treasury securities, municipal securities, corporate and foreign bond, and corporate equities. The weights are the proportions of these assets in the total financial assets of mutual funds (calculated from the Flow of Funds, table L.123).

Pension (defined contribution [DC]) accounts: Net acquisition of financial assets (taken from the Flow of Funds, table F.119c) divided by total financial assets of private DC plans (taken from the Flow of Funds, table, L.119c).

Inflation rate: Calculated from the CPI-U, published by the Bureau of Labor Statistics.

[a]Series begins in 1986.

TABLE 3A.2 *Sample Sizes by Household Characteristics and Year, 1983–2010*

	1983	1989	1992	1995	1998	2001	2004	2007	2010
All households	4,262	3,143	3,906	4,299	4,305	4,442	4,519	4,418	6,482
Income level (1998 dollars)									
Under $15,000	999	546	705	717	702	675	644	624	1,196
$15,000–$24,999	650	362	461	533	513	516	515	490	970
$25,000–$49,999	1,173	726	883	1,058	952	979	1,013	939	1,586
$50,000–$74,999	587	436	499	558	598	612	579	559	861
$75,000–$99,999	208	234	251	295	310	294	326	347	410
$100,000–$249,999	310	363	484	523	519	527	562	537	659
$250,000 or more	335	477	622	615	712	839	880	923	800
Wealth level (1998 dollars)									
Under $25,000	1,570	804	1,159	1,259	1,295	1,294	1,418	1,171	2,537
$25,000–$49,999	406	217	298	306	246	271	273	232	413
$50,000–$99,999	584	338	366	454	401	389	348	321	522
$100,000–$249,999	725	486	548	590	583	563	534	580	776
$250,000–$499,999	308	344	318	369	427	392	392	422	576
$500,000–$999,999	203	224	259	300	286	317	346	370	417
$1,000,000 or over	466	730	958	1,021	1,068	1,215	1,208	1,322	1,242

Race									
Non-Hispanic whites	3,406	2,558	3,148	3,562	3,498	3,580	3,519	3,518	4,759
Non-Hispanic blacks	472	308	358	380	414	462	484	410	790
Hispanics[a]	108	161	218	177	251	279	348	313	639
Asian and other races	117	116	183	180	143	121	168	177	293
Age class[b]									
Under thirty-five	1,157	542	805	886	837	810	757	702	1,178
Thirty-five to forty-four	777	688	830	908	926	929	886	812	1,182
Forty-five to fifty-four	680	612	775	907	956	1,064	1,081	1,014	1,492
Fifty-five to sixty-four	673	569	595	657	687	733	919	930	1,362
Sixty-five to seventy-four	527	452	574	560	522	499	512	549	748
Seventy-five and older	289	280	327	381	377	407	364	411	520
Education[c]									
Less than twelve years	1,281	667	613	608	613	615	547	503	658
Twelve years	1,151	787	921	1,086	1,037	1,059	1,057	1,075	1,821
Thirteen to fifteen years	742	548	737	920	913	874	880	861	1,101
Sixteen years or more	1,088	1,141	1,635	1,685	1,742	1,894	2,035	1,979	2,902

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

[a]Hispanics can be of any race.

[b]Households are classified according to the age of the household head.

[c]Households are classified according to the education of the household head.

NOTES

1. For a discussion of the design of the list sample in the 2001 SCF, see, for example, Kennickell (2001).
2. See appendix table 3A.2 for sample sizes by year and household characteristics.
3. Another rationale is that if cars are included in the household portfolio, their "rate of return" would be substantially negative since cars depreciate very rapidly over time (the overall rate of return on the household portfolio is calculated later in the chapter).
4. For estimates of Social Security and pension wealth, see Wolff (2011b).
5. For details on the adjustments, see Wolff (1987).
6. For details on this calculation, see Wolff (1980).
7. The source for housing price data, unless otherwise indicated, is U.S. Census Bureau, *2009 Statistical Abstract,* "Section 20: Construction and Housing," table 935, available at: http://www.census.gov/compendia/statab/2009/2009edition.html/ (accessed April 10, 2013).
8. National Association of Realtors, "Median Sales Price of Existing Single-Family Homes for Metropolitan Areas [2009, 2010, 2011]," available at: http://www.realtor.org/sites/default/files/reports/2012/embargoes/2012-q1-metro-home-prices-49bc10b1efdc1b8cc3eb66dbcdad55f7/metro-home-prices-q1-single-family-2012-05-09.pdf (accessed April 10, 2013).
9. For stock price data, see table B-96 in The White House, Council of Economic Advisers, *Economic Report of the President, 2012,* available at: http://www.whitehouse.gov/administration/eop/cea/economic-report-of-the-President/2012 (accessed April 10, 2013).
10. For the wage figures (based on the BLS hourly wage series), see ibid., table B-47; for the income data, see ibid., table B-33.
11. The figure is for civilian employment; see ibid., table B-36.
12. See ibid., table B-42.
13. Federal Reserve Board, "Z1: Financial Accounts of the United States," table B.100, available at: http://www.federalreserve.gov/releases/Z1/ (accessed April 10, 2013).
14. Unfortunately, no data on educational loans are available in the 2001 SCF.
15. The computation of DB pension wealth is based on the present value of expected pension benefits upon retirement. See Wolff (2011b) for details.
16. For more discussion of the overstatement of "true" gains in household wealth, see Wolff (2011b).
17. If vehicles are included in the measure of wealth, the percentage decline in net worth from 2007 to 2010 is lower—"only" 39 percent. The reason is that automobiles make up a substantial portion of middle-class wealth.
18. The decline in mean net worth is 15 percent when vehicles are included in the measurement.
19. This is not to say that there was no change in wealth inequality over these years. Indeed, in previous work I used estate tax data to document a sharp reduction in wealth inequality from about 1969 to 1976 and then an equally sharp rise from 1976 to 1983 (Wolff 2002).
20. Actually, the big slippage in the share of the top 1 percent occurred between 1998 and 2001. The main reason appears to be a sizable drop—from 72 to 66 percent—in the share of households in the top 1 percent owning their own business. Whereas the mean net worth of the top 1 percent increased by 13.5 percent in real terms, the mean value of unincorporated business equity and other real estate grew by only 6.2 percent.
21. It might seem somewhat surprising that wealth inequality remained relatively unchanged during the latter part of the George H. W. Bush administration, the Clinton administration, and the George W. Bush administration. However, as we shall see later in the chapter, stability in wealth inequality over these years was due largely to the sharp increase in the relative indebtedness of the middle class.
22. Once again, the main culprit explaining the rather meager increase in the share of the top 1 percent is unincorporated business equity, whose mean value fell by 26 percent in real terms from 2007 to 2010, compared to a 16 percent overall decline in the mean net worth of the top 1 percent.
23. It should be noted that the income in a survey year (say, 2007) is for the preceding year (2006).
24. The 1969 MESP data suggest a huge expansion in income inequality from 1962 to 1969, but it is likely that the income data in the MESP file are flawed.
25. It should be noted that the SCF data show a much higher level of income inequality than the CPS data. In the year 2000, for example, the CPS data show the top *5 percent* share to be 22.1 percent, with a Gini coefficient of 0.462.

The difference is primarily due to three factors. First, the SCF oversamples the rich (as noted earlier), while the CPS is a representative sample. Second, the CPS data are top-coded (that is, there is an open-ended interval at the top, typically at $75,000 or $100,000), whereas the SCF data are not. Third, the SCF income definition includes realized capital gains, whereas the CPS definition does not. However, the CPS data also show a large increase of inequality between 1989 and 2000, with the share of the top 5 percent rising from 18.9 to 22.1 percent, and the Gini coefficient from 0.431 to 0.462.

26. The CPS data, in contrast, show little change in household income inequality, with the Gini coefficient falling slightly, from 0.470 in 2006 to 0.468 in 2009. For the CPS data, see U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, "Table H-4: Gini Ratios for Households, by Race and Hispanic Origin of Householder, 1967 to 2010," available at: http://www.census.gov/hhes/www/income/data/historical/household/2010/H04_2010.xls (accessed April 14, 2013). However, data from the World Top Incomes Database, based on IRS tax data, reveals a sizable decline in income inequality from 2007 to 2010. In particular, incomes at the 99.99th, 99.9th, and 99th percentiles drop sharply over these years; see www.topincomes.parisschoolofeconomics.eu (accessed July 2, 2014).
27. Almost all of the increase in the share of the total wealth gains accruing to the top 1 percent and the top quintiles can be traced to just two periods: 1983–1989 and 2007–2010. During the other years, the proportion of the total wealth gains going to the top groups was more or less equal to their wealth share.
28. For additional analysis of recent trends in homeownership, see Rosenbaum (2012).
29. Perhaps this is not surprising after all. The homeowners who fell underwater were those who had bought homes recently, when prices were at an all-time high. The collapse in home prices put these homeowners underwater. However, *most* homeowners had bought their homes well before the price collapse. As a result, they saw their home values first soar and then fall back. Most of these homeowners had a home that in 2010 was worth less than in 2005–2006 but much more than when they originally bought it.
30. One possible explanation for this finding is that the least-educated group is also the oldest group, who probably bought homes in the more distant past. This fact could explain their low incidence of negative home equity.
31. On the basis of the 2007 SCF, the overall debt-to-net-worth ratio declines sharply with age, from 93 percent for the under-thirty-five age group to 2 percent for those age seventy-five and older (see table 3.14).
32. In 2007 the average house value was $207,600 and the average mortgage debt was $72,400, resulting in an average home equity of $135,200. If house prices had declined by 24 percent and mortgage debt had remained fixed, then average home equity would have fallen to $77,000, a decline of 43 percent.
33. On the surface, there appears to be a strong positive relationship between median net worth and house prices. For example, between 1983 and 1989 median net worth grew by 2.3 percent and median home prices rose by 7.0 percent (both in constant dollars); between 1995 and 1998 both were essentially unchanged; and between 2007 and 2010 the former plunged by 47 percent and the latter by 25 percent. However, between 2001 and 2004, for example, median wealth fell by 0.7 percent while home prices boomed by 17 percent. It does turn out that there is a positive correlation between median net worth and home prices, but the correlation is relatively weak—0.37 over the nine survey years between 1983 and 2010.
34. For details of my earlier analysis for the 1969–1975 period in the United States, see Wolff (1979).
35. The residual group, American Indians and Asians, is excluded here because of its small sample size.
36. It should be noted that the unit of observation is the household, which includes both families (two or more related individuals living together) and single adults. As is widely known, the share of female-headed households among African Americans is much higher than that among whites. This difference partly accounts for the relatively lower income and wealth among African American households.
37. The 1988 income figure for black households appears to be an outlier. The low income for blacks in that year probably reflects the small sample size for blacks (and Hispanics as well) and the survey-to-survey sample variability (see appendix table 3A.2).
38. There was almost no change in the relative homeownership rates of the two groups—both experienced moderate losses—while the share of households with nonpositive net worth actually increased more in relative terms for white households than for black ones. Unfortunately, there are no data available to separate out actual declines in house prices for white, black, and Hispanic homeowners.
39. As with racial minorities, the sample size is relatively small for the oldest age group; thus, the nine-percentage-

point increase in their homeownership rate from 2001 to 2004 may be due to sampling variation (see appendix table 3A.2).

40. As in 2007, the principal source of debt for the youngest age group was mortgage debt, which amounted to 70 percent of total debt in 2010. However, educational loans now made up 15 percent of total liabilities in this age group, up from 10 percent in 2007, and 40 percent of these households had an outstanding student loan in 2010.
41. This pattern may also be partly a cohort effect, since 401(k) plans and other defined contribution plans were not widely introduced into the workplace until after 1989.

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